ENVIRONMENTAL LAW AND POLICY IN NAMIBIA

Edited by

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PREFACE

This publication is about an important topic for the future of Namibia; it presents, thanks to the commitment of the *Legal Research and Development Trust* (LRDT), a compilation of all environmentally relevant norms and standards, reflecting actual contemporary ecological concerns. As such, it provides a basis for further academic, legal and practical considerations of environmental concerns.

This focus on the environment does not indicate that the important topics of development co-operation have become less important. Creating justice on a global level, and adherence to the *Millennium Development Goals*, adopted by the international community, is still what matters most.

However, new challenges develop constantly, among which the environment and climate change are prominent. This renders sustainable development more difficult, as limited human resources and weak institutions exacerbate the susceptibility of the developing world, restraining their ability to meet new challenges proactively. In the past, this approach has been the major concern of the Hanns Seidel Foundation.

Guided by the ideal standard of a democratic, social and constitutional state, this norm was taken as a call to motivate and strengthen the civil society, reinforce good governance; further, to assist with capacity building in politics, society and administration according to democratic principles. The Hanns Seidel Foundation intends to stick to these values in the future.

Yet, in the face of the enormous and dramatic consequences of climate change, it is impossible to take our responsibilities for the environment lightly. Our engagement, hitherto, has demonstrated this aptly, when, for instance in the context of our good governance programmes, we insisted on adherence to the law and the consistent and impartial interpretation and application of environmental legislation.

Win-win situations are created, when environmental conscientisation results in the economic advancement of communities; e.g. when an intact and clean environment draws additional

tourism. Yet, and in addition, it is of utmost importance, to integrate environmental concerns with politics and to sensitize the population in this regard.

In light of Namibia's particularly fragile ecosystems, it should be easy to understand that there is an innate connection between the economic necessity to utilise its resources on the one, and the requirement to treat these with adequate caution, even respect, on the other hand.

This book, therefore, is not just an inventory. The work is an attempt to rethink environmental and ecological perspectives, and to change policy and politics accordingly. In this regard, the Hanns Seidel Foundation, as a political foundation, sees its calling and duty to assist.

Christian Hegemer
Hanns Seidel Foundation
Director of the Institute for International Co-operation

ACKNOWLEDGEMENTS

Over the course of writing a book, one accumulates more debts than can be acknowledged in a few lines. A multi-authored publication such as this is an enormous team effort. Therefore our special thanks go to all the distinguished contributors – both in Namibia and beyond.

We are very grateful to those who contributed financially to this publication, and especially Mr. Wolfgang Kleine, the Representative of the Hanns Seidel Foundation (HSS) in Namibia. "In the service of democracy, peace and development" – this is the motto of the Munich-based Hanns Seidel Foundation; this publication comes forward reflecting this maxim and the aims of the foundation and its noble mission.

This publication is also a tribute to the German Namibian development corporation. In line with what the German Minister for Economic Co-operation and Development Mr. Dirk Niebel stated during his 2010 official visit to Namibia, "Germany has ever since Namibian Independence considered the bilateral relations to be a special partnership for historical and cultural reasons, and Germany has been providing development assistance to Namibia worth over 600 million Euros (over N$6 billion) over the last two decades."

Germany has, also in the field of environmentally related matters, supported Namibia through bilateral cooperation. As early as 1991, Germany and Namibia concluded a cultural agreement, *inter alia* incorporating cooperation in the areas of research and higher education. Environmental law and policy have also been on this agenda. Apart from the personal contributions by legal scholars such as the editors of this publication, technical cooperation has been afforded by GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit), DED (Deutscher Entwicklungsdienst) and others. In this light, we also thank Mr. Konrad Uebelhoer, Mr. Christian Graefen from GIZ and Mr. Michael Becker from DED for their support and creation of the attached CD and the creation of the website "Environmental Law and Policy in Namibia".

This publication intends to capture the current state of affairs of Environmental Law and Policy in Namibia. As such it is not only a testimony of the work that has been done during the past years. The publication shall also serve as a basis for developing a deeper understanding of this particular field in future. It is thus hoped that the book not only appeals to the Judiciary, Legislature and the Executive in Namibia, but also to academics, legal practitioners, students and the general public – locally and beyond.

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EXECUTIVE SUMMARY

Oliver C Ruppel&Katharina Ruppel-Schlichting

Underlying the research for this publication was the aim to compile a legal textbook and a collection of and reflection on the most relevant national legal texts and international obligations pertaining to environmental law and policy in Namibia.

During the past decades, environmental concerns have been growing in importance on the international agenda and with good reason. Mankind is part of nature and life depends on the uninterrupted functioning of natural systems which ensure the supply of energy and nutrients. Humans are directly dependent on ecosystems and natural resources for their livelihood and other basic needs. Although the dependence of people on ecosystems is often more apparent in rural communities, where lives are directly affected by the availability or non-availability of resources such as water, food, medicinal plants and firewood, urban ecosystems also require adequate preservation and protection. In this context environmental law plays an essential role. Environmental protection can inter alia be achieved by

- international treaties and declarations;
- national Constitutions with a large scope, defining the environmental values to be preserved and protected;
- environmental policies determining the objectives and strategies which should be used in order to ensure the respect of environmental values; and
- statutory and customary legal instruments to reach the objectives fixed by the environmental policy.

All of this is contextualised legally and discussed critically in this publication. The Namibian Constitution, many international treaties, as well as a multitude of statutory enactments and policies provide for the wide field of environmental protection in Namibia. Compared to the multitude of environmental legislation existing in Namibia, the number of publications relating to environmental law and policy is – until now - comparatively small. *Environmental Law and Policy in Namibia* is a timely reflection of the fact, that since Independence, environmental law has emerged as a fast growing and important branch of the law in Namibia. Over the past years a bundle of new environmental legislation has been passed and thus it becomes evident that environmental concern has gained momentum – both practically and academically.

Internationally, environmental law has also developed rapidly into a more solid legal system. At the same time it has become a key negotiating platform in international diplomacy. This requires expert knowledge which has been gathered in this book.

- National Environmental Law and Policy;

- International Environmental Law;
- Environmental Management;
- Water and Land Law;
- Conservation of Biodiversity;
- Mining and Energy Law;
- Customary Law, Common Law and Criminal Law aspects of Environmental Law;
- Intellectual Property Rights and Traditional Knowledge;
- Climate Change;
- Environmental Justice and Human Rights;
- International Trade, Sustainable Development and the Environment;
- Environmental Law Education and Research;
- Environmental State and Non-State Institutions; and
- Environmental Journalism.

Namibian law reflects the country's history and is the product of different legal sources. The Namibian legal system is an object of fascination for comparative lawyers, legal ethnologists, anthropologists and sociologists. Several types of law or legal traditions operate simultaneously, making it very special. In this context, the foundations and historical development of environmental law are elaborated on, together with the functions of environmental law and the major environmental concerns in Namibiaand beyond. The application of international law in Namibia is also discussed with great attention and the sources of international environmental law, multilateral environmental agreements relevant for Namibia and the role of international environmental institutions are explained in detail.

On the national level the Namibian Constitution, Vision 2030 and the National Development Plans all have environmental law implications and effect. The different sector-related aspects of environmental law, covering biodiversity, water, land, agriculture, mining, energy, air, climate, and intellectual property are treated from different angles. In the same context principles of environmental management, pollution control, waste management, environmental impact assessment, licensing, permitting, compliance, enforcement and dispute settlement are touched upon in this publication.

The link between customary and environmental law is also dealt with and also how African customary law is anchored within the environmental legal system. Common law and criminal law

aspects of environmental protection are briefly covered, although these fields do not lie at the heart of this publication.

Environmental disruption and its effects on human rights, as well as the links between human rights law and environmental law are also brought into context, while the legal foundations of environmental justice, multi-layered good governance, access to justice, public participation and freedom of information are prominently explained.

Education for Sustainable Development (ESD) and the role of higher education institutions cannot be underestimated when it comes to environmental protection, capacity building and awareness creation. High-quality teaching and research of environmental law is extremely important for Namibia and its southern African neighbours. Environmental law is of interdisciplinary nature, and as such, it is anchored in various fields and disciplines: religion, philosophy, ethics, science, economics and law. This not only makes it highly complex, but also extremely interesting and rewarding, once one has acquired a solid knowledge base.

In terms of environmental concerns, the Namibian situation is comparable to others in southern Africa. Many of those challenging issues are pointed out in this publication from different and eye-opening perspectives. Namibia is one of the driest countries in southern Africa and the world. The cold Benguela current along the west coast and Namibia's location traversing the subtropical high-pressure belt greatly influence the main features of the climate, making Namibia particularly vulnerable to the impacts of climate change. Africa as a continent is vulnerable to climate change due to the interaction of multiple pressures: endemic poverty, complex governance and institutional dimensions, limited access to capital, markets, infrastructure and technology, ecosystem degradation, complex disasters, conflict and low adaptive capacity. As a global problem, climate change calls for multilateral solutions as a scientific consensus is emerging that a business-as-usual scenario would have disastrous consequences for future generations. This will require substantive changes in life-style, in particular in developed countries. No less important is, however, major investment in low carbon technology and modern technology transfer to and capacity-building in Africa.

In view of the aforementioned, the link between international trade, foreign investment and environmentally friendly sustainable development is critically discussed. No doubt, issues related to international trade and the environment have special significance to developing countries, as these argue that the developed countries have depleted resources and indulged in environmentally harmful practices during the past century, in order to achieve unprecedented high standards of living.

The 'curse' of natural resources, climate change, water stress, food security and the prevalence of poverty remain challenges for Namibia and Africa. All of these are also linked to international trade and certainly go hand-in-hand with poverty reduction, self-reliant sustainable development and the rational use of natural resources. Their production, trade and consumption can have negative externalities on people and the environment. In light of this,

the implementation of pro-poor policies, sustainable development, natural resources management, integrated reporting, environmental planning, environmental impact assessment and the overall policy review form part of the agenda of this publication. New technologies, environmentally friendly goods and services need to be promoted in the SADC and the protection and preservation of traditional knowledge, agriculture and species is important, especially in the African context. All of that requires more and more national commitment, international cooperation, adequate technical assistance and capacity building.

Although Namibia is well placed to gain from a growing international environmental awareness, based on its assets – a pristine natural environment and rich biodiversity, coupled with good governance, committed and sound environmental management - it at the same time faces challenges, especially in terms of poverty. This requires that factors such as climate change, desertification, flooding and erosion need to be brought into the public domainmore energetically. In this respect, the role of environmental reporting should not be underestimated in future. In conclusion, it is expected, that a better understanding of Environmental Law and Policy in Namibia will benefit Namibia and its people in many ways. The publication is intended to be of use to lawyers and non-lawyers alike, as the protection and preservation of our environment, as Sir Robert Jennings, the former Judge and President of the International Court of Justice stated in another context, "is not a question of ameliorating the problems of our civilisation but of our survival".

LIST OF ABBREVIATIONS

ABS	Access and Benefit Sharing
ARIPO	African Regional Intellectual Property Organisation
ASSELLAU	Association of Environmental Law Lecturers in African Universities
AU	African Union
BIOTA	Biodiversity Monitoring Transect Analysis in Africa (Project)
CBD	Convention on Biological Diversity
CBNRM	Community Based Natural Resources Management
CDM	Clean Development Mechanism
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
COMESA	Common Market for Eastern and Southern Africa
CONTRALESA	Congress of Traditional Leaders of South Africa
COP	Conference of the Parties
CTE	Committee on Trade and Environment
CTESS	Committee on Trade and Environment Special Session
ECCP	European Climate Change Programme
EIA	Environmental Impact Assessment
EPA	Economic Partnership Agreement / or Environmental Protection Agency
EU	European Union
FAO	United Nations Food and Agriculture Organisation
FTA	Free Trade Agreement
GATS	General Agreement on Trade in Services
GATT	General Agreement on Tariffs and Trade
GEF	Global Environmental Facility
GMO	Genetically Modified Organism
GR	Genetic Resources
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICJ	International Court of Justice
IAEA	International Atomic Energy Agency
IEA	International Energy Agency
IPCC	Intergovernmental Panel on Climate Change
IUCN	World Conservation Union (formerly International Union for the Conservation of Nature and Natural Resources)
IUCNAEL	IUCN Academy of Environmental Law
LRDT	Legal Research and Development Trust
MCA	Millennium Challenge Account
MDG	Millennium Development Goal

MEA	Multilateral Environmental Agreement
NDP	National Development Plan
NGO	Non-governmental organisation
OECD	Organisation for Economic Co-operation and Development
R&D	Research and Development
RISDP	Regional Indicative Strategic Development Plan
RTPC	Regional Trade and Policy Course
SACU	Southern African Customs Union
SADC	Southern African Development Community
SADCC	Southern African Development Coordination Conference
SCM	Subsidies and Countervailing Measures
SPS	Sanitary and Phytosanitary Measures
SWAPO	South West African People's Organisation
TBT	Technical Barriers to Trade
TK	Traditional Knowledge
TRIPS	Agreement on Trade-related Aspects of Intellectual Property Rights
UDHR	Universal Declaration of Human Rights
UN	United Nations
UNAM	University of Namibia
UNCLOS	UN Convention on the Law of the Sea
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNTAG	United Nations Transitional Assistance Group
UPOV	International Union for the Protection of New Varieties of Plants
WIPO	World Intellectual Property Organisation
WMO	World Meteorological Organisation
WTO	World Trade Organisation
ZERI	Zero Emission Research Initiative

Introduction

NAMIBIA AND ITS LEGAL SETUP

Oliver C Ruppel & Katharina Ruppel-Schlichting

1 Namibia in a Nutshell: Facts and Figures

The inhospitable Namib Desert constituted a barrier to European colonisation until the late 18th century, when traders and missionaries first explored the area. In 1878, the United Kingdom annexed Walvis Bay on behalf of the CapeColony, while the rest of south western Africa would soon thereafter fall under German administration, henceforth to be known as German South West Africa. Resulting from the Herero and Nama wars of anti-colonial resistance of 1904-08, Germany consolidated its hold over the colony, and prime grazing land passed to white control. German overlordship ended during World War I in the wake of South Africa's military occupation of the German colony. On 17 December 1920, South Africa took over the administration of South West Africa in terms of Article 22 of the 1919 Peace Treaty of Versailles (which incorporated the Covenant of the League of Nations) and a mandate agreement by the League Council. South Africa was mandated with the power of administration and legislation over the territory.[1] Article 22 stated as follows:

> To those colonies and territories which as a consequence of the late war have ceased to be under the sovereignty of the States which formerly governed them and which are inhabited by peoples not yet able to stand by themselves under the strenuous conditions of the modern world, there should be applied the principle that the well-being and development of such peoples form a sacred trust of civilisation and that securities for the performance of this trust should be embodied in this Covenant. The best method of giving practical effect to this principle is that the tutelage of such peoples should be entrusted to advanced nations who by reason of their resources, their experience or their geographical position can best undertake this responsibility, and who are willing to accept it, and that this tutelage should be exercised by them as Mandatories on behalf of the League. The character of the mandate must differ according to the stage of the development of the people, the geographical situation of the territory, its economic conditions, and other similar circumstances. (…) There are territories, such as South-West Africa (…), which, owing to the sparseness of their population (…) or their remoteness from the centres of civilisation, or their geographical contiguity to the territory of the Mandatory, and other circumstances, can be best administered under the laws of the Mandatory as integral portions of its

[1] See http://www.state.gov/r/pa/ei/bgn/5472.htm; last accessed 14 December 2010.

> territory, subject to the safeguards above mentioned in the interests of the indigenous population.[2]

In 1946, the League of Nations was superseded by the newly formed United Nations. When the United Nations requested South Africa to place the territory under a trusteeship agreement it refused. In 1966 the South African mandate was officially revoked by the UN General Assembly.[3] Also in 1966 the South West African People's Organisation (SWAPO), under the leadership of Sam Nujoma, started to put pressure on the South African government, and took up an armed struggle to liberate Namibia. Political and social unrest within Namibia increased markedly during the 1970s, and was often met with repression at the hands of the colonial administration. In 1978, the UN Security Council passed Resolution 435 and authorised the creation of a Transition Assistance Group to monitor the country's transition to independence.[4]

In April 1989, the UN began to supervise this transition process, part of which entailed supervising elections for a Constituent Assembly which was also charged with drafting a constitution for the country. After more than a century of domination by other countries and a long struggle on both diplomatic and military levels, Namibian independence was achieved and officially declared on 21 March 1990, which is a national holiday today. Walvis Bay, which is Namibia's deep water sea port, remained South African until 1994. Namibia is a member of the Commonwealth of Nations since 1990.[5]

Namibia borders on Angola in the north, Zambia and Zimbabwe in the north-east, Botswana in the east, South Africa in the south and the Atlantic Ocean in the west. The capital of Namibia is Windhoek with a population estimated to be between 250.000 and 400.000.[6] The population of Namibia was estimated at 2.13 million in 2008.[7] The population density lies at 2.3 inhabitants per $km^{2;}$ about 36% of the population live in urban areas. The surface area of Namibia is 824 268 km^2, making the country the 31st largest in the world. Namibia is demarcated into 13 regions:

- In the North: Caprivi, Kavango, Kunene, Omusati, Ohangwena, Oshana und Oshikoto;
- In the central part of the country: Omaheke. Otjozondjupa, Erongo and Khomas;
- In the South: Hardap und Karas.

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2 Available at http://net.lib.byu.edu/~rdh7/wwi/versa/versa1.html; last accessed 20 December 2010.

3 Ibid.

4 Amoo / Skeffers (2008:17ff.).

5 Ibid.

6 CIA, the World Fact book on Namibia; available at https://www.cia.gov/library/publications/the-world-factbook/geos/wa.html; last accessed on 14 December 2010.

7 Cf.Infra.

Namibia's population consists of approximately 50% Ovambo, 9% Kavango, 7% Damara, 7% Herero, 6% White (including about 20.000 of German descent), 5% Nama, 4% Caprivians, 3% San, 2% Rehoboth Baster and less than 1% Tswana.[8]

87,5% of the population is black, 6% white and 6,5% mixed. English is the only official language today (until 1990 also Afrikaans and German). 80 % of the population is Christian (with 60% Protestants and 20 % Catholics). At least 10% of the population hold indigenous beliefs.[9]

According to the UN Human Development Index of 2008 Namibia is ranked 129th out of 179. Life expectancy at birth (2006) is 51.9 years; adult literacy (2006) is 87.6%; unemployment is estimated at over 50% of the labour force (2010); approximately 56% of the population live on less than US$2 per day; the HIV/AIDS pandemic and household food insecurity are among the main problems facing Namibia. The tuberculosis and malaria prevalence in Namibia are among the highest in the world. Almost half the population depends on subsistence farming. Although Namibia has large reserves of minerals (diamonds, uranium but also including zinc, copper, and gold) and despite the comparably high income per capita in the region, the wealth distribution is extremely unbalanced in Namibia. Economically, Namibia remains much dependent on South Africa, its most important partner in the Southern African Development Community (SADC). The local currency, the Namibian Dollar (NAD) is linked to the South African Rand. Both currencies are accepted in Namibia.

The *United Nations Statistics Division* in its *Environment Statistics Country Snapshot* on Namibia provides data about the environment for comparative purposes. The country snapshot Namibia, inter alia reflects the following data:

Air and climate		
Emissions of:		**Year**
CO2 (million tonnes)	3.0	2006
CO2 per capita (tonnes)	1.0	2006
GHG (million tonnes CO2 eq.)	6.0	1994
GHG per capita (tonnes CO2 eq.)	4.0	1994
Ozone depleting CFCs (ODP tonnes)	0.0	2007
GHG from energy (%)	34.0	1994

8 See http://www.state.gov/r/pa/ei/bgn/5472.htm; last accessed 14 December 2010.

9 Figures taken from http://www.kas.de/namibia/en/publications/20353/; last accessed 14 December 2010.

Biodiversity		Year
Proportion of terrestrial marine areas protected (%)	14.0	2008
Number of threatened species	82	2008
Fish catch (tonnes)	509,395	2006
Change in fish catchfrom previous year (%)	8.0	2006
Economy		
GDP growth rate from previous year (%)	5	2006
GDP per capita ($US)	3,573	2007
% Value added agriculture,hunting, forestry, fishing	11	2007
% Value added mining, manufacturing, utilities	27	2007
% Value added other	62	2007
Energy		
Energy consumption (1000t oil eq.)	1,227	2006
Energy consumption per capita (kg oil eq.)	599	2006
Energy intensity (kg oil eq.) per $1,000 (PPP) GDP	154	2006
Renewable electricity production (%)	94.0	2006
Land and Agriculture		
Total area (km^2)	824,116	2007
Agricultural land (km^2)	388,050	2007
Arable land (% of agric. land)	2.0	2007
Permanent crops (% of agric. land)	0.0	2007
Permanent pasture and meadows (% of agric. land)	98.0	2007
Change in agricultural land area since 1990 (%)	0.0	2007
Forest area (km^2)	75,122	2007
Change in forest since 1990 (%)	14.0	2007
Population		
Population (1000)	2,130	2008
Population growth rate from previous year (%)	2.0	2008

Water and Sanitation		Year
Long-term average renewable freshwater resources (mill m^3/year)	45,460	N / A
Urban population with access to improved drinking water source (%)	99	2006
Rural population with access to improved drinking water source (%)	66	2006
Rural population with access to improved sanitation (%)	18	2006

Source with further references:http://unstats.un.org/unsd; last accessed 14 December 2010.

2 The Legal Setup in Namibia

The following Section provides an overview of Namibia's legal setup, necessary for a discussion of the more complex legal issues in the environmental domain.

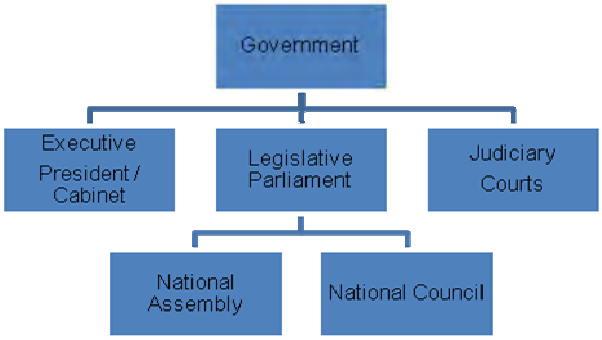
The Constitution of the Republic of Namibia, which was drafted and adopted in 1990, is the fundamental and supreme law of the land.[10] It is hailed by some as being amongst the most liberal and democratic in the world. It enjoys hierarchical primacy amongst the sources of Namibian law by virtue of its Article 1(6). It is thematically organised into 21 Chapters which contain 148 Articles. Together, they organise the state and outline the rights and freedoms of people in Namibia.[11]

By virtue of Proclamation 21 of 1919, Roman Dutch law as developed by South African courts was made the common law of the territory, and was binding on the courts in Namibia until Independence. This position is affirmed by Article 66(1) of the Constitution, which provides that both the customary law and common law of Namibia in force at the date of independence shall remain valid to the extent to which this is not in conflict with the Constitution or any other statutory law.

One of the key requirements of the rule of law is that the courts and the state's prosecution agencies are independent and free of political interference.[12] Although this doctrine - the separation of powers - is well entrenched in the Namibian Constitution and recognised by the courts, the true measure of the independence of the judiciary and the state prosecution

10 Cf. Amoo (2008a,b,c).
11 Ambunda / Mugadza (2009:5ff.).
12 Cf. Horn / Bösl (2008a&b).

services lies in the way these institutions relate to the Executive and other organs of state in practice.



Source: Oliver C Ruppel

Article 12 of the Constitution contains the provisions for a fair trial. The principle of the rule of law runs throughout the constitutional regime.[13] In Namibia, the separation of legislative and executive powers from those of the independent judiciary is constitutionally guaranteed.[14]Various mechanisms are put in place to ensure that each branch of Government remains independent of the other through a system of checks and balances.[15] The Constitution explicitly states that Namibia is established as "a democratic and unitary state founded on the principles of democracy, the rule of law and justice for all."[16]

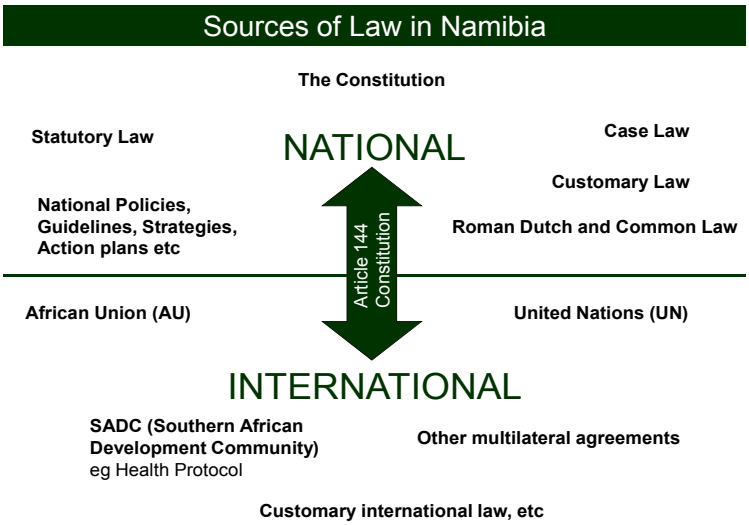
3 The Laws

Namibian law reflects the country's history and is the product of different sources: Firstly, Roman law; secondly, the fusion of Roman law and Roman Dutch customary law – hence the term Roman-Dutch law – which came in the wake of Dutch colonisation at the Cape of Good Hope; thirdly, from the early 19th-century onwards English law asserted itself, leaving deep traces in Roman-Dutch law, after British hegemony in southern Africa had been established;

13 Hinz (2003:273).
14 Ruppel (2008d).
15 Diescho (1994:70ff.).
16 Article 1(1), Namibian Constitution.

and fourthly, indigenous customary law from time immemorial.[17] With few exceptions German legal influence has disappeared completely.

The Namibian legal system is an object of fascination for comparative lawyers, legal ethnologists and sociologists.[18] The concept of legal pluralism – a situation in which more than one type of law or legal tradition operates simultaneously - is commonplace in Namibia.[19] Some sources of law are authoritative while others merely have a persuasive authority. The courts are bound by authoritative sources whereas those of persuasive authority may serve to convince a court to apply or interpret a legal rule in a particular manner. The sources of law in which they are usually consulted are statute law or legislation; judgements of the courts; international law (Article 144 of the Constitution); common and customary law (Article 66 of the Constitution) and to some extent legal writing.



Source: Oliver C Ruppel

The doctrine of *stare decisis* applies in Namibia, making the judgements of the superior courts one of the most important sources of the law. Literally *stare decisis* means "the decision stands". Obviously, when a court arrives at a decision, the parties to the dispute adjudicated will be bound by that decision. But what is the effect of such particular decision on similar disputes arising in future? Is a court, when it has to settle another dispute of a similar or even the same nature bound by previous court decisions, or is it free to formulate its own principles and ignore a previous decision? Strict adherence to the doctrine of *stare decisis* would mean

17 Hinz (2002a).
18 Ruppel (2009j).
19 Griffiths (1986:1-55).

that courts are obliged to follow earlier decisions regardless of whether an earlier decision still makes sense. Therefore and for greater fairness and legal certainty, Namibian courts are bound by their own decisions unless and until they are overruled by a superior court. It is, however, conceivable that circumstances arise that would render it possible for a court to override its own legal opinion.[20]

4 The Court System

The Namibian court system retains Roman-Dutch elements, inherited from South Africa along with elements of the African traditional (community) court system. The formal court system comprises the Supreme Court, the High Court, the magistrates' courts and the Community Courts. The Supreme Court serves as the highest court of appeal and also exercises constitutional review of legislation. Prior to the attainment of nationhood in 1990 and the promulgation of the Constitution of the Republic of Namibia, which created an independent judiciary the courts of Namibia were an extension of the judiciary system of South Africa.[21]

4.1 The Supreme Court

The Supreme Court is primarily a court of appeal, and its appellate jurisdiction covers appeals emanating from the High Court, including appeals which involve interpretation, implementation and upholding of the Constitution and the fundamental rights and freedoms guaranteed thereunder.[22] The Supreme Court is not bound by any judgment, ruling or order of any court that exercised jurisdiction in Namibia before or after independence. The Constitution further vests in Parliament the power to make legislation providing for the appellate jurisdiction of the Supreme Court. The Supreme Court is vested with unlimited appellate jurisdiction over appeals against any judgment or order of the High Court; and any party to any such proceedings before the High Court, if dissatisfied with any such judgment or order, has a right of appeal to the Supreme Court.[23]

In the exercise of its appellate jurisdiction, the Supreme Court has the power to receive further evidence, either orally or by deposition before a person appointed by the court, or to remit the case for further hearing to the court of first instance or to the court whose judgment is the subject of the appeal, with such instructions relating to the taking of further evidence or any other matter as the Supreme Court may deem necessary. The Supreme Court is also

20 Havenga et al. (2002:8ff.).
21 Amoo (2008a,b,c).
22 Amoo (2008b:72ff.).
23 Cf. Supreme Court Act No. 15 of 1990.

empowered to confirm, amend or set aside the judgment or order that is the subject of the appeal, and to give any judgment or make any other order which the circumstances may require.[24] The Supreme Court has original jurisdiction over matters referred to it for decision by the Attorney-General under the Constitution, and with such other matters as may be authorised by Act of Parliament. Thus, the Supreme Court has original jurisdiction over constitutional matters, but this original jurisdiction is not exclusive to the Supreme Court because the High Court is also vested with original jurisdiction over constitutional matters. Unlike, for example, in the case of the judicial structure in South Africa, where there is a Constitutional Court, the Namibian Constitution does not create a separate Constitutional Court per se, but the Supreme Court can constitute itself as a Constitutional Court.[25] The Supreme Court may exercise this jurisdiction *ex mero motu* (of the court's own accord) should it come to the notice of the court or any judge of that court, that an irregularity has occurred in any proceedings, notwithstanding that such proceedings are not subject to an appeal or other proceedings before the Supreme Court. The seat of the court is in Windhoek. A decision of the Supreme Court is binding on all other courts of Namibia and all persons in Namibia unless it is reversed by the Supreme Court itself, or is contradicted by an Act of Parliament, lawfully enacted in conformity with the principles of legislative sovereignty.[26]

4.2 The High Court

The High Court is a superior court of record and its jurisdiction is provided by both the Constitution and the High Court Act[27]. The Constitution vests the High Court with both original and appellate jurisdiction, and all proceedings in the High Court are to be carried in an open court.[28] The court may, however, exclude the press and/or the public from all or any part of the trial for reasons of morals and the public order or national security.[29] It is situated permanently in Windhoek, and since 2009 also in Oshakati. Other than this, the court goes on circuit to venues including Gobabis, Grootfontein and Swakopmund.[30] The High Court derives its appellate jurisdiction to hear and adjudicate upon appeals from lower courts primarily from the Constitution.[31] During the appeal process, the court may receive further evidence, either orally or by disposition before a person appointed by the court, or remit the case to the court of first

24 Ibid.
25 Amoo (2008a:3ff.).
26 Ibid.
27 No. 16 of 1990.
28 Section 13 of the High Court Act.
29 Article 12(1)(a), Namibian Constitution; Amoo (2008b:76).
30 Section 4 of the High Court Act provides that the seat of the High Court is to be in Windhoek, but if the Judge-President deems it necessary or expedient in the interest of the administration of justice, he or she may authorise the holding of its sitting elsewhere in Namibia.
31 Article 80(2), Namibian Constitution.

instance or the court whose judgment is the subject of the appeal, for further hearing, with such instructions relating to the taking of further evidence or any other matter as the High Court may deem it necessary. The court also has the power to confirm, amend, or set aside the judgment or order which is the subject of the appeal, and to give any judgment or make any order which the circumstances may require.[32]

4.3 The Lower Courts

The lower courts are responsible for administering justice. In terms of Article 78 of the Constitution, the lower courts form part of the judiciary, one of the three branches of the state. Lower courts are established in terms of Section 2(1) of the Magistrates' Courts Act.[33] The bulk of the judiciary's work also takes place in the lower courts. There are thirty-two (32) permanent courts and more than thirty (30) periodical courts in Namibia.[34] Lower courts are divided into a Regional Division and five administrative districts, namely Windhoek, Oshakati, Otjiwarongo, Keetmanshoop and Rundu. Each district has a seat for a regional court that presides on all criminal matters except high treason, but has no jurisdiction in civil matters.[35]

4.4 The Magistrates' Courts

Magistrates' courts in Namibia may be classified into regional, district and sub-district, division[36] and periodical courts[37]. Magistrates' Courts are courts of record[38] and their proceedings in both criminal cases and the trial of all defended civil actions are conducted in an open court.[39] The jurisdiction of the Magistrates' Courts in respect of causes of action is regulated by Section 29 of the Magistrates' Court Act, as amended.[40] The Magistrates' Courts have jurisdiction over liquid claims not exceeding N$100000 and illiquid claims not exceeding

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32 Section 19 of the High Court Act.

33 No. 32 of 1944.

34 The Ministry of Justice Annual Report 2006 – 2007, p 15.

35 Amoo (2008b:83).

36 Section 2(f.) (2) (a)-(iv) of the Magistrates' Courts Act of 1944.

37 Section 26 of the Magistrates' Courts Act of 1944; periodical courts are meant to serve the remote areas of the country, and as the name suggests, they are only held at intervals, when the volume of work in the area requires a court sitting.

38 A court of record can be understood as "a court whose acts and judicial proceedings are written on parchment or in a book for a perpetual memorial which serves as the authentic and official evidence of the proceedings of the court". Cf. Amoo (2008b:83).

39 Section 5 of the Magistrates' Courts Act of 1944.

40 Magistrates' Courts Amendment Act No. 9 of 1997.

N$25000.[41] Magistrates' Courts are presided over by judicial officers, and advocates or attorneys of any division of the Supreme Court may appear in any proceeding in any court. All Magistrates' Courts have equal civil and criminal jurisdiction, except the regional Magistrates' Courts, which have only criminal jurisdiction.[42] The territorial jurisdiction of a Magistrate's Court is the district, sub-district or area for which it is established; a court established for a district has no jurisdiction in a sub-district. Magistrates' Courts also have the jurisdiction to hear and determine any appeal against any order or decision of a Community Court.

4.5 The Community Courts

The Community Courts shall cater for all forms of proceedings exercised under customary law. Community courts are a formal creation of the Community Courts Act,[43] which also provides detailed procedures and requirements for the establishment and recognition of Community Courts in particular traditional communities.[44] The Act was drafted to give legislative recognition to and formalise the jurisdiction of the traditional (African) courts that render essential judicial services to members of traditional communities who subject themselves to their jurisdiction and the application of customary law. This formal recognition also brings the proceedings of the erstwhile traditional courts within the mainstream of the judiciary in Namibia, and subjects their proceedings to formal evaluation and review by the superior courts.[45]The Community Courts Act has, however, not yet been implemented. The office of the Ministry of Justice has pointed out that the delay in the promulgation of the Act may be associated with a lack of funds for implementing the necessary infrastructure, as well as the lack of trained staff in the area of customary law.[46]

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41 A liquid amount is fixed and certain and can – compared to an illiquid amount – be easily determined. *Maritime and General Insurance Co Ltd v Colenbrander* 1978 (2) SA 262 (D) at 264F.

42 Amoo (2008b:84ff.).

43 No. 10 of 2003.

44 For more details see Hinz (2008a).

45 Amoo (2008b:90).

46 Hinz (2008a).

Chapter 1

INTRODUCING ENVIRONMENTAL LAW

Katharina Ruppel-Schlichting

1 Terminology

Before going into the details of environmental law, it is important to explain the term environmental law, as there is not only one valid definition of environmental law. This is obvious in the light of the fact that environmental law is a highly complex subject. A starting point for a definition of environmental law is a closer look at the term environment. The Oxford Advanced Learner's Dictionary broadly defines environment as "the conditions, circumstances, etc affecting a person's life"[1]. This definition can serve as a good starting point for our analysis and definition of the term environment. Academics from various disciplines, including humanists, natural scientists and economists have made different efforts to shed light on this issue, and thus definitions vary. The etymological origin of the term environment is to be found in an ancient French word, *environner* which means to encircle. This implicates the existence of a centre in which someone or something is situated observing the circumstances, objects, or conditions by which he, she or it is surrounded. Based on this etymological origin, it is reasonable - though not necessarily correct - that the term environment is commonly used synonymously with other terms such as nature, ecology or habitat.

A commonly used definition is that environment is

> the complex of physical, chemical, and biotic factors (like climate, soil and living things) that act upon an organism or an ecological community and ultimately determine its form and survival

and "the aggregate of social and cultural conditions that influence the life of an individual or community."[2]

Academics and decision-making bodies have dealt with the notion 'environment' in the process of drafting documents, academic papers, statutes or other legal texts, as well as judicial decisions. Most approaches describe the term very widely, whilst others are more specific, as shown by the examples below.

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1 Oxford Advanced Learner's Dictionary 5th edition 1995.

2 Merriam-Webster's Collegiate Dictionary 11th edition 2004.

The Declaration of the United Nations Conference on the Human Environment, which was discussed and decided at the United Nations Conference on the Human Environment in Stockholm in 1972, is considered to be one of the basic legal foundations of international environmental protection. In its Part I it is proclaimed that "the protection of the human environment is a major issue which affects the well-being of peoples and economic development throughout the world". While the declaration lacks a definition of the term itself, it is more precise in specifying what natural resources are:

> The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management as appropriate.

The General Agreement on Tariffs and Trade (GATT), which is one central agreement under the umbrella of the World Trade Organisation (WTO) does not explicitly refer to the environment, but Article 20(b) and (g) mention "human, animal or plant life or health" and the "conservation of exhaustible natural resources".

On the national level, the Namibian Environmental Management Act[3] in Section 1 defines environment as

> the complex of natural and anthropogenic factors and elements that are mutually interrelated and affect the ecological equilibrium and the quality of life, including –
>
> (a) the natural environment that is the land, water and air, all organic and inorganic material and all living organisms; and
>
> (b) the human environment that is the landscape and natural, cultural, historical, aesthetic, economic and social heritage and values.

The South African National Environmental Management Act[4] defines environment as

> The surroundings within which humans exist and that are made up of:
>
> (i) the land, water and atmosphere of the earth;
>
> (ii) micro-organisms, plant and animal life;
>
> (iii) any part or combination

In their rather broad dimensions, all the above approaches make it clear that it is difficult to establish more precisely the possible limits of the term environment. The encompassing nature of the term has also been emphasised by the International Court of Justice in its advisory opinion on the *Legality of the Threat or Use of Nuclear Weapons*:

> The environment is not an abstraction, but represents the living space, the quality of life, and the very health of human beings, including generations unborn.[5]

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3 No. 7 of 2007.

4 No. 107 of 1998.

By way of summary: the term environment denotes the entire range of living and non-living factors that influence life on earth, and their interactions. Everything living, humans, animals, plants and micro-organisms are thus part of our environment, as well as non-living resources such as air, water, land, in addition to historical, cultural, social and aesthetic components; this includes the built environment.

This difficulty in definition is reflected in the scope of the term environmental law. In a very broad sense, environmental law can generally be described as the body of rules which contain elements to control the human impact on the environment. However, taking that all human activities, as well as all natural events have a direct or indirect impact on the environment, environmental protection virtually forms part and should be integrated into all areas of law and policy. Thus, environmental law cannot be seen as a distinct domain of law but rather as an assortment of legal norms, contained in a number of conventional fields of law or an

> ensemble of norms, statutes, treaties and administrative regulations to ensure or to facilitate the rational management of natural resources and human intervention in the management of such resources for sustainable development.[6]

In more detail, environmental law can thus be defined as the group of norms, rules, procedures and institutional arrangements found in civil and common law, statutes and implementing regulations, case law, treaties and soft law instruments, which deal with or relate to protection, management and utilisation of the environment and natural resources for sustainable development and / or intergenerational equity.[7]

Whatever the scope of environmental law, it cannot be disputed that an interdisciplinary and holistic approach is needed in order to adequately address environmental threats and concerns from a legal perspective. Disciplines which are relevant for the area of environmental law include the natural, physical and social sciences, history, ethics, and economics.

2 Foundations of Environmental Protection

Although environmental law is considered to be a relatively new area of law, one must go far back in the world's history when tracing the foundations of environmental protection. As stated above, environmental law is of interdisciplinary nature, and as such, it is anchored in various fields and disciplines: religion, philosophy, ethics, science, economics, national and international law. All world religions contain rules and principles regarding the conservation of the environment.[8] In the Judeo-Christian religious tradition, one basic conceptual foundation of

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5 Advisory Opinion, ICJ Rep. 1996, 241f, para 29.

6 Okidi (1988:130).

7 Similarly Sands (2003:15).

8 For a detailed description see Kiss/Shelton (2004:9ff.).

environmental protection in terms of human guardianship for the earth and its resources can be found in the Old Testament:

> God blessed them, and God said to them, 'Be fruitful and multiply, and fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth.'[9]

Christian environmental commitment has been stressed by Pope Benedict XVI and his predecessor, John Paul II.[10]

> The family needs a home, a fit environment in which to develop its proper relationships. For the human family, this home is the earth, the environment that God the Creator has given us to inhabit with creativity and responsibility. We need to care for the environment: it has been entrusted to men and women to be protected and cultivated with responsible freedom, with the good of all as a constant guiding criterion. Human beings, obviously, are of supreme worth vis-à-vis creation as a whole. Respecting the environment does not mean considering material or animal nature more important than man. Rather, it means not selfishly considering nature to be at the complete disposal of our own interests, for future generations also have the right to reap its benefits and to exhibit towards nature the same responsible freedom that we claim for ourselves.[11]

Principles of environmental protection can also be found in the Islamic tradition:

> The right to utilise and harness natural resources, which God has granted man, necessarily involves an obligation on man's part to conserve them both quantitatively and qualitatively. God has created all the sources of life for man and all resources of nature that he requires, so that he may realise objectives such as contemplation and worship, inhabitation and construction, sustainable utilisation, and enjoyment and appreciation of beauty. It follows that man has no right to cause the degradation of the environment and distort its intrinsic suitability for human life and settlement. Nor has he the right to exploit or use natural resources unwisely in such a way as to spoil the food bases and other sources of subsistence for living beings, or expose them to destruction and defilement.[12]

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9 Gen.1:28.

10 "Faced with the widespread destruction of the environment, people everywhere are coming to understand that we cannot continue to use the goods of the earth as we have in the past. The public in general as well as political leaders are concerned about this problem, and experts from a wide range of disciplines are studying its causes. Moreover, a new ecological awareness is beginning to emerge which, rather than being downplayed, ought to be encouraged to develop into concrete programmes and initiatives." Message of His Holiness Pope John Paul II for the celebration of the World Day of Peace 1 January 1990 see http://www.vatican.va/holy_father/john_paul_ii/messages/peace/documents/hf_jp-ii_mes_19891208_xxiii-world-day-for-peace_en.html; last accessed 4 November 2010.

11 Message of His Holiness Pope Benedict XVI for the celebration of the World Day of Peace 1 January 2008 see http://www.vatican.va/holy_father/benedict_xvi/messages/peace/documents/hf_ben-xvi_mes_20071208_xli-world-day-peace_en.html; last accessed 4 November 2010.

12 Bagader et al. (1994): Section one: A general introduction to Islam's attitude toward the universe, natural resources, and the relation between man and nature.

The religious belief systems of indigenous peoples contain concepts of environmental protection to a wide extent as well, as natural resources are basic to their existence. Thus, the relationship with the land is a foundation for their beliefs, customs, tradition and culture.[13]

Semi-detached from religious concepts and traditions are the concepts of equity and justice, which are of rather philosophical or ethical nature.Three kinds of relationships can be listed in this context: Inter-generational equity, dealing with the relationships among existing persons; intra-generational equity, governing the relationships between present and future generations; and inter-species equity, covering the relationships between humans and other species. These concepts have been laid down in many environmental legal texts[14] and form basic principles for environmental jurisprudence on international[15] and national[16] level.

Science, especially biology, chemistry and physics, has been and remains one of the most important foundations in the history and the development of environmental law, as it uses science to predict and regulate the consequences of human behaviour on natural phenomena. On the other side, environmental law must be developed in a manner that is flexible enough to respond to scientific uncertainty, possible irreversibility and the dynamics of a constantly evolving environment.[17]

Last, but not least, environmental law also rests on the world's economic system and its challenge to environmental protection[18] as economic growth – at least in its early stages - more often than not brings about environmental degradation.[19] Measures for environmental protection are expensive and therefore increase the costs of goods and services; this in turn has an impact on the free trade in goods and services, and might influence problems of competitive advantage. This, the economic North-South divide[20], and the fact that natural resources are exhaustible, tie the need for environmental protection and economic development together. This can be addressed through environmental law mechanisms.

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13 Hinz/Ruppel (2008b:6).

14 See for example Principle 1 of the Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration); Preamble to the Convention on Biological Diversity; Section 3(2) of the Environmental Management Act No. 7 of 2007.

15 E.g. *Maritime Delimitation in the Area between Greenland and Jan Mayden Denmark v Norway ICJ* 14 June 1993 separate opinion by Weeramantry available at http://www.icj-cij.org/docket/index.php?p1=3&k=e0&case=78&code=gjm&p3=4; last accessed 4 November 2010.

16 E.g. *Oposa and others v Factoran and another* G.R.NO: 101083 Supreme Court of the Philippines. Summary available at http://www.unescap.org/drpad/vc/document/compendium/ph1.htm; last accessed 4 November 2010. See also Gatmaytan (2003).

17 Kiss/Shelton (2004:14).

18 Kiss/Shelton (2004:15).

19 Hypothesis advanced by Simon Kuznet in his Environmental Kuznet's Curve. Kuznet (1955 and 1956). For a critical discussion see Yandle et al. (2002).

20 Beyerlin (2006).

3 Functions of Environmental Law

During the past decades, environmental concerns have been high on the legal agenda, with good reason. Mankind is part of nature and life depends on the uninterrupted functioning of natural systems as this ensures the supply of energy and nutrients. Humans are directly dependent on the ecosystems and natural resources. The dependence of people on ecosystems is often more apparent in rural communities, where lives are directly affected by the availability of resources such as water, food, medicinal plants and fire wood. Further, ecosystems provide culturally in terms of beauty, as well as spiritual and intellectual stimulation. Every form of life is unique and merits respect, regardless of its worth to man. Humans can, however, alter nature and exhaust natural resources by action or its consequences and must therefore fully recognise the urgency of maintaining the stability and quality of nature and of conserving natural resources. Thus, environmental concerns have become subject to multiple law-making processes.

But why is law needed to conserve our environment? Taking that environmental degradation is largely caused by human intervention, the public authority responsible for preventing such negative effects will act by developing legal rules in order to have at hand binding norms. The obligatory character of environmental law and enforcement mechanisms are designed to prevent acts detrimental to the environment. Not only does environmental law establish rules and regulations, it also provides for other forms of intervention such as management tools, incentives and disincentives. However, not only binding rules are part of environmental law, other, non-binding principles such as declarations or plans might just as well be appropriate to enhance environmental protection. Thus, environmental law is an essential remedy to pollution and to the depletion of the world's natural resources. International law is needed because most environmental challenges are transboundary in scope.[21]

From a legal perspective, environmental protection can be achieved by international treaties and declarations, through national constitutions, and environmental policies determining the objectives and strategies which should be used in order to ensure the respect of environmental values, and further, through statutory legal instruments to reach the objectives fixed by the environmental policy. The main function of environmental law is thus to safeguard and protect non-renewable resources for future generations. Further to this, renewable resources have to be managed in such a way that continuous supply is ensured and resource depletion is avoided, e.g. deforestation, which can also trigger climate change and desertification. Habitats upon which various species of animal life depend for survival have to be protected in order to retain the food chain. Also the essential character of natural treasures has to be preserved for future generations.[22]

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21 Kiss/Shelton (2004:3).

22 Sands (2003:252ff.); Kidd (2008:13ff.).

4 Historical Development of Environmental Law

Although much has been written, especially with regard to the historical development of international environmental law, the following paragraphs will complementarily provide a short overview on how international environmental has developed.[23] Writing, however, from a Namibian perspective, the African context and specific developments in sub-Sahara Africa, and Namibia in particular, will also be addressed.

International environmental law has come into its own only during the 2nd half of the 20th century, although some international environmental legislative measures had already been taken earlier. The 1902 Paris Convention to Protect Birds Useful to Agriculture granted protection to certain birds by prohibiting their killing or destruction of their nests, eggs or breeding places, except for scientific research or repopulation. The 1933 London Convention Relative to the Preservation of Fauna and Flora in their Natural State applied to Africa - then largely colonised. It did not, however, cover the metropolitan areas of the colonial powers.[24] The Convention provided for the creation of national parks, included measures regulating the export of hunting trophies, banned certain methods of hunting and provided for measures to be taken to protect animals and plants perceived to be useful to man or of special scientific interest. On the North American continent, the 1940 Washington Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere provided for the establishment of national parks and reserves, the protection of wild plants and animals, and for cooperation between governments in the field of research.[25] After these precursors of present-day environmental law concepts, the founding of the United Nations and its specialised agencies in 1945 marks a milestone, regarding the development of international environmental law.

In the 1950s, states increasingly entered into water related agreements. Such boundary water agreements included provisions on the problem of water pollution and efforts to combat marine pollution were addressed by the 1954 London Convention for the Prevention of the Pollution of the Sea by Oil.[26] In 1956, the first United Nations Conference on the Law of the Sea (UNCLOS I) was held at Geneva, Switzerland. Four treaties were concluded as a result in 1958: the

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23 For an extensive overview of the history of international environmental law see for example Kiss/Shelton (2004:25ff.) and Sands (2003:25 ff.).

24 This convention was replaced by the 1968 African Convention on the Conservation of Nature and Natural Resources.

25 Legal instruments predating the establishment of the United Nations are the 1909 Agreement Respecting Boundary Waters between the United States and Canada or the 1921 Geneva Convention Concerning the Use of White Lead in Painting. Cf. Sands (2003:25ff.) and Kiss/Shelton (2004:25f.).

26 Amended in 1962 and 1969 and replaced in 1972 by the International Convention for the Prevention of the Pollution of the Sea by Oil.

Convention on the Territorial Sea and Contiguous Zone,[27] the Convention on the Continental Shelf,[28] the Convention on the High Seas,[29] and the Convention on Fishing and Conservation of Living Resources of the High Seas.[30] The four Conventions on the Law of the Sea aimed at international cooperation to solve the problems related to the conservation of the living resources of the high seas. Among others, it prohibited Ocean pollution by oil, pipelines and by radioactive waste; further, damage to the marine environment caused by drilling operations on the continental shelf was also addressed. The 1959 Antarctic Treaty forbid all nuclear activity on the sixth continent and envisaged the adoption of measures to protect animals and plants.

The present ecological era is considered to have started at the end of the 1960s, when it became apparent that the world's resources were not limitless and something needed to be done to prohibit industrial and developing nations from destroying the world's water, air, biological and mineral resources. Public opinion increasingly demanded action to protect the quantity and quality of the environment.[31] New technologies, especially the development and deployment of nuclear technology led to further environmental legislation such as the 1963 Moscow Treaty Banning Nuclear Weapons in the Atmosphere, Outer Space and Underwater. It was adopted to obtain an agreement on general and complete disarmament under strict international control and in accordance with the objectives of the United Nations.

It is noteworthy, that even before the United Nations officially took up the protection of the environment with its Stockholm conference in 1972, it was on the regional level, where environmental law history was written as early as 1968. On the European level, the Council of Europe adopted the first environmental texts.[32] But more remarkably, the heads of states and governments of the Organisation of African Unity in 1968 signed a comprehensive document on environmental protection, namely the African Convention on the Conservation of Nature and Natural Resources. This was remarkable in that such document was signed despite the common view in the region that environmental degradation was primarily a problem of industrial pollution in the northern hemisphere.

Within the United Nations, which strongly shaped the evolution of international environmental law, several conferences and the results thereof are of particular relevance. In 1972, the General Assembly convened a Conference on the Human Environment in Stockholm. This environmental conference was the first of its kind and it was attended by about 6000 participants, delegations from 113 states, representatives of every major intergovernmental

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27 Entry into force: 10 September 1964.

28 Entry into force: 10 June 1964.

29 Entry into force: 30 September 1962.

30 Entry into force: 20 March 1966.

31 Kiss/Shelton (2004:27).

32 The Declaration on Air Pollution Control; the European Water Charter; and the European Agreement on the Restricting of the Use of Certain Detergents in Washing and Cleaning Products.See Kiss/Shelton (2004:27).

organisation, 700 observers sent by 400 NGOs and 1500 journalists.[33] The two-week conference resulted in several documents, which remain basic foundations of today's international environmental law: The Declaration on the Human Environment[34] included 26 principles which greatly shaped future international environmental law. In its basic statements, the 1972 Stockholm Declaration on Human Environment recognises that the natural elements and the man-made things are essential to human well-being and to the full enjoyment of human rights including the right to life. The protection of the environment is viewed as a major issue for economic development. It furthermore recognises that the natural growth of the world's population continuously poses problems for preserving the environment and that human ability to improve the environment is complemented by social progress and the evolution of production, science and technology. The Action Plan for Human Environment, also a result from the 1972 Stockholm conference, is made up of 109 resolutions for action with three major themes: a global environmental assessment program;[35] environmental management activities;[36] and supporting measures focused on information and public education, and on the education of environmental specialists. One further important outcome of the 1972 Stockholm Conference was the recommendation for a central organisation charged with environmental matters, today's United Nations Environment Program (UNEP).

Subsequent to the Stockholm Conference, a multitude of environmental conventions were adopted.[37] The 1971 Ramsar Convention on Conservation of Wetlands of International Importance was adopted, to stem the progressive encroachment on and subsequent loss of wetlands, recognising the fundamental ecological functions of these, including their economic, cultural, scientific and recreational value. The 1972 UNESCO Convention on the Protection of the World Cultural and Natural Heritage adopted in Paris, established a system to protect cultural and natural heritage of outstanding universal value. In 1972 the UN Conference on the Law of the Sea produced the Convention on the Law of the Sea (UNCLOS) adopted in 1982 after ten years of work. UNCLOS encompasses, inter alia, the issue of marine environmental protection. In 1973 the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) was adopted in Washington to protect certain endangered species from over-exploitation by means of a system of import-export permits. The 1979 Bonn Convention on the Conservation of Migratory Species of Wild Animals protects those species that migrate

33 http://www.unep.org/Documents.multilingual/Default.asp?DocumentID=97&ArticleID=1519&l=en; last accessed 4 November 2010. Also see Kiss/Shelton (2004:28).

34 Available at http://www.unep.org/Documents.Multilingual/Default.asp?documentid=97&articleid=1503; last accessed 5 November 2010.

35 Establishing "Earthwatch" a mechanism for evaluation and review, research and monitoring and information exchange.

36 Containing provisions concerning pollution (dumping of toxic and dangerous substances; elaboration of norms limiting noise; control of contaminations in food); protection of the marine environment; and protection of wildlife and natural spaces.

37 For a collection of international environmental treaties see UNEP (2005c).

across national boundaries. The 1982 United Nations World Charter for Nature was not endorsed as a binding legal instrument, but it continues to have a strong influence on environmental law. This charter proclaims that mankind itself is part of nature, that civilisation is rooted in nature and that every form of life is unique and therefore merits respect, regardless of its worth to man. In its principles it sets forth that nature shall be respected; population levels of all wild forms, wild and domesticated shall be at least sufficient for their survival; special protection shall be afforded to the unique areas of the globe (land and sea); and that ecosystems, organisms and other natural resources shall be managed to achieve and maintain their optimum sustainable productivity and continuity.

Emerging new environmental challenges, such as long-range air pollution and the depletion of the ozone layer resulted in the adoption of the 1985 Vienna Convention for the Protection of the Ozone Layer and the 1987 Montreal Protocol, creating an international system to reduce emissions of ozone-depleting substances. The Chernobyl Disaster of 1986[38] lead to the Vienna Convention on Early Notification of a Nuclear Accident and the Vienna Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency of the same year.

In 1987, Our common future, also known as the Brundtland Report, was drafted by a special UN Commission.[39] This report stated that individual states, and the international community at large, have come to recognise sustainable development as the single most important paradigm to maintain and improve the quality of human life. The newly coined term, sustainable development, means that natural resources, renewable or non-renewable, and the environment must be used in such a manner that it may equitably yield the greatest benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations. Sustainable development includes the maintenance and improvement of the capacity of the environment to produce renewable resources and the natural capacity for regeneration of such resources. This concept was taken up by the United Nations Conference on Environment and Development, held in Rio in 1992. It was the next big conference after Stockholm 1972, and hosted 10.000 participants, 172 states, 1.400 NGOs and 9.000 journalists.[40] Two legally binding instruments resulted from the Rio Conference, namely the

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38 On April 26, 1986, the fourth reactor of the Chernobyl Nuclear Power Plant exploded. After the explosion, graphite fires broke out, due to the high temperatures of the reactor. All permanent residents of Chernobyl and the zone of alienation were evacuated because radiation levels in the area had become unsafe. The nuclear meltdown provoked a radioactive cloud that floated over neighbouring nations. Two hundred and thirty-seven people suffered from acute radiation sickness, of which thirty-one died within the first three months. An international assessment of the health effects of the Chernobyl accident is contained in a series of reports by the United Nations Scientific Committee of the Effects of Atomic Radiation (UNSCEAR). The radioactive contamination of aquatic systems as well as the degradation of flora and fauna became major issues in the immediate aftermath of the accident.

39 World Commission on Environment and Development (1987).

40 Kiss/Shelton (2004:33).

1992 United Nations Framework Convention on Climate Change (UNFCCC) and the 1992 Convention on Biological Diversity (CBD). The UNFCCC was drafted prior to the Rio Conference, adopted in New York, and opened for signature at the Rio Conference. It regulates levels of greenhouse gas concentration in the atmosphere, so as to avoid climate change on a level that would impede sustainable economic development, or compromise initiatives in food production, while the CBD aims at conserving biological diversity, promoting the sustainable use of its components, and encouraging equitable sharing of the benefits arising out of the utilisation of genetic resources.

Other texts resulting from the Rio Conference were the Non-Legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests; the Declaration on Environment and Development (Rio Declaration) as well as Agenda 21. The Rio Declaration, a soft law mechanism, reaffirms the Stockholm Declaration and provides 27 principles guiding environment and development, the core concept being sustainable development, and integrating development and environmental protection. Concepts contained in the Rio Declaration include inter-generational equity; prevention; environmental impact assessment; the polluter pays and precautionary principles; public rights such as participation and access to justice; and the special status of indigenous peoples.

Agenda 21, a Program of Action and like the Rio Declaration, a soft law and thus non-binding document, was drafted to serve as a guide for the implementation of the treaties agreed to at the summit and the principles of sustainable development. Agenda 21 also established the United Nations Commission on Sustainable Development (CSD) and the Global Environment Facility (GEF). Agenda 21 remains of particular importance for international environmental law and consists of 40 Chapters with 115 specific topics. Agenda 21 is sub-divided in four main parts: conservation and resource management (e.g. atmosphere, forest, water, waste, chemical substances); socio-economic dimensions (e.g. habitats, health, demography, consumption and production patterns); strengthening the role of NGOs and other social groups; and measures of implementation (funding, institutions). Sector-specific Chapters on the atmosphere (9); biodiversity and biotechnology (15); oceans (17); freshwater resources (18); toxic chemicals (19); and waste (20ff) form part of Agenda 21.

After the Rio Conference, virtually every multilateral agreement included environmental protection, be it of particularly environmental, economic, or human rights or humanitarian law nature.[41] An emerging issue in international environmental law after the Rio Conference was a new weapons systems which called for the 1993 Paris Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their Destruction. New technologies such as biotechnology and the handling of living modified organisms (LMOs) in the laboratory resulted in the adoption of the 2000 Cartagena Protocol on Biosafety to the

41 Kiss/Shelton (2004:33).

CBD, drafted to ensure an adequate level of protection in the field of safe transfer, handling and use of LMOs that may have adverse effects on the conservation and sustainable use of biological diversity, taking into account risks to human health, and specifically focusing on transboundary movements.

Ten years after the Rio Conference, a next big UN Conference of environmental relevance was held in 2002, convened as the Johannesburg World Summit on Sustainable Development. Although this summit has been considered to have been less successful in environmental terms by environmentalists and environmental lawyers, it carved out the interrelatedness between combating poverty and improving the environment. The Declaration on Sustainable Development which emerged from the summit focuses on development and poverty eradication and recognises three components of sustainable development: economic development, social development, and environmental protection. The Johannesburg Summit was followed by a further World Summit of the United Nations General Assembly in 2005, which reaffirmed the commitment to achieve the goal of sustainable development through implementation of Agenda 21 and the Johannesburg Plan of Implementation. The 2005 World Summit Outcome, adopted by the UN General Assembly, specifically envisages promoting a recycling economy, to tackle climate change, to promote clean energy, to fight hunger, and to provide access to clean drinking water and basic sanitation.

Undoubtedly, the UN has played a vital role in the development of environmental law. However, it must also be emphasised, that environmental law has gradually developed on the regional, sub-regional and of course on the national levels as well. Seen from a Namibian perspective, international environmental law within the African Union and the Southern African Development Community (SADC) is of particular importance. As early as 1968, the Organisation of African Unity (OAU), which later became the African Union (AU), signed a comprehensive document on environmental protection, namely the African Convention on the Conservation of Nature and Natural Resources to enhance environmental protection; foster the conservation and sustainable use of natural resources; and to harmonise and coordinate policies in these fields. The 1968 Convention was revised in 2003 to improve institutional structures to facilitate effective implementation and mechanisms to encourage compliance and enforcement, but the revised convention is yet to come into force. One further piece of AU legislation of environmental relevance is the African Nuclear Free Zone Treaty adopted in 1995 and entered into force on 15 July 2009 to establish an African nuclear-weapon-free zone, thereby achieving, inter alia, to keep Africa free of environmental pollution by radioactive waste.

Within the SADC legal framework, environmental concerns are of increasing importance and have a substantial place in the legal setting of the regional institution. The SADC was established in Windhoek in 1992 as the successor to the Southern African Development Coordination Conference (SADCC), which was founded in 1980. Sustainable utilisation of natural resources and effective protection of the environment have been laid down as basic objectives of SADC in its founding legal document, the SADC Treaty and member states agreed to

cooperate in the area of natural resources and environment.[42] Several SADC Protocols have been signed and entered into in the past two decades, which aim to ensure implementation of the SADC Treaty. Many of these protocols contain provisions for environmental protection, either directly or indirectly. Environmentally relevant documents are the Protocols on Energy[43], Fisheries[44], Forestry[45], Health[46], Mining[47], Tourism[48], Trade[49], Wildlife Conservation and Law Enforcement[50], Shared Watercourse Systems[51], and the Revised Protocol on Shared Watercourses[52].

The development of Namibian environmental law is closely linked to the history of environmental law in South Africa due to Namibia's history.Article 140 of the Namibian Constitution provides that all law in force immediately before the date of independence shall remain in force until repealed or amended by Act of Parliament. Thus, South African legislation plays a significant role even after Namibia's Independence. Some of the environmental laws valid in Namibia are inherited from the South African legal system. South Africa had enacted a variety of environmental legislation regarding the conservation of natural resources.[53] The Water Act,[54] theSoil Conservation Act,[55] theMountain Catchment Areas Act,[56] theHazardous Substances Ordinance,[57] theNature Conservation Ordinance,[58] and theAtmospheric Pollution Prevention Ordinance[59] are only some examples forSouth African legislation relevant for environmental conservation which passed on to Namibia, and which is still applicable 20 years after Independence.

However, Namibia, since Independence, has put a strong emphasis on integrating environmental concerns into the post-colonial legal framework. Many legislative steps have been taken, in order to comply with its obligations under international law and to ensure the conservation of natural resources by legislative means. Since Namibia's efforts in this regard

42 Article 5g, SADC Treaty.
43 Signed in 1996, in force since 17 April 1998.
44 Signed in 2001, in force since 8 August 2003.
45 Signed in 2002, in force since 17 July 2009.
46 Signed in 1999, in force since 14 August 2004.
47 Signed in 1997, in force since 10 February 2000.
48 Signed in 1998, in force since 26 November 2002.
49 Signed in 1996, in force since 25 January 2000.
50 Signed in 1999, in force since 30 November 2003.
51 Signed in 1998, in force since 28 September 1998.
52 Signed in 2000, in force since 22 September 2003.
53 Kidd (2008:12f.).
54 No. 54 of 1956.
55 No. 76 of 1969.
56 No. 63 of 1970.
57 No. 14 of 1974.
58 No. 4 of 1975.
59 No. 11 of 1976.

will be elaborated in the subsequent Chapters of this book, the author of this Chapter refrains from going into more detail with regard to environmental legislation in Namibia at this point.

The evolution of international and national environmental law was not restricted to the drafting of legal treaties, agreements or similar documents. Jurisprudence also played and continues to play a significant role in the process of developing environmental law standards and contributed to the protection of the environment. One early landmark decision in this regard was a case involving the United States and Canada in 1941, namely the *Trail Smelter Arbitration* case.[60] The arbitration affirmed that no state has the right to use its territory or permit it to be used to cause serious damage by emissions to the territory of another state or to the property of persons found there.

Jurisprudence of the International Court of Justice (ICJ) also contributed to environmental protection. The Corfu Channel Case[61] (*UK v Albania*), decided by the ICJ in 1949, did not specifically deal with environmental matters but addressed general principles of state responsibility also applicable to environmental matters. In 1996, the ICJ issued two advisory opinions relating to the use of nuclear weapons, one requested by the General Assembly of the United Nations,[62] the other by the World Health Organisation[63]. The latter dealt directly with environmental concerns as the question in the request was formulated as follows:

> In view of the health and environmental effects, would the use of nuclear weapons by a State in war or other armed conflict be a breach of its obligations under international law including the WHO Constitution?

The court in its advisory opinion denied the request by the WHO because the legality of the use of nuclear weapons "does not relate to a question which arises within the scope of activities of that organisation." The court held that although negative effects on human health and the environment may result from the use of nuclear weapons, the WHO needs to undertake measures irrespective of the legality of their use. The request by the United Nations General Assembly was, however, accepted and with regard to environmental concerns the court recognised that

> the environment is under daily threat and that the use of nuclear weapons could constitute a catastrophe for the environment. The Court also recognises that the environment is not an

60 *Trail Smelter Arbitration* (1938/1941) 3 RIAA 1905 Arbitral Tribunal: US and Canada.

61 ICJ Corfu Channel (*United Kingdom of Great Britain and Northern Ireland v Albania*) judgment available at http://www.icj-cij.org/; last accessed 5 November 2010.

62 ICJ Legality of the Threat or Use of Nuclear Weapons; Request for Advisory Opinion by the General Assembly of the United Nation, 8 July 1996. Available at http://www.icj-cij.org/docket/index.php?p1=3&p2=4&k=e1&case=95&code=unan&p3=4; last accessed 5 November 2010.

63 ICJ Legality of the Use by a State of Nuclear Weapons in Armed Conflict; Request for Advisory Opinion by the World Health Organisation, 8 July 1996. Available at http://www.icj-cij.org/docket/index.php?p1=3&p2=4&k=e1&p3=4&case=93; last accessed 5 November 2010.

> abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn. The existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment.[64]

And further the court stated that

> while the existing international law relating to the protection and safeguarding of the environment does not specifically prohibit the use of nuclear weapons, it indicates important environmental factors that are properly to be taken into account in the context of the implementation of the principles and rules of the law applicable in armed conflict.[65]

One further case of particular importance decided by the ICJ was the case concerning the Gabcíkovo-Nagymaros Project.[66] This case raised a multitude of environmentally related legal issues, such as the concept of sustainable development, the principle of continuing environmental impact assessment and the handling of *erga omnes* obligations in *inter partes* judicial procedure.

But not only the jurisdiction of the ICJ contributed to the development of environmental law and to the protection of the environment. Other international and national judicial bodies had to deal with environmental concerns as well. The Dispute Settlement Body of the WTO, for example, was frequently confronted to resolve issues regarding environmental protection.[67]

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64 ICJ Legality of the Threat or Use of Nuclear Weapons; Request for Advisory Opinion by the General Assembly of the United Nation, 8 July 1996 at page 21 para 29; available at http://www.icj-cij.org/docket/index.php?p1=3&p2=4&k=e1&case=95&code=unan&p3=4; last accessed 5 November 2010. For a discussion of the ICJ's advisory opinion and of the question whether or not the use of nuclear weapons during international armed conflict would violate existing norms of public international law relating to the protection and safeguarding the environment see Koppe (2008).

65 ICJ Legality of the Threat or Use of Nuclear Weapons; Request for Advisory Opinion by the General Assembly of the United Nation, 8 July 1996 at page 21 para 33; available at http://www.icj-cij.org/docket/index.php?p1=3&p2=4&k=e1&case=95&code=unan&p3=4; last accessed 5 November 2010.

66 ICJ Gabčíkovo-Nagymaros Project (Hungary/Slovakia), 25 September 1997. Judgment available at http://www.icj-cij.org/docket/index.php?p1=3&p2=3&k=8d&case=92&code=hs&p3=4; last accessed 5 November 2010.

67 See for example the following cases: Panel Report, United States – Import Prohibition of Certain Shrimp and Shrimp Products, WT/DS58/R and Corr.1, adopted 6 November 1998, modified by Appellate Body Report, WT/DS58/AB/R, DSR 1998:VII, 2821; Panel Report, European Communities – Measures Affecting Asbestos and Asbestos-Containing Products, WT/DS135/R and Add.1, adopted 5 April 2001, modified by Appellate Body Report, WT/DS135/AB/R, DSR 2001:VIII, 3305; Panel Report, Brazil – Measures Affecting Imports of Retreaded Tyres, WT/DS332/R, adopted 17 December 2007, as modified by Appellate Body Report, WT/DS332/AB/R.

Environmental protection was also a burning issue in the Ogoni case, a case which was heard in national courts of Nigeria[68] and the United States,[69] as well as by the African Commission on Human and Peoples' Rights[70] and which was also subject to a United Nations Special Rapporteur's Report on Nigeria,[71] which accused Nigeria and Shell of abusing human rights and failing to protect the environment in oil producing regions, and called for an investigation of Shell. Subject to judicial review in this case was the fact that, since Shell began drilling for oil in Ogoniland in the Niger Delta in 1958, the people of Ogoniland have had pipelines built across their farmlands and in front of their homes, have suffered constant oil leaks from these very pipelines, and have been forced to live with the constant flaring of gas fires. This environmental assault has drenched land with oil, killed masses of fish and other aquatic life, and introduced devastating acid rain to the land of the Ogoni, a people dependent upon farming and fishing. The poisoning of the land and water has had devastating economic and health consequences.

Summarising, it can be stated that the history of modern environmental law originated in the second half of the past century and is strongly influenced and developed by international and national political action and legislative measures, as well as by international and national jurisprudence.

5 Major Environmental Concerns in Namibia

To quite some extent, Namibia experiences comparable environmental problems as many parts of Africa; some of the most challenging issues will be pointed out broadly in the subsequent paragraphs in order to give an overview of the importance of taking legal and non-legal measures for environmental conservation.

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68 Judgment delivered by the Nigerian High Court on 14 November 2005.

69 *Kiobel v Royal Dutch Petroleum*; United States Court of Appeals for The Second Circuit, Docket Nos. 06-4800-cv, 06-4876-cv. http://www.ca2.uscourts.gov/decisions; last accessed 5 November 2010. For a comment on this decision see Ikari (2010).

70 Communication 155/96.The Social and Economic Rights Action Center and the Center for Economic and Social Rights / Nigeria. Available at http://www.achpr.org/english/_info/decision_article_24.html; last accessed 5 November 2010.

71 Released 15 April 1998. The report condemned Shell for a "well armed security force which is intermittently employed against protesters." The report was unusual both because of its frankness and its focus on Shell, instead of only on member countries.

5.1 Land Degradation and Soil Erosion

Land degradation in Namibia, like elsewhere in the world occurs in different forms and the effects and causes of land degradation are manifold.[72] It is, *inter alia,* caused by climatic variations, especially the high variability of rainfall patterns, and human activities. According to the Namibia Household Income and Expenditure Survey 2003/2004,[73] 28.9 % of Namibian households depend on subsistence farming as the main source of income. However, many Namibians depend – directly or indirectly – more on farming than on any other economic activity.[74] Despite the fact that the whole agriculture sector, which includes processing, only made up 5% of GDP in 2004, most of the land in Namibia is used for agricultural purposes.[75]

Overstocking and overgrazing are considered to be the main causes for land degradation in Namibia. Especially in rural areas, poverty forces people into unsustainable environmental management practices such as overstocking and overgrazing in order to ensure food supply. More often than not, the densities of livestock exceed the carrying capacity of the land, which places strain on the environment. Further negative effects on land are caused by the unsustainable harvesting of forest resources, wild plants and game, and the clearing of land for farming or housing purposes.[76]

Land degradation not only has negative economic consequences in that it reduces the country's resources, it also poses a serious threat to food security and rural livelihoods, which particularly affects the most vulnerable groups in Namibia's poor and densely populated areas. The most alarming effects of land degradation are deforestation, decreased availability of palatable grass species, soil erosion, bush encroachment and soil salinisation.[77]

5.2 Deforestation

In 2005, almost 7.7 million ha of Namibia was covered by forests. This corresponds to 9.3% of the total land surface area. Almost 2% of the forest area has disappeared since 1990, however. Major threats to forests in Namibia include the expansion of land for agriculture; the cutting of wood for fuel and for domestic use; clearing for infrastructure development;

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72 Klintenberg/Seely (2004).

73 GRN (2006:17).

74 Iyambo, N, then Minister of Agriculture, Water and Forestry in his foreword to Mendelsohn (2006).

75 Mendelsohn (2006:10).

76 MET (2006:1ff.)

77 Klintenberg/Seely (2004:7).

uncontrolled wild fires; selective logging through timber concessions and unlicensed curio carving; and habitat destruction by elephants.[78]

Forest resources are of essential importance as woodlands stabilise fragile soils. Moreover, forest areas are the home of rich biological diversity. But forests also play a vital role from a socio-economic perspective and especially in the rural areas of Namibia, many are directly or indirectly dependent on the availability of forest resources for browsing, building material for homesteads, fuel wood for cooking, light and heating, and medicines amongst others.

However, the increase of the population unfortunately goes hand in hand with an increase in an unsustainable use of timber for fuel, housing, fencing, fire, and poses a severe strain on the environment as deforestation not only leads to the loss of resources used for human activities, it also results in desertification and severe degradation of land.[79]

5.3 Water management

Water is a critical factor and water supply remains a serious problem throughout Namibia, as the country is considered to be one of the most arid countries in southern Africa. 22 % of Namibia can be classified as desert, with a mean annual rainfall of less than 100 mm. 33 % is classified as arid, with a mean annual rainfall of between 100 and 300 mm. 37 % is classified as semi-arid, with a mean annual rainfall of between 301 and 500 mm, and 8 % as sub-tropical, with a mean annual rainfall of between 501 and 700 mm.[80] These low rainfall rates, exacerbated by evaporation rates often higher than the precipitation, a high degree of rainfall variation, and variable rainfall distribution patterns are responsible for the fragility of Namibian water resources.

Water is needed in terms of basic sustenance and for agriculture. Sustainable water management is, therefore, a major challenge. Major threats to water availability are population pressure, as well as industrial development and growth. The latter two are causing surface and ground water pollution, resulting in a decrease in water availability and quality, harmful to human and animal health. Environmental law can substantially contribute to reduce these negative effects, e.g. by limiting the use of pesticides, or by preventing the discharge of waste water or other substances harmful to aquatic systems. Sound water management can for example be enforced by a permit system for the abstraction of water in order to avoid the over-abstraction of water.

Environmental law, an integrated water resource management that promotes the co-ordinated development and management of water, land and related natural resources, as well as

78 Cf. FAO (2005).
79 MET (2006:13).
80 GRN (1997a:1).

increasing public awareness with regard to water problems is needed, in order to tackle the challenge of equitable access to enough water of acceptable quality.

5.4 Climate Change

As mentioned earlier, Namibia is considered to be one of the driest countries in southern Africa. The cold Benguela current along the west coast and Namibia's location traversing the subtropical high-pressure belt greatly influences the main features of the climate. The climate of Namibia is characterised by high variability. This in part, contributes to making Namibia vulnerable to the impact of climate change.

In Namibia's initial communication to the United Nations Framework Convention on Climate Change in 2002,[81] it is stated that trends in climate change predict that temperature will increase, specifically in central inland areas, rainfall will be variable and the rainy season is predicted to be shorter. Furthermore, an increase of potential evaporation at a rate about 5 % per degree of warming and a sea level rise of up to 30cm was predicted.

Climate change in Namibia has an impact on access to water and sanitation, health, agriculture, fisheries and marine ecosystems, forestry, energy, and human settlements.[82] A growing body of evidence has demonstrated that poor and other disenfranchised groups are the greatest victims of environmental degradation. In Namibia, the majority of the population live in rural areas, where poverty is a sad reality and remains one of the greatest challenges in the southern African region. The combined impact of climate change is expected to reduce livelihood opportunities even further, to reduce biodiversity and food security; the prevalence of drought and flooding will increase. Predicted impacts associated with temperature increases include a further rise in sea levels, changes in precipitation patterns, and the resultant threat to food security and sustainable development in general, with more people being caught up in the poverty trap. Limited adaptive management puts Namibia's population and its natural resources at risk. Thus, integrating adaption and mitigation strategies into the legal framework is essential. Additionally, access to information, public participation and the development of an educational approach is called for. Finally, interdisciplinary research into the effects of climate change needs to be consolidated.

5.5 Waste and Pollution

Namibia in general and Windhoek in particular, are considered to be clean, if compared to many other parts and capital cities in Africa. Yet, growth in development and in population

81 GRN (2002d).

82 Karuaihe et al. (2007:34ff.).

brings about an increase in pollution and waste. More people produce more waste, and economic development inevitably has negative effects on our environment: ground water and air pollution, more generally the toxic contamination of soils, etc. Therefore, waste management and pollution control are essential in terms of environmental protection.

Since 1990, the industrial production has significantly increased in Namibia with an attendant real potential to pollute the environment: the food industry, meat processing and mining all are potential sources of pollution.[83] Carbon dioxide emissions are on the increase due to increasing motorisation, and the amount of household waste is rising too. Household waste accounts for a significant amount of waste produced in all the urban and rural areas of Namibia.[84] In Windhoek in 2004, a total of 24,861 tons of waste was generated by households.[85] Based on information gleaned from the Namibian 2001 population census, a total waste of 788 841.24 tons has been generated at town level.[86] Apart from the situation in the capital, which has improved in terms of waste management in recent years[87] the waste management industry in Namibia is still underdeveloped.

Adequate waste management practices include the reduction and prevention of waste, as well as waste treatment, disposal and recycling. Proper waste disposal and management, including the planning and management of adequate waste disposal sites, awareness creation, environmental education as well as a more effective legal framework are needed for minimising the negative effects on the environment.

83 MET (2006:70).
84 MET (2006:87).
85 Hasheela (2009:66).
86 Hasheela (2009:132). Based on more recent population figures, the figure of a total waste amounts to 1 096 130,64.
87 Hasheela (2009:130ff.).

Chapter 2

INTERNATIONAL ENVIRONMENTAL LAWFROM A NAMIBIAN PERSPECTIVE

Oliver CRuppel

This Chapter deals with several aspects of international environmental law with a focus on how these relate to the situation in Namibia. It must be stated beforehand, that, especially with regard to the sources of international law, much has been written by internationally renowned jurists.[1] However, in order to give an overview of this field of the law as comprehensively as possible but within the limits of this publication, this Chapter summarises the most basic features of international environmental law.

1 The Application of International Law in Namibia

International law has developed rapidly over the past few decades, especially since the dawn of the UN, when rules and norms regulating activities carried on outside the legal boundaries of nations were developed. Numerous international agreements – bilateral, regional or multilateral in nature – have been concluded and international customary rules, as evidence of a general practice accepted as law, have been established. But how do these sources of international law apply domestically? In this regard, two approaches can generally be followed.[2] The first, the monist approach, assumes that international laws are automatically incorporated into domestic law; the second, the dualist approach, follows the rule that international laws are not automatically incorporated into domestic law and therefore require an act of legal transformation into domestic law.

Article 144 of the Namibian Constitution incorporates international law explicitly as law of the land; it needs no legislative act to become so.[3] International law is thus integrated into domestic law. National authorities and the judiciary in particular can, therefore, apply

1 See for example Sands (2003); Kiss (2004); Dugard (2005).
2 Cf. Dugard (2005:47f.).
3 Erasmus (1991:94).

international law directly on the national level, before cases are taken to regional or international judicial or quasi-judicial bodies.[4] However, international law has to conform to the Constitution in order to apply domestically. Whenever a treaty provision or other rule of international law is inconsistent with the Namibian Constitution, the latter will prevail.[5]

Article 144 also mentions two sources of international law that apply in Namibia: general rules of public international law, and international agreements binding upon Namibia. General rules of public international law include rules of customary international law, supported and accepted by a representatively large number of states. The notion of *international agreement* primarily refers to *treaty* in the traditional sense, i.e. international agreements concluded between states in written form and governed by international law,[6] but it also includes conventions, protocols, covenants, charters, statutes, acts, declarations, concords, exchanges of notes, agreed minutes, memoranda of understanding, and agreements.[7] Notably, not only agreements between states, but also those with the participation of other subjects of international law, e.g. international organisations, are covered by the term *international agreement*. In general, international agreements are binding upon states if the consent to be party to a treaty is expressed by a signature followed by ratification; or by accession, where the state is not a signatory to a treaty; or by declaration of succession to a treaty concluded before such a state existed.

In Namibia, a treaty will be binding in terms of Article 144, if the relevant international and constitutional requirements have been met in terms of the law of treaties, and the Namibian Constitution. International agreements, therefore, will become Namibian law when they come into force for Namibia.[8] The conclusion of or accession to an international agreement is governed by Articles 32(3)(e), 40(i) and 63(2)(e) of the Namibian Constitution. The Executive is responsible for conducting Namibia's international affairs, including entry into international agreements. The President, assisted by the Cabinet, is empowered to negotiate and sign international agreements, and to delegate such power. It is required by the Constitution that the National Assembly agrees to the ratification of or accession to an international agreement. However, the Constitution does not require the promulgation of an international agreement in order for it to become part of the law of the land.[9]

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4 Bangamwabo (2008:168).

5 Erasmus (1991:94).

6 Definition in Article 1 of the Vienna Convention on the Law of Treaties of 1969, which entered into force in 1980.

7 Cf. the definition of *treaty* proposed by the International Law Commission; Article 2(a) of the Draft Articles on the Law of Treaties, with commentary, available at http://untreaty.un.org/ilc/texts/instruments/english/commentaries/1_1_1966.pdf; last accessed 12 October 2009.

8 Erasmus (1991:102f.).

9 Hinz / Ruppel (2008b:8ff.).

Further to Article 144, Article 96 of the Constitution promotes international cooperation, peace and security; it also exhorts respect for international law and treaty obligations, as a principle of state policy.

2 Sources of International Environmental Law

The sources of international environmental law are part of the sources of international law in general. Thus, the international legal regime must be consulted in order to trace the sources of international environmental law. International law, like national law, knows different types of law, namely hard law and soft law. Hard law describes those provisions or agreements, which are obligatory in nature and thus binding for those to whom these provisions are applicable. As opposed to this is the category of soft law, encompassing non-binding texts such as the Declarations resulting from Rio and Stockholm Conferences. Soft law has an important influence in international law, because acceptance and compliance often develops into international customary law. The major problem with respect hereto is to determine the point at which soft law become such law, i.e. hard law. This will be discussed further down.

International environmental law comprises both, hard law and soft law components. The sources of international law in general are listed in Article 38 of the Statute of the International Court of Justice (ICJ), the principal judicial organ of the United Nations:

> 1. The Court, whose function is to decide in accordance with international law such disputes as are submitted to it, shall apply:
>
> a. international conventions, whether general or particular, establishing rules expressly recognised by the contesting states;
>
> b. international custom, as evidence of a general practice accepted as law;
>
> c. the general principles of law recognised by civilised nations;
>
> d. subject to the provisions of Article 59, judicial decisions and the teachings of the most highly qualified publicists of the various nations, as subsidiary mean for the determination of rules of law…

Considering that Article 38 of the Statute of the ICJ was first drafted in 1920, these provisions do not longer reflect all the sources of today's international law. New developments in respect of sources of law have to be considered in addition to those recognised in Article 38.[10] In the following paragraphs, however, only those four categories of sources of international law as outlined in Article 38 will be elaborated on, with a focus on their implications for environmental law-related concerns.

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10 The list of sources of international law can be supplemented by other sources of international law like duties *erga omnes* and *ius cogens*. *Estoppel* and acquiescence can be added to the list of sources of international law as well as unilateral legal acts. Cf. Dugard (2005: 27).

2.1 International Conventions: Multilateral Environmental Agreements (MEAs)

International conventions or treaties, as referred to in Article 38 of the ICJ, are defined by Article 2.1(a) of the 1969 Vienna Convention on the Law of Treaties as international agreements "concluded between States in written form and governed by international law, whether embodied in a single instrument or in two or more related instruments and whatever its particular designation".

International environmental treaties or Multilateral Environmental Agreements (MEAs) as they are commonly referred to, regulate the relationships between states pertaining to the environment. Generally, the first objective of any MEA is the protection and conservation of the environment. However, MEAs will also be beneficial in economic, political or administrative regard. MEAs can protect public health, improve governance, empower the public to get involved, increase solidarity, enhance international political respect, and improve technical and financial assistance and networking.[11]

As a general rule, MEAs are of a binding nature and are thus to be distinguished from other non-binding international instruments (soft law), which cannot be enforced, but rather serve in a guiding capacity. The binding nature of MEAs derives from the *pacta sunt servanda* principle, which has been reaffirmed by Article 26 of the Vienna Convention on the law of treaties.

Although international law typically focuses on obligations among states, it has the potential to influence environmental law at the national, i.e. domestic level. In some cases, the parties to such agreements are international governmental or non-governmental organisations instead of, or in addition to states.

2.1.1 How MEAs are made

International treaties come into being in a multi-stage process.[12] Usually, a draft is the first step, drawn up by such international organisations as the United Nations, the African Union, or the Council of Europe. In a next step, this draft is negotiated by its stakeholders: national delegations including government officials, scientists and representatives of NGOs. The negotiation phase is closed by the adoption of an agreed text, which is subsequently signed by the representatives of the state who have been commissioned to this effect by their government. Certain treaties are signed after the closing session of the negotiations during a determined period. After the end of such period non-contracting states can adhere or accede to the treaty. After the signature of a treaty follows the ratification, which takes place at the

11 UNEP (2006a:44f.).

12 Cf. Sands (2003:128ff.); Dugard (2005:408ff.).

national level and according to domestic law. National law stipulates - usually - that a treaty should be ratified by the head of the state after approval by Parliament or accepted by the Executive. How an MEA becomes applicable under national law depends on the constitutional provisions of the country in question. It follows either a monist or a dualist approach, as explained earlier in this Chapter.[13] The ratification process is in most cases concluded by the deposit of an instrument of ratification,[14] approval or other communication to the secretariat of an international organisation and the treaty subsequently enters into force on a date determined by the treaty itself, in most cases after a certain number of instruments of ratification have been deposited or after a specific period of time has elapsed.

2.1.2 The General Scope of MEAs

International environmental law may be established on the global level, containing rules applicable for the entire – or at least almost the entire - international community.[15] On the regional level, international law creates a legal framework for a specific region, such as European environmental law (e.g. EC guidelines) or similarly within the African Union.[16] A regional or continental scope may of course again be subdivided into smaller regional blocs, such as the SADC legal framework, often referred to as the sub-regional level.[17] Bilateral environmental agreements are international treaties usually concluded between two states with shared natural resources such as rivers, lakes or parks.

As has been outlined, the geographic coverage of international agreements is one reason for the broad scope of international environmental law. One other reason is the variety of different sectors covered by this field of the law, such as water, land, biological diversity, air and climate to name only a few. Thus, the number of international agreements directly or indirectly pertinent to the environment is extraordinarily high[18] and no other area of law has generated

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13 For a more detailed discussion on the relationship between international and municipal law see Dugard (2005:47ff.). Namibia follows the monist approach by virtue of Article 144 of the Constitution as has been stated earlier in this chapter.

14 Usually a document issued by the respective state, which states that the treaty has been ratified.

15 MEAs with effectively whole world membership include the Convention of Biological Diversity (CBD) and its protocol, the 2000 Cartagena Protocol on biosafety; the 1971 Ramsar Convention on Wetlands of International Importance; and the 1973 Washington Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) amongst others.

16 The MEA most relevant for Africa is the African Convention on the Conservation of Nature and Natural Resources.

17 The SADC Protocols pertinent to environmental issues are such sub-regional environmental agreements.

18 Kiss (2004:41) speaks of more than one thousand. UNEP's 2005 Register of International Treaties and other agreements in the field of the environment has 272 environmental agreements, not including bilateral agreements or treaties, where the focus is on other issues but which establish environmental obligations, such as the GATT/WTO or regional free trade agreements. The International Environmental Agreements Database Project lists 1538 Bilateral Environmental Agreements; 1041 Multilateral

such a large body of conventions on a specific topic as international environmental law has in the past decades.

2.1.3 Typical Structure of MEAs

Many MEAs do have common characteristics, use the same legal techniques and often have a similar structure.[19]. Like other international treaties, MEAs are typically arranged as follows: The Preamble, which can be helpful in interpreting the treaty, explains the motivations of the contracting parties but contains in itself no obligatory rules. The main part of an MEA includes substantive rules which define the obligations of the parties, measures of implementation, institutional provisions (e.g. to create treaty bodies such as the Conference of the Parties) and closing measures concerning the life of the treaty itself. Many MEAs have Annexes, which contain specific regulations concerning technical details such as lists of substances or activities, pollution standards, lists of protected species, etc.

2.1.4 Compliance and Enforcement of MEAs

Compliance and enforcement of MEAs[20] are, like in other fields of the law, essential for ensuring, that MEAs are not simply paper work.

Compliance, meaning the fulfilment by the contracting parties of their obligations under MEAs, is ensured by different legal means. Compliance measures can be adopted by states or the secretariats and Conferences of Parties of specific MEAs, and MEAs themselves do often contain provisions on compliance, or non-compliance for that matter.[21] The competent body of an MEA[22] can, where authorised to do so, regularly review the overall implementation of obligations under the MEA and examine specific difficulties.

MEAs have to be implemented by Parties to the Agreement, by enacting and promulgating relevant laws, regulations, policies, and other measures and initiatives to meet their obligations under an MEA. International organisations have developed general guidelines on compliance

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Environmental Agreements; and 259 other (non-multi, non-bi) Environmental Agreements; and 429 Environmental NON-Agreements (e.g., Declarations, Memoranda of Understanding) see http://iea.uoregon.edu/page.php?query=home-contents.php; last accessed 10 November 2010.

19 Cf. Kiss (2004:42).

20 For a detailed discussion on compliance and enforcement regarding MEAs see UNEP (2006a).

21 See for example Article 34 of the Cartagena Protocol on Biosafety, Article XII of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), or Article 18 of the Kyoto Protocol to the UNFCCC in connection with Decision 27/CMP.1 on the Procedures and mechanisms relating to compliance under the Kyoto Protocol; available at http://unfccc.int/resource/docs/2005/cmp1/eng/08a03.pdf#page=92; last accessed 12 November 2010.

22 Such as the Conference of Parties, with a secretariat, established under Articles 23-25 of the Convention on Biological Diversity.

and enforcement of MEAs.[23] Compliance with MEAs is inter alia enhanced through national implementation plans, including monitoring and evaluation of environmental improvement; reporting, monitoring and verification; establishment of compliance committees with appropriate expertise; and inclusion of compliance provisions and mechanisms within the MEA.[24]

The effectiveness of MEAs has to be subject to review. In this regard, monitoring, involving the collection of data, reporting, requiring Parties to make regular, timely reports on compliance, using an appropriate common format, or verification of data and technical information in order to assist in ascertaining whether a party is in compliance, may be adequate measures in terms of strengthening compliance. State Parties may be obliged undertake to submit reports on the measures they have adopted which give effect to the rights recognised in the MEAs and on the progress made. Article 26 of the CBD is one example for review under an MEA. Parties are thereby required to report to the Conference of the Parties (COP) on measures taken to implement the Convention and their effectiveness in achieving the objectives of the Convention. One major problem of national reports under international agreements in general is the issue of non-submission by the respective deadlines due to various reasons, including limited human, technical, and financial resources. Taking again the CBD as an example, it can be observed that as of 12 November 2010[25], only 153 out of 193 CBD Parties had submitted the fourth national report, which was due on 30 March 2009.[26]Namibia has submitted all four national reports under the CBD.

Provisions for settlement of disputes complement the provisions aimed at compliance with an agreement. Several forms of dispute settlement mechanisms, including good offices, mediation, conciliation, fact-finding commissions, dispute resolution panels, arbitration and other possible judicial arrangements are available depending upon the specific provisions contained in the applicable MEA. The primary judicial organ of the United Nations is one competent body to hear certain disputes on environmental issues. Other environmental judicial bodies include the

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23 In 2002, UNEP has adopted the Guidelines on Compliance with and Enforcement of Multilateral Environmental Agreements; other relevant guidelines include the 1999 Caribbean Guidelines for MEA Implementation; available at http://www.pnuma.org/foroalc/esp/bbexb07i-MEAsImplementationintheCaribbean.pdf; the 2002 Guiding Principles for Reform of Environmental Enforcement Authorities in Transition Economies of Eastern Europe, Caucasus and Central Asia (EECCA), developed by EECCA Member States and the Organisation for Economic Cooperation and Development (OECD); available at http://www.oecd.org/dataoecd/36/51/26756552.pdf; or the 2003 Guidelines for Strengthening Compliance with and Implementation of Multilateral Environmental Agreements (MEAs) in the ECE (UN Economic Commission for Europe) Region; available athttp://www.unece.org/env/documents/2003/ece/cep/ece.cep.107.e.pdf; last accessed 20 November 2010.

24 Cf. the 2002 UNEP Guidelines on Compliance with and Enforcement of Multilateral Environmental Agreements.

25 According to http://www.cbd.int/reports/; last accessed on 12 November 2010.

26 See http://www.cbd.int/reports/search/?type=nr-04; last accessed on 12 November 2010.

Law of the Sea Tribunal,[27] or the International Court of Environmental Arbitration and Conciliation.[28]

While compliance generally applies to the international context, enforcement applies to the national context. Enforcement can be described as the range of procedures and actions employed by a state, its competent authorities and agencies to ensure that organisations or persons, potentially failing to comply with environmental laws can be brought or returned into compliance and/or punished through civil, administrative or criminal action.[29] Enforcement is essential to secure the benefits of MEAs, protect the environment, public health and safety, deter violations, and encourage improved performance.[30] Enforcement encompasses a set of legal measures which can be applied. Such measures include the adoption of laws and regulations, monitoring outcomes, and including various enabling activities and steps — that a state may take within its national territory to ensure implementation of an MEA. Furthermore, good enforcement programmes reinforce the credibility of environmental protection efforts and the legal system that supports them and ensures fairness for those who willingly comply with environmental requirements.[31]

Effective enforcement can inter alia be achieved by providing for responses in cases ofcontraventions of national environmental laws and regulations implementing multilateral environmental agreements (environmental law violations) or in cases of violations or breaches of national environmental laws and regulations that a state determines to be subject to criminal penalties under its national laws and regulations (environmental crimes).

2.2 International Customary Law

International customary law encompasses norms and rules that countries follow as a matter of custom and they bind all states in the world.[32] It is, however, not clear cut, when exactly a principle becomes customary law and thus binding, which has been subject to disputes among states.

Two criteria have, however crystallised with regard to the requirements for a rule to become international customary law.[33] The prerequisite for the first criterion, namely that of settled

27 http://www.itlos.org/start2_en.html; last accessed 12 November 2010.
28 http://iceac.sarenet.es/; last accessed 12 November 2010.
29 UNEP (2006a:294).
30 UNEP (2006a:289f.).
31 UNEP (2006a:33).
32 Sands (2003:143f.).
33 These criteria, which are being applied by national courts as well, have been developed by international jurisprudence inter alia in the following cases: *Asylum case* 1950 ICJ Reports 266; *North Sea*

practice (*usus*) is a constant and uniform usage or widespread acceptance of a rule. The acceptance of an obligation to be bound (*opinio juris sive necessitatis*) is the second criterion.[34]

Many international customary law rules relevant for the field of environmental law have been developed.[35] The principle that no state may use or permit to use its territory in such a manner as to cause injury to the territory of another state has for example become a principle of international customary law. This principle goes back to the Trail Smelter Arbitration in 1941[36] and was taken up by the Stockholm Declaration, repeated in the Rio Declaration and reaffirmed in the Nuclear Weapons Case.[37]

The duty to warn other states promptly about emergencies of an environmental nature and environmental damages to which another state or states may be exposed is contained in the 1978 Principles Concerning Shared Resources, drafted by UNEP and also contained in Article 192 of the 1982 UN Convention on the Law of the Sea; this is another example for international customary law. This duty was neglected by the Soviet Government in the case of the Chernobyl disaster in 1986. As a consequence the 1986 Convention on Early Notification of a Nuclear Accident was adopted, which in Article 2 explicitly imposes a duty upon states to notify those states which are or may be physically affected of a nuclear accident.

2.3 General Principles of International Environmental Law

Overview of General Principles of International Environmental Law

- State sovereignty
- Co-operation
- Preservation and protection of the environment
- Precaution
- Prevention
- Polluter pays principle
- Information and assistance in environmental emergencies
- Information and consultation in cross-boundary relations
- The rights of individuals: information, participation and access to justice
- Good governance
- Sustainable development, integration and interdependence
- Inter-generational and intra-generational equity
- Responsibility for trans-boundary harm
- Transparency, public participation and access to information and remedies
- Common concern for humanity
- Rights of future generations
- Common heritage of mankind
- Common but differentiated responsibilities

Continental Shelf Case (West Germany v The Netherlands and Denmark) 1969 ICJ Reports 3; *Nicaragua Case (Nicaragua v US)* 1986 ICJ Reports 14.

34 For a detailed discussion see Sands (2003:143ff.) or Dugard (2005:29ff.).

35 For further reference see Sands (2003: 147ff.) and Kiss (2004:49).

36 *Trail Smelter Arbitration* (1938/1941) 3 RIAA 1905 Arbitral Tribunal: US and Canada.

37 Advisory Opinion, ICJ Rep. 1996, 226 ff. at para 64 ff.

- Access and benefit sharing regarding natural resources

One of the oldest principles of general international law is that of state sovereignty. This principle acknowledges that the state has exclusive jurisdiction on its territory, that the state is the only authority which can adopt obligatory legal rules for its territory, that the state has the executive power (administration, police), and that its tribunals are the only ones competent to judge litigation.[38] Especially with regard to environmental issues, the principle of state sovereignty faces several challenges, as, for example, pollution of the sea, of rivers, lakes and the air is not stopped by the limits of territorial jurisdiction and migratory species cross territorial borders. It is therefore necessary, that treaties and international customary law impose limitations on the sovereignty of states.In the so-called Sutherland Report,[39] *sovereignty* is described as one of the 'most used and also misused concepts of international affairs and international law'. Acceptance of almost any treaty involves a transfer of a certain amount of decision-making authority away from states, and towards some international institution. Generally, this is exactly why sovereign nations agree to such treaties: they realise that the benefits of cooperative action that a treaty enhances are greater than the circumstances that exist otherwise.[40] It is undeniable that discrete, territorially bound state units no longer have exclusive control over the process of governance pertaining to the societies that live in their respective territories. In this context, governance has come to be conceptualised in multilevel terms,[41] as power has become widely dispersed amongst a range of institutions and actors.

The general international obligation to cooperate with others in order to resolve problems concerning the international community is essential to conserve the environment entirely and globally.[42] This general principle is contained and elaborated in many MEAs, for example in Article 5 of the Convention of Biological Diversity (CBD), which underlines the importance of this principle. Cooperation is essential in order to rationally use shared resources; eradicating poverty as requirement for sustainable development; strengthening capacity building by transfer of knowledge, information and technology; and also in order to secure funding and financial assistance.

The general principle of prevention can be considered the single most important intention of environmental law. The prevention principle dictates that action must be taken at an early stage, and if possible, before damage occurs. Legal mechanisms to meet the requirements of the prevention principle include the assessment of environmental harm (Environmental Impact Assessment), licensing or authorisation, the adoption of national and international standards, or the adoption of preventative strategies and policies.

38 Sands (2003:235ff.).
39 Sutherland et al. (2005).
40 Ibid.
41 Cf. Winter (2006).
42 Sands (2003:249ff.).

Like the prevention principle, the precaution principle seeks to avoid environmental harm, but it is to be applied when the consequences of non-action can be particularly serious or irreversible. The precautionary approach aims to provide guidance in the development and application of environmental law where there is scientific uncertainty and has been formulated in Principle 15 of the Rio Declaration on Environment and Development as follows:

> In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of a serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.[43]

At the international and national levels, there has been increased recognition of the special needs by indigenous communities for access to benefits of the natural resources on which they rely for their livelihood. Their participation in both decision-making and in management is of high importance for the protection of local ecosystems because of their traditional knowledge and environmental awareness. The principle of access and benefit sharing of natural resources has been taken up in Principle 22 of the Rio Declaration:

> Indigenous people and their communities, and other local communities, have a vital role in environmental management and development because of their knowledge and traditional practices. States should recognise and duly support their identity, culture and interests and enable their effective participation in the achievement of sustainable development.

The principle is also reflected in Article 8(j) of the Convention on Biological Diversity, which imposes on states the obligation to respect, preserve and maintain knowledge, innovations and practices of indigenous people and local communities, to encourage the equitable sharing of the benefits arising from the utilisation of indigenous knowledge, innovations and practices.

Transparency and access to information are both required in order to guarantee effective public participation and sustainable development. Public participation in the context of sustainable development requires, amongst others, the opportunity to hold and express opinions, and to seek, receive and impart ideas. And it also requires a right of access to the reported, comprehensible and timely information held by governments and industrial concerns, on economic and social policies regarding the sustainable use of natural resources and the protection of the environment, without imposing undue financial burdens on applicants for information, and with adequate protection of privacy and business confidentiality. Environmental Impact Assessment with broad public participation in terms of access to information, and the right to make submissions on environmental and impact statement, is one legal mechanism to ensure public participation rights.

Rio Declaration Principle 10 refers to participation rights as follows:

> Environmental issues are best handled with the participation of all concerned citizens, at the relevant level. At the national level, each individual shall have appropriate access to

[43] Sands (2003:267).

> information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.

2.4 Judicial Decisions and Teachings

International environmental law also incorporates the opinions of international courts and tribunals. While there are few such courts and tribunals and they have limited authority, their decisions carry much weight with legal commentators and are quite influential on the development of international environmental law. The courts are: the International Court of Justice (ICJ); the Law of the Sea Court; the European Court of Justice; the World Trade Organisation's Dispute Settlement Body (DSB); as well as regional treaty tribunals.

Other sources of international law are texts by some of the best qualified legal scholars. In the jurisprudence of international judicial bodies, writings of jurists do also play a role. Examples for this are the Nuclear Test Case[44] or the Gabčíkovo-Nagymaros Project case[45], which have without any doubt been influenced by academic and other writings.

3 Multilateral Environmental Agreements Relevant for Namibia

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44 ICJ Legality of the Threat or Use of Nuclear Weapons; Request for Advisory Opinion by the General Assembly of the United Nation, 8 July 1996; available at http://www.icj-ij.org/docket/index.php?p1=3&p2=4&k=e1&case=95&code=unan&p3=4; last accessed 5 November 2010. Another example is the case on maritime delimitation in the area between Greenland and Jan Mayden Denmark v Norway ICJ 14 June 1993 separate opinion by Weeramantry available at http://www.icj-cij.org/docket/index.php?p1=3&k=e0&case=78&code=gjm&p3=4; last accessed 4 November 2010.

45 ICJ *Gabčíkovo-Nagymaros Project* (Hungary/Slovakia), 25 September 1997. Judgement available at http://www.icj-cij.org/docket/index.php?p1=3&p2=3&k=8d&case=92&code=hs&p3=4; last accessed 5 November 2010.

3.1 Namibia's Membership to Global MEAs[46]

Namibia is a State Party to a large number of MEAs. This emphasises Namibia's strong environmental commitment. Every membership to an MEA brings about benefits as well as obligations for Namibia. Aside from the immediate benefits of advanced environmental protection, there are also long-term effects. For instance environmentally related public health problems with a bearing on development are dealt with proactively and internationally.[47] Many MEAs improve environmental governance and generally promote transparency, participatory decision-making, accountability, conflict resolution, and have an indirect positive influence in terms of democratisation processes in any given developing country context. In some cases, it is beneficial to become a party to an MEA in order to obtain financial assistance for addressing environmental problems, and, more importantly, MEAs may also facilitate technical assistance, for example through knowledge and technology transfer.

There are also obligations. A significant amount of human, technical and financial resources is needed to ensure implementation of MEAs. In order for an MEA to have an impact on the ground, legislation, administrative measures, and capacity building for implementation and enforcement at the local and national levels are essential.

The following table lists the international treaties in the field of the environment and related instruments, to which Namibia is a party, and gives an overview of Namibia's obligations under international environmental law.

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46 The information for this Section is based on UNEP's Register of international treaties and other agreements in the field of the environment. UNEP (2005c). A directory of major multilateral environmental agreements classified by global/regional scope and an overall chronological listing beginning from 1933 and an index of major non-legally binding instruments developed at UNEP (or under the aegis of UNEP) is available at http://www.unep.org/law/Law_instruments/index.asp; last accessed 12 November 2010.

47 UNEP (2006a:44).

	Treaty / Agreement Particularities			Namibian Participation		
Treaty / Agreement	Place of Adoption	Date of Adoption	Entry into Force	Ratification (R) Accession (Ac) Acceptance (At) Signature (S) Consent to be bound (P)	Date	Entry into Force
International Convention for the Conservation of Atlantic Tunas	Rio de Janeiro, Brazil	14.05.1966	21.03.1969	R	10.11.1999	10.11.1999
Convention on Wetlands of International Importance Especially as Waterfowl Habitat	Ramsar, Iran	02.02.1971	21.12.1975	Ac	23.08.1995	23.12.1995
Convention Concerning the Protection of the Worlds Cultural and Natural Heritage	New York, USA	16.11.1972	17.12.1975	At	06.04.2000	06.04.2000
Convention on International Trade in Endangered Species of Wild Fauna and Flora	WashingtonD.C., USA	03.03.1973	01.07.1975	Ac	18.12.1990	18.03.1991
Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, 1973	London, UK	17.02.1978	02.10.1983	S	18.03.2003	18.03.2002
Convention on the Physical Protection of Nuclear Material	Vienna, Austria	26.10.1979	08.02.1987	Ac	02.10.2002	01.11.2002
Convention on the Conservation of Antarctic Marine Living Resources	Canberra, Australia	20.05.1980	07.04.1982	Ac	29.06.2000	29.06.2000
United Nations Convention on the Law of the Sea	Montego Bay, Jamaica	10.12.1982	16.11.1994	R	10.12.1982	18.04.1983

	Treaty / Agreement Particularities			Namibian Participation		
Treaty / Agreement	Place of Adoption	Date of Adoption	Entry into Force	Ratification (R) Accession (Ac) Acceptance (At) Signature (S) Consent to be bound (P)	Date	Entry into Force
Protocol to Amend the Convention on Wetlands of International Importance Especially as Waterfowl Habitat	Paris, France	03.12.1982	01.10.1986	Ac	23.08.1995	23.08.1995
Vienna Convention for the Protection of the Ozone Layer	Vienna, Austria	22.03.1985	22.09.1988	Ac	20.09.1993	20.09.1993
Montreal Protocol on Substances that Deplete the Ozone Layer	Montreal, Canada	16.09.1987	01.01.1989	Ac	20.09.1993	20.09.1993
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal	Basel, Switzerland	22.03.1989	05.05.1992	Ac	15.05.1995	15.05.1995
[London] Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer	London, UK	29.06.1990	10.08.1992	R	06.11.1997	06.11.1997
United Nations Framework Convention on Climate Change	New York, USA	09.05.1992	21.03.1994	S/R	12.06.1992	16.05.1995
Convention on Biological Diversity	Rio de Janeiro, Brazil	05.06.1992	29.12.1993	S/R	12.06.1992	16.05.1997
Protocol of 1992 to Amend the International Convention on Civil Liability for Oil Pollution Damage 1969	London, UK	27.11.1992	30.05.1996	Ac	18.12.2002	18.12.2003

	Treaty / Agreement Particularities			Namibian Participation		
Treaty / Agreement	Place of Adoption	Date of Adoption	Entry into Force	Ratification (R) Accession (Ac) Acceptance (At) Signature (S) Consent to be bound (P)	Date	Entry into Force
Protocol of 1992 to Amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971	London, UK	27.11.1992	30.05.1996	Ac	18.12.2002	18.12.2003
[Copenhagen] Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer	Copenhagen, Denmark	25.11.1992	14.06.1994	At	28.07.2003	28.07.2003
Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and their Destruction	Paris, France	13.01.1993	29.04.2997	S/R	13.01.1993	24.11.1995
Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas	Rome, Italy	29.11.1993	24.04.2003	Ac	07.08.1998	07.08.1998
United Nations Convention to Combat Desertification in those Countries Experiencing serious Drought and/or Desertification, Particularly in Africa	Paris, France	17.06.1994	26.12.1996	S/R	24.10.1994	16.05.1997

	Treaty / Agreement Particularities			Namibian Participation		
Treaty / Agreement	Place of Adoption	Date of Adoption	Entry into Force	Ratification (R) Accession (Ac) Acceptance (At) Signature (S) Consent to be bound (P)	Date	Entry into Force
Agreement Relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982	New York, USA	28.07.1994	28.07.1996	S/P	29.07.1994	28.07.1995
Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks	New York, USA	04.08.1995	11.12.2001	S/R	19.04.1996	08.04.1998
Comprehensive Nuclear-Test-Ban Treaty	New York, USA	10.09.1996	Not yet	S/R	24.09.1996	29.06.2001
Kyoto Protocol to the United Nations Framework Convention on Climate Change	Kyoto, Japan	11.12.1997	16.02.2005	Ac	04.09.2003	04.09.2003
Convention on the Law of Non-Navigational Uses of International Watercourses	New York, USA	21.05.1997	Not yet	S/R	19.05.2000	29.08.2001
Cartagena Protocol on Biosafety to the Convention on Biological Diversity	Montreal, Canada	29.01.2000	11.09.2003	S/R	24.05.2000	10.02.2005
Convention on the Conservation and Management of Fishery Resources in the South-East Atlantic Ocean	Windhoek, Namibia	20.04.2001	13.04.2003	S/R	20.04.2001	26.02.2002

	Treaty / Agreement Particularities			Namibian Participation		
Treaty / Agreement	Place of Adoption	Date of Adoption	Entry into Force	Ratification (R) Accession (Ac) Acceptance (At) Signature (S) Consent to be bound (P)	Date	Entry into Force
Stockholm Convention on Persistent Organic Pollutants	Stockholm, Sweden	22.05.2001	17.05.2004	Ac	24.06.2005	24.06.2005
International Treaty on Plant Genetic Resources for Food and Agriculture	Rome, Italy	03.11.2001	29.06.2004	S/R	09.11.2001	07.10.2004
World Health Organisation Framework Convention on Tobacco Control	Geneva, Switzerland	21.05.2003	27.02.2005	S/R	29.01.2004	07.11.2005

These tables show, that the list of MEAs to which Namibia is a party is long and it would go beyond the scope of this publication to discuss all the above-mentioned agreements. However, some of most important MEAs will be introduced in the following.

The 1971 Convention on Wetlands of International Importance Especially as Waterfowl Habitat(Ramsar) was adopted to stem the progressive encroachment on and loss of wetlands now and in the future, recognising the fundamental ecological functions of wetlands and their economic, cultural, scientific and recreational value. Parties to the Convention are required to designate at least one national wetland for inclusion in a "List of Wetlands of International Importance" and to consider their international responsibilities for conservation, management and wise use of migratory stocks of wildfowl. Furthermore, parties establish wetland nature reserves, cooperate in the exchange of information and train experts for wetland management. Conferences on the conservation of wetlands and water-fowl are to be convened as the need arises.

The 1972 Convention Concerning the Protection of the World's Cultural and Natural Heritage intends to establish an effective system of collective protection of the cultural and natural heritage of outstanding universal value, organised on a permanent basis and in accordance with modern scientific methods. Each State Party recognises that the duty of identification, protection, conservation and transmission to future generations of the cultural and natural heritage belongs primarily to that State Parties commit themselves to integrate the protection of their heritage into comprehensive planning programmes, to set up services for the protection of their heritage, to develop scientific and technical studies and to take necessary legal, scientific, administrative and financial steps to protect their heritage, and to assist each other in the protection of the cultural and natural heritage. The Convention establishes a World Heritage Committee, to which each party will submit an inventory of its national heritage and which will publish a "World Heritage List" and a "List of World Heritage in Danger". A World Heritage Fund is established, financed by the parties and other interested bodies.

The 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) aims to protect certain endangered species from over-exploitation by means of a system of import-export permits. The Convention includes animals and plants whether dead or alive, and any recognisable parts of derivatives thereof. Appendix I to the Convention covers endangered species, trade in which is to be tightly controlled; appendix II covers species that may become endangered unless trade is regulated; appendix III covers species that any party wishes to regulate and requires international cooperation to control trade; and appendix IV contains model permits. Permits are required for species listed in appendices I and II stating that export / import will not be detrimental to the survival of the species. The CITES Secretariat is administered by UNEP and is located at Geneva, Switzerland.

The 1980 Convention on the Conservation of Antarctic Marine Living Resources intends to safeguard the environment and protect the integrity of the ecosystem of the seas surrounding Antarctica, and to conserve Antarctic marine living resources. A Commission for the

Conservation of Antarctic Marine Living Resources, is established, to inter alia facilitate research into and comprehensive studies of Antarctic marine living resources and the Antarctic marine ecosystems; to compile data on the status of and changes in populations of Antarctic marine living resources, and on factors affecting the distribution, abundance and productivity of harvested species and dependent or related species or populations; to ensure the acquisition of catch and effort statistics on harvested populations; to identify conservation needs and analyse the effectiveness of conservation measures; to formulate, adopt and revise conservation measures on the basis of the best scientific evidence available; and to implement a system of observation and inspection.

The 1982 United Nations Convention on the Law of the Sea(UNCLOS) was adopted to set up a comprehensive new legal regime for the sea and oceans and, as far as environmental provisions are concerned, to establish material rules concerning environmental standards as well as enforcement provisions dealing with pollution of the marine environment.

The 1985 Vienna Convention for the Protection of the Ozone Layer aims to protect human health and the environment against adverse effects resulting from modifications of the ozone layer. Parties undertake to cooperate in research concerning substances and process that modify the ozone layer on human health and environmental effects of such modifications, and on alternative substances and technologies; and in systematic observation of the State of the ozone layer. Furthermore, parties commit themselves to cooperate in formulation and implementation of measures to control activities that cause adverse effects through modification of the ozone layer, and, particularly, the development of protocols for such purposes, and to exchange scientific, technical, socio-economic, commercial and legal information relevant to the Convention, and cooperate in the development and transfer of technology and knowledge. The Convention has two annexes: setting forth important issues for scientific research on and systematic observation of the ozone layer; and describing the kinds of information to be collected and shared under its terms.

The 1992 United Nations Framework Convention on Climate Change (UNFCCC) was adopted to regulate levels of greenhouse gas concentration in the atmosphere, so as to avoid the occurrence of climate change on a level that would impede sustainable economic development, or compromise initiatives in food production. The Parties are to protect the climate system for present and future generations. The Convention recognises that developing countries should be accorded appropriate assistance to enable them to fulfil the terms of the Convention. The Parties should work in cooperation, so as to obtain maximum benefit from initiatives in the control of the climate systems. National inventories on greenhouse gas emissions have to be prepared by the parties and programmes for the control of climate change have to be formulated and implemented. It is further provided to undertake cooperation in technology for the control of change in the climate system; incorporate suitable policies for the control of climate change in national plans; and to undertake education and training policies that will enhance public awareness in relation to climate change. The developed country Parties (and

other Parties listed in annex I) commit themselves to take special measures to limit their anthropogenic emissions of greenhouse gases, and to enhance the capacity of their sinks and reservoirs for the stabilisation of such gases. The developed country Parties (and other Parties listed in annex II undertake to accord financial support to developing country Parties, to enable the latter to comply with the terms of the Convention. The Convention establishes a Conference of Parties, to be the supreme body of the Convention and to oversee the implementation of the Convention.

The 1992 Convention on Biological Diversity (CBD) aims at conserving biological diversity, promoting the sustainable use of its components, and encouraging equitable sharing of the benefits arising out of the utilisation of genetic resources. Such equitable sharing includes appropriate access to genetic resources, as well as appropriate transfer of technology, taking into account existing rights over such resources and such technology. The CBD confirms the principle of national sovereignty over domestic natural resources, subject to respect for the rights of other States but places a duty on States Parties to conserve biological diversity within their jurisdiction, as well as outside their jurisdiction in certain cases. The CBD provides for the cooperation between States Parties, in preserving biological diversity in areas out of national jurisdiction and confers on States Parties the responsibility for the formulation and implementation of strategies, plans or programmes for the conservation and sustainable use of biological diversity. Furthermore, States Parties are required to monitor the elements of biological diversity, determining the nature of the urgency required in the protection of each category, and in sampling them, in terms of the risks to which they are exposed. One further obligation on States by the CBD is to provide for research, training, general education and the fostering of awareness, in relation to measures for the identification, conservation and sustainable use of biological diversity and for environmental impact assessment of projects that are likely to have significant adverse effects on biological diversity. Further important provisions of the CBD relate to access to genetic resources; access to transfer of technology, for application in the conservation and sustainable use of biological diversity; and on financial resources. The CBD establishes a Conference of Parties, with a Secretariat, to keep under review the implementation of the Convention.

The 1994 United Nations Convention to Combat Desertification in those Countries Experiencing serious Drought and/or Desertification, Particularly in Africa intends to combat desertification and mitigate the effects of drought in the countries affected through effective action at all levels supported by international cooperation and partnership arrangements in the framework of an integrated approach which is consistent with Agenda 21, with a view to contributing to the achievement of sustainable development in those areas. This Convention ensures participation of the public in relevant decision-making process, facilitates national and local action, improves international cooperation and coordination, emphasises developing cooperation among various levels of actors in a country for sustainable use of Land and water resources, and takes into full consideration the special needs and circumstances of affected developing country Parties.

3.2 The African Union (AU)

The historical foundations of the African Union originated in the Union of African States, an early confederation that was established by Kwame Nkrumah in the 1960s. The Organisation of African Unity (OAU) was established on May 25, 1963. On 9 September 1999, the heads of state and governments of the OAU issued the Sirte Declaration (named after Sirte, in Libya), calling for the establishment of an African Union. The Declaration was followed by summits at Lomé in 2000, when the Constitutive Act of the African Union was adopted, and at Lusaka in 2001, when the Plan for the Implementation of the African Union was adopted. During the same period, the initiative for the establishment of the New Partnership for Africa's Development (NEPAD), was also established. The African Union was launched in Durban on July 9, 2002, by the then South African President, Thabo Mbeki[1], at the first session of the Assembly of the African Union. The Union's administrative centre is in Addis Ababa, Ethiopia and the working languages are Arabic, English, French, Portuguese, and Swahili. The African Union counts 53 member States with Morocco being the only African State that is not a member. Geographically, the African Union covers an area of 29757900 km² and for 2010, the United Nations Population Division estimated a population total of 1 033 043 000.[2]

Considering that the African continent is extremely rich in natural resources, the protection and conservation of the environment must be an overarching aim within the African Union. That this is indeed the case is reflected throughout the African Union's entire legal framework.

3.2.1 The Environment and the AU's General Legal Framework

The Constitutive Act of the African Union, which was adopted in Lomé, Togo in 2000, provides in its Article 13 that the Executive Council coordinates and take decisions on policies in areas of common interest to the Member States. This includes, foreign trade; energy, industry and mineral resources; food, agricultural and animal resources; livestock production and forestry; water resources and irrigation; and the environment and its protection.

The African Economic Community, the African Union's economic institution was established in 1991 by the Abuja Treaty Establishing the African Economic Community. Namibia has signed this treaty in 1991. It contains specific provisions regarding environmental protection and the control of hazardous wastes. The Treaty contains broad economic objectives, which touch on the environment, firstly by the general objective of promoting economic, social and cultural development and the integration of African economies in order to increase economic self-reliance and to promote an indigenous and self-sustained development; and secondly, through the specific objective of ensuring the harmonisation and coordination of environmental

1 Thabo Mbeki was the African Union's first President.

2 Africa's entire population was estimated to be 1 033 043 000 in 2010, which includes the population of Morocco, estimated at 32 381 000. See http://esa.un.org/unpp/p2k0data.asp; last accessed 13 November 2010.

protection policies, among the States Parties. The Treaty makes provision for several specialised technical committees, including a Committee on Industry, Science and Technology, Natural Resources and Environment. Each of these committees has the mandate to prepare projects and programmes in its sphere of duty, and of ensuring supervision and implementation of these.

Chapter VIII contains provisions with regard to food and agriculture, and provides for cooperation among member states in the development of rivers and lake basins, and the development and protection of marine and fishery resources, and plant and animal protection. States Parties are required to ensure the development within their borders of certain basic industries which are identified as conducive to collective self-reliance and to modernisation, and to ensure proper application of science and technology to a number of sectors which according to Article 51 include energy and the conservation of the environment. States have the obligation to coordinate and harmonise their policies and programmes in the field of energy and natural resources, and to promote new and renewable forms of energy and, in line with Article 58, to promote a healthy environment, and, to this end, to adopt national, regional and continental policies, strategies and programmes and establish appropriate industries for environmental development and protection. The Treaty requires member states to take appropriate measures to ban the importation and dumping of hazardous wastes in their territories, and to co-operate among themselves in the transboundary movement, management and processing of such wastes, where these emanate from a member state.

The African Charter for Human and Peoples' Rights has progressively taken up the issue of environmental protection by explicitly incorporating a human right to environment, a third generation human right.[3] Article 24 of the African Charter for Human and Peoples' Rights reads that "[a]ll peoples shall have the right to a general satisfactory environment favourable to their development". The provision is very broad in scope and thus open for interpretation with regard to the question, what such right to a satisfactory environment entails.[4]

This question has been addressed by the African Commission on Human and Peoples' Rights The Commission has been established in 1987 with a mandate to protect and promote human rights and empowered to consider complaints from individuals and states, is so far the only (quasi-) judicial body within the African Union, since the African Court of Justice has not yet become operational. The Commission has dealt with Article 24 in the Ogoni case,[5] in which it elaborated that the right to a satisfactory environment puts government under the obligations

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3 See Glazewski (2000:17); Ruppel (2008a) and chapter 8 in this book. For a detailed discussion on the righ to environment under the African Charter on Human and Peoples' Rights see also Mekouar (2001).

4 Van der Linde et al. (2003:174).

5 Communication 155/96. The Social and EconomicRightsActionCenter and the Center for Economic and Social Rights / Nigeria; available at http://www.achpr.org/english/_info/decision_article_24.html; last accessed 5 November 2010.

to inter alia take reasonable measures to prevent pollution and ecological degradation; to promote conservation and ensure ecological sustainable development and the use of natural resources; to undertake environmental and social impact assessments prior to industrial development.[6]

The recognition of a right to a satisfactory environment by the African Charter on Human and Peoples' Rights and the progressive jurisprudence by the African Commission on Human and Peoples' Rights take up the issue of environmental protection from a human rights perspective and underline the linkage between environmental protection and human rights, a modern holistic approach to some of the most burning issues in our society.

3.2.2 The African Convention on the Conservation of Nature and Natural Resources

Apart from the many provisions contained in legal texts of the African Union, which are not primarily focused on environmental concerns, the most relevant legal document regarding environmental protection in the AU's legal framework is the African Convention on the Conservation of Nature and Natural Resources (also referred to as the African Nature Convention). The need for a treaty to address nature conservation was already expressed in the Arusha Manifesto of 1961.[7] 1963, the African Charter for the Protection and the Conservation of Nature was adopted, followed by the Algiers Convention on the Conservation of Nature and Natural Resources in 1968, which came into force in 1969. The objectives of the 1968 Convention encourage individual and joint action for the conservation, utilisation and development of soil, water, flora and fauna for the present and future welfare of mankind, from an economic, nutritional, scientific, educational, cultural and aesthetic point of view. To this end, states undertake to adopt the measures necessary to ensure conservation, utilisation and development of soil, water, floral and faunal resources in accordance with scientific principles and with due regard to the best interests of the people (Article II); to take effective measures to conserve and improve the soil and to control erosion and land use (Article IV); and to establish policies to conserve, utilise and develop water resources, prevent pollution and control water use (Article V). Furthermore, the Convention imposes on states the obligation to protect flora and ensure its best utilisation, the management of forests and control of burning, land clearance and overgrazing (Article VI); and to conserve faunal resources and use them wisely, manage populations and habitats, control hunting, capture and fishing, and prohibit the use of poisons, explosives and automatic weapons in hunting (Article VII). States are required to tightly control traffic in trophies, to prevent trade in illegally killed and obtained trophies and to establish and maintain conservation areas (Article X). A list of protected species which enjoy

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6 See Van der Linde et al. (2003:178) and The African Commission on Human and Peoples' Rights. Communication 155/96. The Social and EconomicRightsActionCenter and the Center for Economic and Social Rights / Nigeria; available at http://www.achpr.org/english/_info/decision_article_24.html; last accessed 5 November 2010.

7 IUCN (2006:4).

full total protection, and a list of species, which may be taken only with authorisation is part of the Convention.

The Algiers Convention was revised in 2003 (Maputo) to improve institutional structures to facilitate effective implementation and mechanisms to encourage compliance and enforcement have been introduced. The revised Convention was adopted by the second ordinary session of the Assembly of Heads of States and Government of the African Union in Maputo, Mozambique, in July 2003. As of February 2010, 37[8] out of 53 member states have signed the Convention, while only 8 member states[9] have deposited their instrument of ratification.[10] The revised convention thus still has to come in force, which will be the case 30 days after 15 countries have deposited their ratification instruments. Namibia, not being a signatory to the 1968 Convention, has signed the revised Convention in December 2003, while no instrument of ratification has been deposited as of yet.

The revised Convention follows a comprehensive and general approach to environmental protection. It defines natural resources, addresses economic and social development goals, and stresses the necessity to work closely together towards the implementation of global and regional instruments supporting the goals of the Rio Declaration and Agenda 21.[11]

The main objective of the Convention is to enhance environmental protection, to foster the conservation and sustainable use of natural resources, and to harmonise and coordinate policies in these fields with a view to achieving ecologically rational, economically sound and socially acceptable development policies and programmes. In realising these objectives, the Parties should be guided by the principles of a right to a satisfactory environment and the right to development – the so-called third-generation human rights.[12] Parties are required to adopt and implement all measures necessary to achieve the objectives of the Convention, in particular through preventive measures and the application of the precautionary principle, and with due regard to ethical and traditional value as well as scientific knowledge in the interest of present and future generations (Article IV).

The provisions of the Convention address the following areas:[13] Land and soil (Article VI), water (Article VII), vegetation cover (Article Viii), species and genetic diversity (Article IX),

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8 The Convention has been signed by Benin, Burkina Faso, Burundi, Chad, Cote d'Ivoir, Comoros, Democratic Rep. of Congo, Congo, Djibouti, Equatorial Guinea, Ethiopia, Gambia, Ghana, Guinea-Bissau, Guinea, Kenya, Libya, Lesotho, Liberia, Madagascar, Mali, Mozambique, Namibia, Nigeria, Niger, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Somalia, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, and Zimbabwe.

9 Namely Burundi, Comoros, Ghana, Libya, Lesotho, Mali, Niger, and Rwanda.

10 See http://www.africa-union.org/root/au/Documents/Treaties/List/Revised%20Convention%20on%20Nature%20and%20Natural%20Resources.pdf; last accessed 25 October 2010.

11 IUCN (2006:5ff.).

12 IUCN (2006:6).

13 For a discussion on each of these areas see IUCN (2006:8ff.).

protected species (Article X), trade in specimens and products thereof (Article XI), conservation areas (Article XII), process and activities affecting the environment and natural resources (Article XIII), sustainable development and natural resources (Article XIV), military and hostile activities (Article XV), procedural rights (Article XVI), traditional rights of local communities and indigenous knowledge (Article XVII), research (Article XVIII), development and transfer of technology (Article XIX), capacity building, education and training (Article XX), national authorities (Article XXI), cooperation (Article XXII), compliance (Article XXIII), liability (Article XXIV), and exceptions (Article XXV).

The Conference of the Parties and the Secretariat are established by Articles XXVI and XXVII respectively.Article XXXIV relates to the relationship with the 1968 Algiers Convention and provides that to Parties which are bound by the revised Convention, only this Convention is to apply. The relationship between Parties to the original Convention and Parties to this Convention is to be governed by the provisions of the original Convention (Article XXXIV).

It has to be noted that unlike its predecessor, the 2003 Convention excludes reservations, which reflects the necessity for the Parties to apply common solutions to common problems. If the Parties had the right to make reservations, differing obligations would jeopardise the attainment of the Convention's objectives.[14]

Disputes regarding the interpretation and application of the Convention are primarily subject to alternative dispute resolution otherwise the African Court of Justice has jurisdiction.

3.2.3 Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa

The Convention was adopted in Bamako, Mali on 30 January 1991 and entered into force on 22 April 1998. As of February 2010, Namibia has not become a Party to this Convention.

The Convention creates a framework of obligations to strictly regulate the transboundary movement of hazardous wastes to and within Africa. The Bamako Convention in Article 3 categorises hazardous wastes and enumerates general obligations of States Parties in respect of the enforcement of a ban on hazardous waste import, and on the dumping of hazardous wastes at sea and internal waters in respect of waste generation, and the adoption of precautionary measures. States are furthermore required to establish monitoring and regulatory authorities to report and act on transboundary movement of hazardous wastes. A secretariat to serve a Conference of the Parties is established. A list of categories of wastes which are hazardous waste and a list of hazardous characteristics are annexed to the Bamako Convention as well as annexes on disposal operations; information to be provided on notification; information to be provided on the movement document; and on arbitration.

14 IUCN (2006:7).

Part of the 2003 Convention are 3 Annexes on the Definition of Threatened Species, Conservation Areas, and on Prohibited Means of Taking.

3.2.4 The African Nuclear Free Zone Treaty (Treaty of Pelindaba)

The Treaty, to which Namibia became a signatory in April 1996, entered into force in August 2009[15] and establishes the African nuclear-weapon-free zone, thereby achieving, inter alia, the promotion of regional cooperation for the development and practical application of nuclear energy for peaceful purposes in the interest of sustainable social and economic development of the African continent, and keeping Africa free of environmental pollution by radioactive wastes and other radioactive matter.

Each Party has the obligation to renounce nuclear explosive devices, prohibit in its territory the stationing of any nuclear explosive device, and prohibit testing of nuclear explosive devices. Any capability for the manufacture of nuclear explosive devices has to be declared and Parties undertake to dismantle and destroy any nuclear explosive device, destroy facilities for the manufacture of nuclear explosive devices or where possible to convert them to peaceful uses. Furthermore, the measures contained in the Bamako Convention on the Ban of the Import into Africa and Control of Transboundary Movement and Management of Hazardous Wastes within Africa have to be implemented according to Article 7 in so far as it is relevant to radioactive waste and not to take any action to assist or encourage the dumping of radioactive wastes and other radioactive matter anywhere within the African nuclear-weapon-free zone. The use of nuclear science and technology for economic and social development is to be promoted, including cooperation under the African Regional Cooperation Agreement for Research, Training and Development Related to Nuclear Science and Technology. Each Party undertakes not to take, or assist, or encourage any action aimed at an armed attack by conventional or other means against nuclear installations in the African nuclear weapon-free zone. The Treaty of Pelindaba establishes the African Commission on Nuclear Energy for the purpose of ensuring compliance with their undertakings under the Treaty. Annual reports have to be submitted by the Parties to the Commission and a Conference of the Parties is to be convened.

The Treaty has 4 Annexes, including a Map of the African-nuclear free zone; and Annexes on Safeguards of the International Atomic Energy Agency and on the African Commission on Nuclear Energy; and an Annex on the complaints procedure and settlement of disputes.

3.2.5 The Phyto-Sanitary Convention for Africa

The Phyto-Sanitary Convention for Africa was adopted in Kinshasa, DRC, on 13 September, 1967. The Convention does not contain any provision relating to its entry into force. However, as of February 2010, 10 member States have deposited their instruments of ratification. The

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15 http://www.africa-union.org/root/au/Documents/Treaties/List/Pelindaba%20Treaty.pdf; last accessed 28 October 2010.

aim of this Convention is to control and eliminate plant diseases in Africa and prevent the introduction of new diseases. To this end, Parties undertake to control import of plants and to take measure of quarantine, certification or inspection in respect of living organisms, plants, plant material, seeds, soil, compost and packing material. Namibia is not a party to this Convention.

3.2.6 Enforcing Environmental Provisions on the Regional Level

The environmental agreements under the umbrella of the African Union each have their own provision on how disputes are to be settled. Alternative dispute resolution plays an important role in this regard as it is the favourable mechanism, as e.g. provided for in the African Convention for Nature Conservation. However, the African Court of Justice (ACJ) has the ultimate jurisdiction. The African Court of Justice, which is to be merged with the African Court on Human and Peoples' Rights, was established in 2002.[16] The Protocol establishing the ACJ was adopted in 2003 and will come into force after ratification by 15 AU member States. The Court is located in Arusha, Tanzania but has not yet become operational. The merged court will have jurisdiction over all disputes and applications referred to it which *inter alia* relate to the interpretation and application of the AU Constitutive Act or the interpretation, application or validity of Union Treaties, as well as human rights violations. To date, the African Commission on Human and Peoples' Rights, a quasi-judicial body established by the African Charter on Human and Peoples' Rights is responsible for monitoring compliance with the African Charter on Human and Peoples' Rights.

3.3 The Southern African Development Community (SADC)

Environmental concerns are – similar to the protection and promotion of human rights - not at the heart of the constitutive acts of regional economic communities (RECs) like SADC. However, environmental concerns have – at least to some extent - found their way into the legal framework of most REC's.

SADC[17] was established in Windhoek in 1992 as the successor to the Southern African Development Coordination Conference (SADCC), which was founded in 1980. SADC currently counts 15 states among its members, namely Angola, Botswana, the Democratic Republic of Congo (DRC), Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, the Seychelles,[18]South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe.

SADC was established by signature of its constitutive legal instrument, the SADC Treaty. SADC envisages –

16 Hansungule (2009).

17 For more detail on SADC, see http://www.sadc.int/; last accessed 12 October 2008.

18 The Seychelles was a member of SADC from 1997 to 2004; it rejoined SADC in 2008.

> … a common future, a future in a regional community that will ensure economic well-being, improvement of the standards of living and quality of life, freedom and social justice[,] and peace and security for the peoples of Southern Africa. This shared vision is anchored on the common values and principles and the historical and cultural affinities that exist between the peoples of Southern Africa.[19]

To this end, SADC's objectives include the achievement of development and economic growth, the alleviation of poverty, the enhancement of the standard and quality of life, support of the socially disadvantaged through regional integration, the evolution of common political values, systems and institutions, the promotion and defence of peace and security, and achieving the sustainable utilisation of natural resources and effective protection of the environment.[20] Amongst other issues, food security, land and agriculture as well as natural resources and the environment have been identified as areas of cooperation by the SADC Treaty.[21]

3.3.1 SADC Protocols

Besides the aforementioned provisions and objectives in the SADC Treaty, the SADC legal system offers human rights protection in many legal instruments as well. One category of such documents constitutes the SADC Protocols. The Protocols are instruments by means of which the SADC Treaty is implemented, and they have the same legal force as the Treaty itself. A Protocol legally binds its signatories after ratification. The Protocols which are of most relevance with regard to the environment are listed in the table below.

Protocol	Date of entry into force
Protocol on Energy	17 April 1998
Protocol on Fisheries	8 August 2003
Protocol on Forestry	17 July 2009
Protocol on Health	14 August 2004
Protocol on Mining	10 February 2000
Protocol on Shared Watercourse Systems	28 September 1998
Revised Protocol on Shared Watercourses	22 September 2003
Protocol on Tourism	26 November 2002
Protocol on Trade	25 January 2000
Protocol on Wildlife Conservation and Law Enforcement	30 November 2003

The **Protocol on Energy** strives to outline means of co-operation in the development of energy and energy to ensure security and reliability of energy supply and the minimisation of costs. It is emphasised in the Protocol that development and use of energy must be environmentally

19 See SADC's Vision, at http://www.sadc.int/; last accessed 12 October 2008.

20 These are some of the SADC objectives laid down in Article 5 of the SADC Treaty.

21 SADC Treaty Article 21.3.

sound. To achieve this objective, the Protocol inter alia provides for cooperation in the development and utilisation of energy in the sub-sectors of woodfuel, petroleum and natural gas, electricity, coal, new and renewable energy sources, and energy efficiency and conservation.

The Protocol formulates the intention to promote increased production of new and renewable sources of energy in an economically and socially acceptable manner, including biogas, windmills, mini-hydroplants, passive solar design of buildings, photovoltaics, solar thermal and solar stoves and water heaters. The development of national energy efficiency and conservation plans is encouraged. Article 4 establishes an Energy Commission, consisting of the Committee of Ministers, the Committee of Senior Officials, the Technical Unit, and sub-Committees. The Commission is responsible for the implementation of the Protocol. Annex 1 to the Protocol contains guidelines for cooperation in the Energy Commission.

Considering that fisheries are essential for the social and economic well-being and livelihood of the people in the region, with regard to food security and the alleviation of poverty,the **Protocol on Fisheries** provides for cooperation and integrative actions in order to optimise the sustainable use of the living aquatic resources within SADC. Thus, the objective of the Protocol is to promote the responsible and sustainable use of living aquatic resources and aquatic ecosystems, in order to enhance food security and human health, safeguard the livelihood of fishing communities, generate economic opportunities for citizens, and alleviate poverty.

Legal measures provided for in the Protocol to achieve this objective include the protection of resources against over-exploitation, the transfer of skills and technologies to other member states to enhance effective regional co-operation, and the exchange of information on the state of shared resources, levels of fishing effort, measures taken to monitor and control exploitation of shared resources, plans for new or expanded exploitation, and relevant research activities and results. The Protocol envisages to integrate systems to monitor resources, joint fish stock assessment programmes, agreed scientific methodologies, and preparation of best scientific advice on sustainable levels of exploitation. Of specific importance with regard to environmental protection relating to fisheries is the requirement to balance the needs of industrial enterprises, artisanal fishers, subsistence fishers, recreational fishers, and aquaculture practitioners, in a politically, environmentally and economically sustainable manner (Article 12) and the provision providing for the protection of aquatic ecosystems, including their biodiversity and unique habitats (Article 14). The harmonisation of legislation has been taken up by Article 8, asking for cooperation with regard to establishing region-wide penalties for illegal fishing by SADC and non-SADC-flag vessels in the waters of member states.

Annexed to the Protocol are a list of International Fora, Conventions and Agreements with which State Parties are to establish common positions and undertake co-ordinated and complementary actions, as well as a list of international bodies particularly relevant to the Protocol in Annex 2. Appendices 3 and 4 list international declarations on integrated coastal zone management and agreements on international rivers respectively.

Forests are dealt with in the **Protocol on Forestry**; they cover an area of 357 million of the SADC Region corresponding to about 33 per cent. Forests are home to a rich biodiversity, and millions of people live within the forests and woodlands which directly support their livelihoods. Forest products from which the population can benefit include charcoal, honey, bush meat, and construction materials. Thus, the transboundary conservation and management of forests are essential contributions to the protection and conservation of the environment and its biodiversity, and ultimately, to poverty alleviation. Regional approaches for policy harmonisation and transboundary forest conservation and sustainable use concepts are important mechanisms to attain regional integration. The basic regional policy for sustainable management of forests in the SADC region is the Protocol on Forestry. It is a set of rules or principles agreed upon by the SADC member states on how to integrate and co-operate among themselves in order to commonly conserve and manage the SADC forests and woodlands for the benefit of the SADC people.

Recognising the essential role which forests play with regard to maintaining the earth's climate, controlling floods and erosion, and as sources of food, wood and other forest products, the Protocols primary objective is to promote the development, conservation, sustainable management and utilisation of all types of forests and forest products in order to alleviate poverty and generate economic opportunities. To this end, the Protocol inter alia addresses issues of common concern including deforestation, genetic erosion, climate change, forest fires, pests, diseases, invasive alien species, and law enforcement.

Furthermore, states are called upon to facilitate the gathering and monitoring of information, and the sharing and dissemination of information, expertise and technology concerning forests; and to harmonise approaches to sustainable forest management, forest policy, legislation and enforcement, and issues of international concern. Trade and investment are to be promoted based on the sustainable management and utilisation of forests and the rights of communities are to be strengthened by facilitating their participation in forest policy development, planning, and management. The Protocol emphasises that traditional forest-related knowledge must be protected and requires mechanisms to ensure the equitable sharing of benefits from forest resources. SADC is currently in the process of drafting a SADC Regional Forestry Strategy and implementation plan.

The **Protocol on Health** was primarily adopted in order to enhance cooperation in addressing the health problems and challenges facing member states through effective regional collaboration and mutual support. As a clan environment can provide best for the health of the regions' population, State Parties undertake to collaborate, co-operate and assist each other in a cross-sectoral approach in addressing regional environmental health issues and other concerns, including toxic waste, waste management, port health services, pollution of air, land and water, and the degradation of natural resources (Article 23).

The SADC region is extremely rich in natural resources, including minerals, which contribute to accelerating the economic and social development and growth within the region.

The **Protocol on Mining** strives to harmonise national and regional policies and strategies related to the development and exploitation of mineral resources through developing human and technological capacity, including collaboration between the mining industry and training institutions, inter alia. States undertake to ensure a balance between mineral development and environmental protection, including conducting environmental impact assessments (especially in shared systems and cross border projects), and sharing information on environmental protection and rehabilitation (Article 8).

The **Revised Protocol on Shared Watercourses of the Southern African Development Community** repeals and replaces the 1995 Protocol on Shared Watercourse Systems. It aims to foster closer cooperation for judicious, sustainable and coordinated management, protection and utilisation of shared watercourses and advance the Southern African Development Community (SADC) agenda of regional integration and poverty alleviation. In order to achieve the objective, this Protocol, by virtue of Article 2, seeks to promote and facilitate the establishment of shared watercourse agreements and shared watercourse institutions for the management of shared watercourses; advance the sustainable, equitable and reasonable utilisation of the shared watercourses; promote a coordinated and integrated environmentally sound development and management of shared watercourses; promote the harmonisation and monitoring of legislation and policies for planning, development, conservation, protection of shared watercourses, and allocation of the resources thereof; and promote research and technology development, information exchange, capacity building, and the application of appropriate technologies in shared watercourses management.

Recognising the principle of the unity and coherence of each shared watercourse, SADC states undertake to harmonise the water uses in the shared watercourses and to ensure that all necessary interventions are consistent with the sustainable development of all watercourse states and observe the objectives of regional integration and harmonisation of their socio-economic policies and plans. The utilisation of shared watercourses (including agricultural, domestic, industrial, navigational and environmental uses) within the SADC region is open to each watercourse state, in respect of the watercourses within its territory and without prejudice to its sovereign rights, in accordance with the principles contained in this Protocol. State Parties are obliged to respect the existing rules of customary or general international law relating to the utilisation and management of the resources of shared watercourses. According to Article 3.4 of the Protocol, State Parties commit themselves to maintain a proper balance between resource development for a higher standard of living for their people and conservation and enhancement of the environment to promote sustainable development.

Watercourse states in their respective territories undertake to utilise a shared watercourse in an equitable and reasonable manner taking into account the interests of the watercourse states concerned, consistent with adequate protection of the watercourse for the benefit of current and future generations, and they participate in the use, development and protection of a shared watercourse in an equitable and reasonable manner. Such participation includes both

the right to utilise the watercourse and the duty to co-operate in the protection and development thereof, as provided in this Protocol. Furthermore, the Protocol states that State Parties have to take all appropriate measures to prevent the causing of significant harm to other watercourse states. Where significant harm is caused to another watercourse state, the state whose use causes such harm is to take all appropriate measures to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation.

The Protocol establishes SADC Water Sector Organs (Committee of Water Ministers, Committee of Water Senior Officials, Water Sector Coordinating Unit; and Water Resources Technical Committee and sub-Committees); and Shared Watercourse Institutions.

Disputes between State Parties regarding the interpretation or application of the provisions of this Protocol which are not settled amicably, are to be referred to the SADC Tribunal under the SADC Treaty.

Considering that the tourism sector is one of the largest and fastest growing industries in the world, the **Protocol on Tourism** was primarily adopted to increase the tourism trade in the region and to utilise the wide range of natural, cultural and historical sites in the region as a means to achieve sustainable social and economic development. In order to achieve these objectives, the Protocol requires member states to better use resources through collective efforts and co-operation in an environmentally sustainable manner. Environmentally and socially sustainable tourism development based on sound management practices is to be promoted. The Protocol puts an emphasis on preserving the natural, cultural and historical resources of the region (Article 11).

The primary objective of the **Protocol on Trade** is to liberalise intra-regional trade in goods and services to ensure efficient production within SADC, reflecting the dynamic comparative advantages of its members states, contributing towards the domestic, cross-border and foreign investment climate, and enhancing the development, diversification and industrialisation of the region. Environmental conservation is integrated in that the Protocol provides for general exceptions from the Protocol's principles in order to ensure the conservation of exhaustible natural resources and the environment (Article 9(h)). Furthermore, member states undertake to make compatible their respective standards-related measures, so as to facilitate trade in goods and services within the Community, without however reducing the level of protection of human, animal or plant life or health, or of the environment (Article 17).

The **Protocol on Wildlife Conservation and Law Enforcement of the Southern African Development Community** aims to establish within the framework of the respective national laws of each State Party, common approaches to the conservation and sustainable use of wildlife resources and to assist with the effective enforcement of laws governing those resources.

The Protocol applies to the conservation and sustainable use of wildlife, excluding forestry and fishery resources. Each State Party has to ensure the conservation and sustainable use of wildlife resources under its jurisdiction, and that activities within its jurisdiction or control do not

cause damage to the wildlife resources of other states or in areas beyond the limits of national jurisdiction.

In line with Article 4 of the Protocol, appropriate policy, administrative and legal measures have to be taken to ensure the conservation and sustainable use of wildlife and to enforce national legislation pertaining to wildlife effectively. Cooperation among member states is envisaged to manage shared wildlife resources as well as any transfrontier effects of activities within their jurisdiction or control. To achieve its overall objectives, the Protocol is to promote the sustainable use of wildlife; harmonise legal instruments governing wildlife use and conservation; enforce wildlife laws within, between and among States Parties; facilitate the exchange of information concerning wildlife management, utilisation and the enforcement of wildlife laws; assist in the building of national and regional capacity for wildlife management, conservation and enforcement of wildlife laws; promote the conservation of shared wildlife resources through the establishment of transfrontier conservation areas; and facilitate community-based natural resources management practices for management of wildlife resources.

The Protocol establishes the Wildlife Sector Technical Coordinating Unit; the Committee of Ministers responsible for Food, Agriculture and Natural Resources; the Committee of Senior Officials; and the Technical Committee. The Wildlife Conservation Fund is established by Article 11.

3.3.2 Other Relevant Instruments

Apart from the Treaty and Protocols, SADC has other instruments at different levels. These are not binding, and do not require ratification by SADC member states.

In March 2001, the Heads of State and Government met at an Extraordinary Summit in Windhoek and approved the restructuring of SADC institutions by means of a **Regional Indicative Strategic Development Plan (RISDP)**. The RISDP reaffirms the commitment of SADC member states to good political, economic and corporate governance entrenched in a culture of democracy, full participation by civil society, transparency and respect for the rule of law. With regard to monitoring the implementation of the RISDP, the Summit will exercise continuous oversight using progress reports from the Secretariat.[22]

The focal point of the RISDP is thus to provide strategic direction with respect to SADC programmes and activities, and to align the strategic objectives and priorities of SADC with the policies and strategies for achieving its long-term goals. The RISDP is indicative in nature, merely outlining the necessary conditions that should be realised towards achieving those goals. The purpose of the RISDP is to deepen regional integration in SADC. The RISDP has identified gaps and challenges in the current policies and strategies, and used them to reorient those policies and strategies. In the light of the identified gaps and challenges, Chapter 4

[22] See http://www.sadc.int/index/browse/page/106; accessed 19 September 2008.

focuses on a number of priority intervention areas of both cross-sectoral and sectoral nature that are critical for the achievement of SADC's objectives, in particular in promoting deeper regional integration, integrating SADC into the world economy, promoting balanced, equitable and balanced development, eradicating poverty and promoting gender equality, protecting the environment and strengthening sustainable development. The RISDP focuses on promoting trade, economic liberalisation and development as a means of facilitating trade and financial liberalisation, competitive and diversified industrial development and increased investment through the establishment of a SADC Common Market. In order to attain this goal, SADC will *inter alia* need to harmonise policies, legal and regulatory frameworks for the free movement of factors of production and to implement policies to attain macroeconomic stability and build policy credibility.

Although it has to be emphasised, that RISDP it is not a binding instrument, at every Summit in recent years member states reaffirmed their commitment to regional integration as per the RISDP, which has identified environment and development as cross-sectoral priority intervention areas, as environment and sustainable development will present opportunities for the region to advance its programme of action in environment and natural resources management and forge harmonisation of and compliance to environmental policies, standards and guidelines by pursuing the strategic objectives outlined in the RISDP.[23]

With regard to environment and sustainable development, the RISDP has elaborated the following areas of focus:

- Creating the requisite harmonised policy environment, as well as legal and regulatory frameworks to promote regional cooperation on all issues relating to environment and natural resources management including transboundary ecosystems;
- Promote environmental mainstreaming in order to ensure the responsiveness of all SADC policies, strategies and programmes for sustainable development;
- Regular assessment, monitoring and reporting on environmental conditions and trends in the SADC region;
- Capacity building, information sharing and awareness creation on problems and perspectives in environmental management; and
- Ensuring a coordinated regional position in the negotiations and implementation of MEAs; and other agreements.[24]

The 2003 **Charter of Fundamental and Social Rights in SADC**, although not legally binding, is an important human rights document that specifies the objectives laid down in Article 5 of the

23 SADC (2001:61ff.).
24 SADC (2001:62).

SADC Treaty for the employment and labour sector. The Charter enshrines the right to a safe and healthy environment, amongst others.

With the 2003 **Declaration on Agriculture and Food Security**, Heads of State and Government gave substantial means to some specific objectives laid down in Article 5 of the SADC Treaty, namely the promotion of sustainable and equitable economic growth and socio-economic development to ensure poverty alleviation, with the ultimate objective of its eradication and the achievement of sustainable utilisation of natural resources and effective protection of the environment. By this Declaration, SADC member states committed themselves to promote agriculture as a pillar of strength in national and regional development strategies and programmes, in order to attain their short-, medium-, and long-term objectives on agriculture and food security. The Declaration covers a broad range of human-rights-relevant issues including the sustainable use and management of natural resources and human health.

3.3.3 Enforcement of Environmental Provisions on the Sub-Regional Level

The programmes and provisions sketched above, other than those of the Treaty and the Protocols, are beyond any doubt important mechanisms for practically improving the state of environment within SADC. However, given that, in the legal sense, only provisions of a binding nature can be enforced, the SADC Treaty and its Protocols are pivotal to enforcing environmental provisions within SADC. The judicial institution within SADC is the SADC Tribunal, which was established in 1992 by Article 9 of the SADC Treaty. The inauguration of the Tribunal and the swearing in of its members took place on 18 November 2005 in Windhoek, Namibia. The Council also designated the Seat of the Tribunal to be in Windhoek. The judicial body began hearing cases in 2007, but no case dealing specifically with environmental provisions has been received so far.

The Tribunal has the mandate to adjudicate disputes between states, and between natural and legal persons in SADC. Furthermore, the Tribunal has jurisdiction over all matters provided for in any other agreements that Member States may conclude among themselves or within the community, and that confer jurisdiction to the Tribunal.[25] In this context, the SADC Tribunal also has jurisdiction over any dispute arising from the interpretation or application of environmentally relevant Protocols. The Tribunal was primarily set up to resolve disputes arising from closer economic and political union.[26] However, recent judgements by the Tribunal[27] have demonstrated that it can also be called upon to consider the human rights implications of economic policies and programmes.[28] This in mind and taking into consideration

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25 Article 15(2), Protocol on the Tribunal and Rules of Procedure thereof.

26 Viljoen (2007:503).

27 *Mike Campbell and Another (PVT) Limited v The Republic of Zimbabwe*, SADC (T) 2/2007.

28 For more details on the SADC Tribunal's human rights jurisdiction, see Ruppel / Bangamwabo (2008); Ruppel (2009a,b).

the variety of binding environmental Protocols, it is considered to be only a question of time that environmental jurisprudence at the African sub-regional level will develop.

4 International Environmental Institutions in Namibia

There are various actors in the field of international environmental law, including global and regional intergovernmental and non-governmental organisations, economic entities, scientific and professional associations, and the general network of civil society.[29] Protecting the environment poses problems of considerable qualitative and quantitative variety that necessitate action by international institutions. Principle 25 of the Stockholm Declaration states that "states shall ensure that international organisations play a coordinated, efficient and dynamic role for the protection and improvement of the environment".

Policy-makers and scientists are far from having complete knowledge about the environment, its current and potential deterioration, and the measures which should be adopted. Since the Stockholm Conference, new issues, such as the depletion of the stratospheric ozone layer, deforestation, desertification, global climate change, and loss of biological diversity have arisen, which need to be addressed in a quick and well-co-ordinated manner. International organisations representing the common interests of mankind are in the position to respond to the interdependent issues of environmental concerns. The main functions of international environmental organisations relate to research, exchange of information, regulatory functions e.g. to draft norms, recommendations, decisions, supervising implementation of the norms, and to the management of natural resources.

A broad number of international and national governmental and non-governmental organisations are active in the region and in Namibia in the field of the environment and it would go beyond the scope of this publication to introduce all of them. However, some international organisations considered to be of specific importance in the field of environment related issues are briefly mentioned in the following.

Active in Namibia since 1989, the United Nations has played a crucial role in the Namibian people's fight for freedom. Today, the United Nations in Namibia comprises nine resident specialised agencies, funds and programmes.[30]

UNDP, especially in its function in supporting the Global Environment Facility (GEF), plays a vital role with regard to environmental issues in Namibia. The Global Environment Facility,

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29 Kiss (2004:59ff.).

30 Food and Agricultural Organization(FAO); United Nations Programme on HIV/AIDS (UNAIDS); United Nations Development Programme (UNDP); United Nations Educational, Scientific and Cultural Organization (UNESCO); United Nations Population Fund (UNFPA); United Nations High Commissioner for Refugees (UNHCR); United Nations Children's Fund (UNICEF); World Food Programme (WFP); and the World Health Organisation (WHO).

established in 1991, helps developing countries fund projects and programs that protect the global environment. GEF grants support projects related to biodiversity, climate change, international waters, land degradation, the ozone layer, and persistent organic pollutants. The three implementing agencies of the GEF are the United Nations Development Programme, the World Bank, and the United Nations Environment Programme. The GEF is fundamentally a partnership for mainstreaming global environmental concerns into national sustainable development agendas. The following table lists GEF funded projects in Namibia and in the region.

Apart from these, other, non-resident UN-specialised agencies are active in Namibia in the field of the environment, with the United Nations Environment Programme (UNEP) leading the way. Providing "leadership and [to] encourage partnership in caring for the environment by inspiring, informing and enabling nations and peoples to improve their quality of life without compromising that of future generations", UNEP remains a leader in environmental initiatives, encouraging the further adoption of multilateral environmental agreements, motivating the private to be environmentally more responsible, creating the much-needed space for the participation of civil society and fostering environmental policies and legislation. [31] UNEP has a broad variety of activities on the African continent and maintains partnerships with multiple bodies or organisations of particular interest from the Namibian perspective.[32]

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31 E.g. African Ministerial Conference on the Environment – AMCEN; *African Union* – AU; African Ministerial Council on Water – AMCOW; African Development Bank – ADB; Southern African Development Community – SADC; United Nations Economic Commission for Africa – ECA; United Nations Development Programme – UNDP; United Nations Commission on Human Settlements – UNCHSHabitat; United Nations Educational, Science and Cultural Organisation –UNESCO; United Nations Industrial Development Organisation – UNIDO; United Nations System-wide Initiative on Africa – UNSIA; World Bank; MEA Convention secretariats; IUCN - The World Conservation Union; Network for Water and Sanitation International – NETWAS.

32 See Guide on UNEP's activities in the region available at http://www.unep.org/roa/Docs/pdf/ROA_2005.pdf; last accessed 14 November 2010.

Approved National Projects (All amounts in US$ million)								
GEF ID	Country	Project Name	Focal Area	GEF Agency	Project Type	GEF Grant	Co-financing Total	Project Status
515	Namibia	National Biodiversity Strategy, and Action Plan	Biodiversity	UNEP	Enabling Activity	242,200.000	0.000	Project Closure
1372	Namibia	Support to the Implementation of the National Biosafety Framework	Biodiversity	UNEP	Medium Size Project	672,000.000	239,000.000	Project Closure
1505	Namibia	NamibCoast Biodiversity Conservation and Management (NACOMA)	Biodiversity	IBRD	Full Size Project	4,900,000.0	55,790,000.	IA Approved
2841	Namibia	Assessment of Capacity Building Needs to Conserve Biological Diversity - Add on	Biodiversity	UNEP	Enabling Activity	207,501.000	64,000.000	IA Approved
2492	Namibia	Strengthening the Protected Area Network (SPAN)	Biodiversity	UNDP	Full Size Project	8,200,000.0	33,677,000.	IA Approved
3644	Namibia	BS Institutional Capacity Building Towards the Implementation of the Biosafety Act 2006 and related Obligations to the Cartagena Protocol on Biosafety	Biodiversity	UNEP	Medium Size Project	510,000.000	396,000.000	PPG Approved
3737	Namibia	Namibia Protected Landscape Conservation Areas Initiative (NAM PLACE)	Biodiversity	UNDP	Full Size Project	4,500,000.0	13,100,000.	CEO Endorsed
935	Namibia	Barrier Removal to Namibian Renewable Energy Programme, Phase I	Climate Change	UNDP	Full Size Project	2,600,000.0	4,730,000.0	IA Approved

Approved National Projects (All amounts in US$ million)								
GEF ID	Country	Project Name	Focal Area	GEF Agency	Project Type	GEF Grant	Co-financing Total	Project Status
1365	Namibia	Enabling Activities for the Preparation of Initial Communication Related to UN Framework Convention on Climate Change (UNFCCC)	Climate Change	UNDP	Enabling Activity	130,000.000	10,000.000	IA Approved
2087	Namibia	Climate Change Enabling Activity (Additional financing for Capacity Building in Priority Areas	Climate Change	UNDP	Enabling Activity	100,000.000	0.000	CEO Approved
2256	Namibia	Barrier Removal to Namibian Renewable Energy Programme (NAMREP), Phase II	Climate Change	UNDP	Full Size Project	2,600,000.0	7,636,000.0	IA Approved
2915	Namibia	CPP Namibia: Adapting to Climate Change through the Improvement of Traditional Crops and Livestock Farming (SPA)	Climate Change	UNDP	Medium Size Project	960,000.000	5,795,806.0	IA Approved
3793	Namibia	Namibia Energy Efficiency Programme (NEEP) In Buildings	Climate Change	UNDP	Medium Size Project	859,000.000	3,500,000.0	CEO Approved
4163	Namibia	Concentrating Solar Power Technology Transfer for Electricity Generation in Namibia (NAM CSP TT)	Climate Change	UNDP	Full Size Project	1,718,000.0	18,436,000.	Council Approved
3356	Namibia	CPP Namibia: Sustainable Land Management Support and Adaptive Management Project (NAM SLM SAM)	Land Degradation	UNDP	Full Size Project	7,000,000.0	34,350,252.	IA Approved

Approved National Projects (All amounts in US$ million)								
GEF ID	Country	Project Name	Focal Area	GEF Agency	Project Type	GEF Grant	Co-financing Total	Project Status
3355	Namibia	CPP Namibia: Enhancing Institutional and Human Resource Capacity Through Local Level Coordination of Integrated Rangeland Management and Support (CALLC)	Land Degradation	UNDP	Medium Size Project	1,000,000.0	5,795,806.0	IA Approved
1590	Namibia	Integrated Ecosystem Management in Namibia through the National Conservancy Network	Multi Focal Area	IBRD	Full Size Project	7,100,000.0	23,000,000.	IA Approved
1936	Namibia	National Capacity Needs Self-Assessment (NCSA) for Global Environmental Management	Multi Focal Area	UNDP	Enabling Activity	200,000.000	10,000.000	IA Approved
2439	Namibia	CPP: Country Pilot Partnership for Integrated Sustainable Land Management, Phase 1	Multi Focal Area	UNDP	Full Size Project	1,040,000.0	51,988,613.	Council Approved
3163	Namibia	Strengthening Capacity to Implement the Global Environmental Conventions in Namibia	Multi Focal Area	UNDP	Medium Size Project	475,000.000	260,000.000	CEO Approved
Sub totals						45,013,701.	258,778,477	20 Projects

Approved Regional and Global Projects (All amounts in US$ million)								
GEF ID	Country	Project Name	Focal Area	GEF Agency	Project Type	GEF Grant	Cofinancing Total	Project Status
407	Regional	Inventory, Evaluation and Monitoring of Botanical Diversity in Southern Africa: A Regional Capacity and InstitutionBuilding Network	Biodiversity	UNDP	Full Size Project	4,725,000.0	4,686,000.0	Project Closure
842	Regional	Environmental Protection and Sustainable Management of the OkavangoRiver Basin	International Waters	UNDP	Full Size Project	5,391,000.0	2,425,000.0	IA Approved
260	Regional	Southern Africa Biodiversity Support Programme	Biodiversity	UNDP	Full Size Project	4,482,000.0	4,840,000.0	IA Approved
789	Regional	Implementation of the Strategic Action Programme (SAP) Toward Achievement of the Integrated Management of the Benguela Current Large Marine Ecosystem (LME)	International Waters	UNDP	Full Size Project	15,114,000.	23,450,000.	IA Approved
2571	Regional	Distance Learning and Information Sharing Tool for the Benguela Coastal Areas (DLIST-Benguela)	International Waters	UNDP	Medium Size Project	748,000.000	797,800.000	IA Approved
3305	Regional	Implementation of the Benguela Current LME Action Program for Restoring Depleted Fisheries	International Waters	UNDP	Full Size Project	5,138,460.0	62,029,338.	CEO Endorsed

Approved Regional and Global Projects (All amounts in US$ million)								
GEF ID	Country	Project Name	Focal Area	GEF Agency	Project Type	GEF Grant	Cofinancing Total	Project Status
		and Reducing Coastal Resources Degradation						
1242	Regional	Desert Margin Programme, Phase 1	Biodiversity	UNEP	Full Size Project	4,987,134.0	10,232,000.	IA Approved
2757	Regional	SIP PROGRAM: Strategic Investment Program for SLM in Sub-Saharan Africa (SIP)	Land Degradation	IBRD	Full Size Project	4,193,673.0	978,426,000	Council Approved
2344	Regional	Desert Margins Programme (DMP) Tranche 2	Biodiversity	UNEP	Full Size Project	5,617,044.0	12,250,182.	Project Closure
2701	Regional	Development and Adoption of a Strategic Action Program for Balancing Water Uses and Sustainable Natural Resource Management in the Orange-SenquRiver TransboundaryBasin	International Waters	UNDP	Full Size Project	6,300,000.0	30,161,500.	CEO Endorsed
24	Regional	Africa Community Outreach Programme for Conservation and Sustainable Use of Biological Resources	Biodiversity	IBRD	Medium Size Project	726,460.000	192,950.000	Project Closure
3403	Regional	SIP-Kalahari-Namib Project: Enhancing Decision-making through Interactive Environmental Learning and Action in Molopo-NossobRiver Basin in	Land Degradation	UNEP	Full Size Project	2,175,000.0	5,000,000.0	Council Approved

Approved Regional and Global Projects (All amounts in US$ million)								
GEF ID	Country	Project Name	Focal Area	GEF Agency	Project Type	GEF Grant	Cofinancing Total	Project Status
		Botswana- Namibia and South Africa						
3044	Regional	Open Africa North South Tourism Corridor (OANSTC)	Biodiversity	IBRD	Medium Size Project	495,449.000	635,498.000	IA Approved
3871	Global	4th Operational Phase of the GEF Small Grants Programme (RAF2)	Multi Focal Area	UNDP	Full Size Project	42,714,904.	43,000,000.	CEO Endorsed
3514	Global	4th Operational Phase of the GEF Small Grants Programme (RAF1)	Multi Focal Area	UNDP	Full Size Project	13,647,498.	0.000	Project Completion
2774	Global	Community-based Adaptation (CBA) Programme	Climate Change	UNDP	Full Size Project	4,525,140.0	4,525,140.0	IA Approved
144	Global	Biodiversity Country Studies - Phase II	Biodiversity	UNEP	Enabling Activity	2,000,000.0	100,000.000	Project Closure
402	Global	Pilot Biosafety Enabling Activity	Biodiversity	UNEP	Enabling Activity	2,744,000.0	0.000	Project Closure
Sub totals						125,724,762	1,182,751,4	18 Projects

Source: GEF http://gefonline.org/projectListSQL.cfm; accessed 14 November 2010

Chapter 3

FOUNDATIONS, SOURCES AND IMPLICATIONS OF NATIONAL ENVIRONMENTAL LAW

Oliver C Ruppel

The objective of this chapter is to give a broad overview of the general foundations and sources of national environmental law.[1] It should be noted, that the subsequent Chapters will then provide a more in-depth legal analysis of specific topics.

The root causes for environmental degradation as experienced worldwide also apply to Namibia. Environmental degradation is closely related to human actions, economies and policies. The direct causes for environmental degradation include overexploitation, over-consumption, pollution and a wide range of activities which have a direct impact on the environment. The major threats to the Namibian environment include unsustainable harvesting of wild plants and wildlife, soil erosion and water pollution, climate change but also alien invasive organisms that threaten the survival of indigenous species.

The aim of environmental protection can be achieved by different means. Traditional legal methods include the establishment of protected areas, the regulation of harvesting and trade in certain species, the management of habitats and ecosystems, and the prohibition of alien and invasive species. Pollution control and the management of hazardous substances are other effective ways to contribute to the preservation of the environment. The success of Namibia's efforts to sustainably use, control, manage and safeguard its natural resources depends to quite some extent on the different legal instruments that are available and on an interdisciplinary approach to develop a target-oriented environmental legislative framework as knowledge from other disciplines - biology, chemistry, medical science, ecology, sociology and economy is a *conditio sine qua non* for the creation of environmental institutions and sound legislation.

1 The Namibian Constitution

The Namibian Constitution or the Mother of All Laws, as Namibians have come to call this legal instrument is indivisibly linked to the founding of the Namibian state. The adoption of the

[1] For the sources of Namibian law in general see Amoo (2008a:53ff.).

Constitution on 9 February 1990 came about after a three-decade-long struggle for Independence[2] and many more decades of colonial and military rule.[3] On 21 March 1990, Namibia became politically independent, with a basic legal framework drafted by the Constituent Assembly of Namibia. The liberation process was supported by the international community particularly the United Nations Security Council Resolution 435 of 1978, setting out the governing code for the decolonisation process. Resolution 435 could be implemented due to a tripartite agreement between South Africa, Cuba and Angola under the supervision of the UN.[4] In 1982, the United Nations General Assembly requested the United Nations Institute for Namibia, which was established in 1976 by the United Nations Council for Namibia, to prepare, in cooperation with the South West Africa People's Organisation (SWAPO), the Office of the United Nations Commissioner for Namibia and the United Nations DevelopmentProgramme, a comprehensive document on all aspects of socio-economic reconstruction and development planning for an independent Namibia.[5] The first democratic and internationally recognised elections took place in November 1989 and a Constituent Assembly consisting of individuals from various political parties drafted the fundamental legal framework for the Republic of Namibia. The Constitution, which came into force on Independence Day 21 March 1990, was thus a result of joint efforts of and debates between the political parties represented in the Constituent Assembly, South Africa, the United Nations and the South West Africa People's Organisation (SWAPO).[6]

The Namibian Constitution has been hailed to be one of the most democratic and liberal constitutions in the world.[7] It shows a strong commitment to the rule of law, democratic government and respect for fundamental human rights and freedoms such as the protection of life, liberty, human dignity, equality, education, freedom from slavery, forced labour, and discrimination to name only a few rights enshrined in the Constitution. Furthermore, the Constitution contains mechanisms with regard to checks and balances between the three branches of government, the executive, legislative branches, and the judiciary. Principles of state policy, which guide the government's legislative processes are provided in Chapter 11 of the Constitution. That the protection of the environment is not only a concern, but a constitutional issue in Namibia will be outlined in the following paragraphs.

According to Article 1(6) of the Namibian Constitution, the latter is the law above all laws. Therefore, all legislations ought to be consistent with the provisions of the Constitution. The Constitution lays the foundation for all policies and legislation in Namibia and contains three key environmental clauses relevant to sustainable use of natural resources.

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2 On the struggle for liberation see Katjavivi (1988).

3 For a detailed analysis of the background and origin of the Namibian Constitution see Diescho (1994:8ff.) and Erasmus (2002).

4 Diescho (1994:17f.).

5 UNIN (1986).

6 Diescho (1994:8f.).

7 Schmidt-Jortzig (1991:71ff.); Schmidt-Jortzig (1994:309ff.); Van Wyk (1991:341ff.).

Article 100 of the Constitution vests all natural resources in the state, unless otherwise legally owned. Thus, unless legal ownership to natural resources in a specific locality is proven, such natural resources are owned by the state; the provision implies thus that natural resources can be legally owned as private property. Article 95(l) which stipulates that the state shall actively promote and maintain the welfare of the people by adopting policies which include the maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefits of all Namibians…". With this particular Article, Namibia is obliged to protect its environment and to promote a sustainable use of its natural resources. Furthermore, Article 91(c) stipulates that one of the functions of the Ombudsman is

> the duty to investigate complaints concerning the over utilisation of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia.

Further to these environmental key provisions, Article 144 must again be pointed out as the constitutional link to international environmental law applicable in Namibia.[8]

2 Roman-Dutch and Common Law

Roman-Dutch law is based on Roman law as it was applied by the courts of Holland and other provinces in the Netherlands; it was developed by writers such as Hugo de Groot and Simon van Leeuwen in the 17th and 18th centuries.[9] Roman-Dutch law came to the Cape of Good Hope, when Dutch East India Company under its local governor Jan van Riebeeck established a refreshment post – today's Cape Town in 1652. Roman-Dutch Law in South Africa was subject to further developments under the influence of particularly English law.[10] With the effect of Proclamation 21 of 1919, the Roman Dutch law developed by the South African courts became the common law of the territory, binding on the Namibian courts until Independence.[11] This position was affirmed by Article 66(1) of the Namibian Constitution of 1990, which provides that

> both the customary law and the common law of Namibia in force on the date of Independence shall remain valid to the extent to which such customary or common law does not conflict with this Constitution or any other statutory law.

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8 Article 144 reads as follows: „Unless otherwise provided by this Constitution or Act of Parliament, the general rules of public international law and international agreements binding upon Namibia under this Constitution shall form part of the law of Namibia."

9 Du Plessis (1999:40ff.).

10 Du Plessis (1999:49ff.)

11 See Amoo (2008a:60ff.)

Common law[12] refers to law and the corresponding legal system developed through court decisions and similar tribunals, rather than through statutory enactment. Common law is created and refined by judges: a decision in the case currently pending depends on decisions in previous cases and affects the law to be applied in future cases. When there is no authoritative statement of the law, judges have the authority and duty to make law by creating precedent.According to Article 66 of the Namibian Constitution, the common law in force on the date of Independence remains valid to the extent that the same is not in conflict with the Constitution or any other statutory law.[13]

Several common law doctrines are relevant in terms of environmental protection.[14] For example, the common law rule of delict can be applied with regards to wrongful acts or omission; fault, either intended or through negligence; or harm to person or property(patrimonial loss).[15]. The law of nuisance, including public and private nuisance is equally applied in cases with environmental impact and the neighbour legal principle of *sic utere tuo ut alienum non laedas* (use your property in a way which does not harm another) is considered to be one of the roots of environmental protection.The remedies available under the common law are self-help, an abatement order, action for damages and an interdict. The principal remedies for preventing or restraining an environmental nuisance or delictual conduct are an interdict and, where harm has already been caused, a claim for damages in terms of Aquilian action.[16]

Especially from a common law perspective, environmental litigation is an important facet for the vital development of environmental law. Judicial intervention related to environment-related issues arises when persons resort to court action to seek redress for a grievance. Court action can be either of civil or of criminal nature. While civil action is resorted to typically by private parties, criminal action generally is the preserve of public authorities. Judicial decisions in environment-related decisions are scarce in Namibia, which is no surprise given the novelty of environmental law and Namibia's tender age.[17] However, being a plural legal system with

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12 For further details on the common law in Namibia see Amoo (2008a:62ff.)

13 Cf. Ruppel (2009d).

14 Under Roman law, several provisions have been applied for the protection of natural resources. See Wacke (2002); Van den Bergh (1999:495ff.).

15 Kidd (2008:133).

16 For further literature and South African case law references on the common law and other remedies in environmental law, cf. Paterson / Kotzé (2009).

17 Environment-related cases in Namibia are mostly of criminal nature and fall under the scope of the Nature Conservation Ordinance No. 4 of 1975. The cases include but are not limited to the following: *S v Ngombe* 1990 NR 165 (HC); *S v Machinga* 1990 NR 157 (HC); *Skeleton Coast Safaris v Namibia Tender Board and Others* 1993 NR 288 (HC); *S v Makwele* 1994 NR 53 (HC); *S v Koortzen* 1994 NR 356 (HC); *S v Kau and Others* 1995 NR 1 (SC); *S v Vorster* 1996 NR 177 (HC); *S v Seibeb and Another; S v Eixab* 1997 NR 254 (HC); *S v Maritz* 2004 NR 22 (HC); *S v Aukemeb* 2009 (1) NR 19 (HC); *Van Rensburg and Another v Government of the Republic of Namibia* 2009 (2) NR 431 (HC); *Uffindell t/a Aloe Hunting Safaris v Government of Namibia and Others* 2009 (2) NR 670 (HC).

substantive common law elements, Namibia can greatly benefit from the experience with environment related cases in other countries.[18]

Over all, it can be concluded, that the common law rules complement environmental statutory enactments; this is also true, when it comes to their application and interpretation. It is this gradual convergence of conventionally disparate legal families that leads towards a system that recognises the complementary roles of legislation and judicial precedents as sources of law. In this context, the role of judges in the development of the common law and - at the same time - the judicial interpretation of statutes should not be underestimated. However, where pollution is, for example, expressly prohibited by means of legislation, it is usually the state that has the responsibility "to take the necessary steps to put a stop to the action or to prosecute the offender", whereas under the common law the plaintiff needs to take up the matter, thus being cast with the "burden of expense, time and other pressures".[19]

3 Statutory Law

The Constitution provides the framework, and Independence created the opportunity to revise a wide range of national policies and laws. This, together with the emphasis placed on environmental concerns at the Rio Summit in 1992, and the increased awareness triggered widespread legislative reform, particularly in terms of natural resource management.

In Namibia, a wide number of enactments have an impact - directly or indirectly - on the environment. Environmental framework legislation of cross-sectoral nature such as the Environmental Management Act[20] or the Nature Conservation Ordinance[21] are rather broad in scope, while sectoral legislation such as the Forest Act[22] or the Water Management Act[23] cover specific environmental issues. The following list, which is not considered to be comprehensive, shows the scope of environmental legislation in Namibia. The substantial number of enactments shows the relevance of environmental concerns in Namibia. Only some of the listed statutory laws can be introduced briefly.

18 For a collection of environmental decisions see UNEP (2001 and 2005).
19 Kidd (2008:134).
20 No. 7 of 2007.
21 No. 4 of 1975.
22 No. 12 of 2001.
23 No. 24 of 2004.

Selected Environmental Legislation in Namibia

- Agricultural (Commercial) Land Reform Act No. 6 of 1995
- Agricultural Pests Act No. 3 of 1973
- Animals Protection Act No. 71 of 1962
- Atmospheric Pollution Prevention Ordinance No. 11 of 1976
- Atomic Energy and Radiation Protection Act No. 5 of 2005
- Biosafety Act No. 7 of 2006
- Communal Land Reform Act No. 5 of 2002
- Controlled Game Products Proclamation No. 42 of 1980
- Diamond Act No. 13 of 1999
- Environmental Management Act No. 7 of 2007
- Environment Investment Fund of Namibia Act No. 13 of 2001
- Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act No. 36 of 1947
- Forest Act No. 12 of 2001
- Game Products Trust Fund Act No. 7 of 1997
- Hazardous Substances Ordinance No. 14 of 1974
- Inland Fisheries Resources Act No. 1 of 2003
- Livestock Improvement Act No. 25 of 1977
- Marine Resources Act No. 27 of 2000
- Minerals (Prospecting and Mining) Act No. 33 of 1992
- Mountain Catchment Areas Act No. 63 of 1970
- Namibia Wildlife Resorts Company Act No. 3 of 1998
- National Fishing Corporation of Namibia Act No. 28 of 1991
- National Heritage Act No. 27 of 2004
- Nature Conservation Ordinance No. 4 of 1975
- Petroleum (Exploitation and Production) Act No. 2 of 1991
- Petroleum Products and Energy Act No. 13 of 1990
- Plant Quarantine Act No. 7 of 2008
- Prevention and Combating of Pollution of the Sea by Oil Act No. 6 of 1981
- Soil Conservation Act No. 76 of 1969
- Water Act No. 54 of 1956
- Water Management Act No. 24 of 2004

3.1 The Environmental Management Act[24]

The Environmental Management Act is an important tool in terms of environmental protection. The Act requires adherence to the principle of optimal sustainable yield in the exploitation of all natural resources. The Act gives effect to Article 95 (l) of the Namibian Constitution by establishing general principles for the management of the environment and natural resources. It promotes the coordinated and integrated management of the environment and sets out responsibilities in this regard. Furthermore, it intends to give statutory effect to Namibia's Environmental Assessment Policy; further, it enables the minister responsible for the environment to give effect to Namibia's obligations under international environmental conventions; and provides for associated matters. The Act promotes inter-generational equity in the utilisation of all natural resources. Environmental impact assessments and consultations with communities and relevant regional and local authorities are provided for, to monitor the development of projects that potentially have an impact on the environment.

According to the Act, Namibia's cultural and natural heritage is required to be protected and respected for the benefit of present and future generations. A Sustainable Development Advisory Council is to be established to advise the minister on the development of a policy and strategy for the management, protection and use of the environment, as well as on the conservation of biological diversity, access to genetic resources in Namibia, and the use of

24 No. 7 of 2007.

components of the environment, in a way and at a rate that does not lead to the long-term decline of the environment.

The Environmental Management Act establishes further institutions responsible for the different concepts under the Act. These include the Environmental Commissioner and the Environmental Officers.In order to promote the sustainable management of the environment and the use of natural resources, the Environmental Management Act has established a bundle of principles for decision-making on matters affecting the environment. The objective of the Act is laid down in its Section 2:

> The object of this Act is to prevent and mitigate, on the basis of the principles set out in section 3, the significant effects of activities on the environment by -
>
> (a) ensuring that the significant effects of activities on the environment are considered in time and carefully;
>
> (b) ensuring that there are opportunities for timeous participation of interested and affected parties throughout the assessment process; and
>
> (c) ensuring that the findings of an assessment are taken into account before any decision is made in respect of activities.
>
> The principles of environmental management have to be applied by government institutions and private persons including companies, institutions and organisations, when doing or planning things which may have a significant effect on the environment. These principles are well elaborated in Section 3 (2) of the Act:
>
> (a) renewable resources must be used on a sustainable basis for the benefit of present and future generations;
>
> (b) community involvement in natural resources management and the sharing of benefits arising from the use of the resources, must be promoted and facilitated;
>
> (c) the participation of all interested and affected parties must be promoted and decisions must take into account the interest, needs and values of interested and affected parties;
>
> (d) equitable access to environmental resources must be promoted and the functional integrity of ecological systems must be taken into account to ensure the sustainability of the systems and to prevent harmful effects;
>
> (e) assessments must be undertaken for activities which may have a significant effects on the environment or the use of natural resources;
>
> (f) sustainable development must be promoted in all aspects relating to the environment;
>
> (g) Namibia's cultural and natural heritage including, its biological diversity, must be protected and respected for the benefit of present and future generations;
>
> (h) the option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term must be adopted to reduce the generation of waste and polluting substances at source;
>
> (i) the reduction, re-use and recycling of waste must be promoted;

> (j) a person who causes damage to the environment must pay the costs associated with rehabilitation of damage to the environment and to human health caused by pollution, including costs for measures as are reasonably required to be implemented to prevent further environmental damage;
>
> (k) where there is sufficient evidence which establishes that there are threats of serious or irreversible damage to the environment, lack of full scientific certainty may not be used as a reason for postponing cost-effective measures to prevent environmental degradation; and
>
> (l) damage to the environment must be prevented and activities which cause such damage must be reduced, limited or controlled.

To achieve this, the Act provides for administrative mechanisms such as the necessity of environmental clearance certificates and environmental assessments. The impact of activities on the environment has to be considered and interested or affected parties have to be given an opportunity to participate in environmental assessment when government institutions or private persons are intending or planning anything likely to have a significant effect on the environment. With regard to such activities, environmental assessments have to be conducted before any decisions are made. For specific activities or projects having an environmental impact, an environmental clearance certificate is required and the Environmental Commissioner may first require an environmental assessment. Environmental assessments are conducted in order to

- ensure that activities which may have a significant effect on the environment follow the principles of environmental management planning and development process;
- analyse the possible environmental impacts of activities, and look at ways to decrease negative impact and increase positive ones;
- make sure that the environmental effects of activities are given adequate consideration before the activities are carried out; and to
- provide an opportunity for public participation in considering the environmental impact of a project.[25]

To obtain an environmental clearance certificate, a person who wants to carry out an activity listed according to Section 27 of the Environmental Management Act[26] must follow a multi-stage process inline with Sections 32-37 of the Environmental Management Act[27] initiated by

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25 MET (2008:29).

26 Such activities are likely to fall into the categories identified by Section 27(1), namely land use and transformation; water use and disposal; resource removal, including natural living resources; resource renewal; agricultural processes; industrial processes; transportation; energy generation and distribution; waste and sewage disposal; chemical treatment; or recreation.

27 See MET (2008:32ff). For further details see also the Regulations for Strategic Environmental Assessment (SEA) and Environmental Impact Assessment (EIA) and the Procedures and Guidelines for Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) drafted by the Ministry of Environment and Tourism in 2008.

an application to the competent authority[28], which is forwarded to the Environmental Commissioner, who decides if an environmental assessment is required or not. If such assessment is required, the Environmental Commissionerdecides on the scope and procedure for theassessment and informs the proponent on the requirements and time frame for the assessment. The assessment has to be carried out according to these requirements and an assessment report has to be submitted to the Environmental Commissioner. Public participation is ensured in that it is required, that persons who may beaffected by the activity applied for must be notified andgiven a chance to inspect the assessmentreport and make submissions on it. Upon review of the assessment report, the Environmental Commissioner decides whether or not to grant an environmental clearance certificate. The Commissioner's decision may be subject to appeal to the Minister of Environment and Tourism according to Section 50 of the Environmental Management Act.

One further mechanism aiming at the realisation of the objectives of the Act is the provision for environmental plans to ensure better co-ordination amongst Government agencies. Organs of state which exercise functions that may affect the environment are supposed to make environmental plans in order to minimise the duplication of procedures and functions and to promote consistency in the exercise of functions that may affect the environment. The Organs of State that are supposed to draft such management plans are to be listed by the Ministry of Environment and Tourism in the Government Gazette.

3.2 The Nature Conservation Ordinance[29]

One of the major biodiversity related laws in Namibia is the legislation governing the conservation of wildlife, and protected areas, the Nature Conservation Ordinance 4 of 1975. With the introduction of communal conservancies, amendments to the ordinance and its regulations were made and came into effect in 1996. The amendments were made to take into account the establishment of conservancies and Wildlife Councils. In terms of the amendment, rural communities have to form a conservancy in order to be able to acquire the use-right over wildlife. Wildlife conservancies are gaining importance granting communities custodianship of their natural resources particularly wildlife and fish.

Although efforts are currently in progress to repeal this piece of legislation in its entirety, the Nature Conservation Ordinance is still one of the most comprehensive environment-related legal instruments in Namibia.

The Ordinance is arranged as follows: Chapter I establishes the Nature Conservation Board. Chapter II deals with game parks and reserves, and in particular its Section 13 is about the

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28 The competent authority has to be identified according to Section 30 of the Environmental Management Act.

29 No. 4 of 1975.

Etosha National Park. The Ordinance provides for a restriction of the right to enter game parks and nature reserves under specific conditions and prohibition of certain acts therein. One of the most important provisions with regard to the protection of game is Section 20, which prohibits hunting in game parks and nature reserves. With regard to plant protection, Section 24 prohibits the picking of indigenous plants in private nature reserves. Chapter III of the Ordinance on wild animals inter alia regulates hunting of specifically protected and protected game and of huntable game, game birds, exotic game and other wild animals. Provision is also made for the lease of hunting rights in Section 35. An own Chapter of the Ordinance is on problem animals, which are wild animals, declared as problem animals by the Executive Committee by respective notice in the Government Gazette. The provisions of Chapter V on the protection of fish in inland waters have been repealed by the Inland Fisheries Resources Act. Chapter VI aims at the protection of indigenous plants. The Minister of Environment and Tourism, who is responsible for the preservation of wild animals, exotic game, fish and plants may destroy decrease or eliminate any species that is detrimental to any other species, undertake research and surveys on any species, take the measure for the control of aquatic vegetation and issue regulations with regard to the import, cultivation and control of any plant, indigenous or not detrimental to, any wild animal, fish or indigenous plant. Chapter VII of the Ordinance contains several general provisions of more procedural and administrative nature, and focuses on permits, licences, registrations, approvals, permissions, exemptions and criminal implications and consequences for those who trespass specific provisions of the Ordinance. The Schedules of the Ordinance amongst others, list specially protected game, protected game, huntable game, huntable game birds, and protected plants. The Ordinance is considered to be the most important environmental law in Namibia with regard to case law.[30] Unfortunately, this legal instrument isnot equipped with adequate enforcement mechanisms, and the penalties attached to the offences hardly have a deterring effect.

3.3 Legislation on Water

The Water Act[31]remains in force until the new Water Resources Management Act comes into force upon signature by the Minister. Although the new Water Resources Management Act was approved by parliament in 2004 it has yet to be signed by the Minister and is currently being amended to take into account practical aspects of implementation. Thus the Water Act of 1956 is generally referred to as the old Water Act and often in the past tense, although strictly

30 *S v Ngombe* 1990 NR 165 (HC); *S v Machinga* 1990 NR 157 (HC); *Skeleton Coast Safaris v Namibia Tender Board & Others* 1993 NR 288 (HC); *S v Makwele* 1994 NR 53 (HC); *S v Koortzen* 1994 NR 356 (HC); *S v Kau & Others* 1995 NR 1 (SC); *S v Vorster* 1996 NR 177 (HC); *S v Seibeb & Another; S v Eixab* 1997 NR 254 (HC); *S v Maritz* 2004 NR 22 (HC); *S v Aukemeb* 2009 (1) NR 19 (HC); *Van Rensburg & Another v Government of the Republic of Namibia* 2009 (2) NR 431 (HC); *Uffindell t/a Aloe Hunting Safaris v Government of Namibia & Others* 2009 (2) NR 670 (HC).

31 No. 54 of 1956.

speaking it remains applicable until it is officially repealed. This Act gives the Minister the power to, amongst others, investigate water resources, plan water supply infrastructure, develop water schemes, control water pollution, protect, allocate and conserve water resources, inspect water works, levy water tariffs and advise on all matters related to the water environment in general. It basically makes the Department of Water Affairs responsible for the use, allocation, control, and conservation of Namibia's surface and groundwater resources. It makes provision for the protection of river catchments, drilling of boreholes and making of wells, it controls effluent discharge into rivers and weather modifications such as cloud seeding and outlines regulations that govern the optimal use of water resources. It clearly defines the interests of the state in protecting water resources.

The **Water Resources Management Act**[32]has been approved and published in the Government Gazette, however, it has not yet come into force as a date for commencement of the Act as prescribed by Section 138(1)(b) of the same Act has not yet been determined by the Minister. Once the Act is in force, the Water Act of 1956 will be repealed as whole. The Act is based on the National Water Policy and provides for the management, development, protection, conservation, and use of water resources. It establishes the Water Advisory Council, the Water Regulatory Board and the Water Tribunal; and it provides for incidental matters. The objective of this Act is to ensure that Namibia's water resources are managed, developed, protected, conserved and used in a sustainable manner for the benefit of every Namibian.

3.4 Legislation on Fisheries and Marine Resources

The **Marine Resources Act**[33]provides for the conservation of the marine ecosystem and the responsible utilisation, conservation, protection and promotion of marine resources on a sustainable basis. For that purpose it provides for the exercise of control over marine resources and for matters connected therewith. It replaces the Sea Fisheries Act 29 of 1992, which in turn replaced the Sea Fisheries Act 58 of 1973.

The **Aquaculture Act**[34]regulates and controls aquaculture activities and the sustainable development of aquaculture resources. It allows the Minister to formulate policies based on social, economic and environmental factors, as well as the best scientific information and advice from the advisory council to promote sustainable aquaculture and manage, protect and conserve aquatic ecosystems.

The **Inland Fisheries Resources Act**[35]deals with the conservation and utilisation of inland fisheries resources and allows for the updating and development of new policies for the

32 No. 24 of 2004.
33 No. 27 of 2000.
34 No. 18 of 2002.
35 No. 1 of 2003.

conservation and sustainable utilisation of Namibia's inland fisheries. It encourages cooperation with neighbouring countries regarding the management and conservation of shared waterways. No fishing is allowed in parks nor by net within 100m from a bridge, culvert or spillway or in a manner obstructing more than half the width of any watercourse. Furthermore it prohibits the use of destructive fishing methods such as the use of poisons, explosives and night lights and the introduction and/or transfer of non-indigenous fish species. Fines or imprisonment are prescribed, for destructive fishing and the use of nets where they are banned.

The **Prevention and Combating of Pollution at Sea by Oil Act**[36] prohibits the discharge of oil from ships, tankers or off-shore installations and gives the state certain powers to prevent such pollution and to deal with the removal of oil spills. Whereas this Act is applicable to coastal waters, inland water pollution is covered by the Water Act.

3.5 Legislation on Land and Agricultural Production

The **Communal Land Reform Act**[37] provides for the allocation and administration of all communal land and makes provision for the prevention of land degradation and for mitigating the impact of mining, prospecting, road works and water provision on the natural environment. The Act gives certain rights to communal farmers and traditional authorities, and states that future regulations will address issues pertinent to the conservation and sustainable management of water and watercourses, of woods and to the combating and prevention of soil erosion, the protection of pastoral resources, such as the grazing of stock, and any other matter as the Minister may consider necessary or expedient.

The **Agricultural Pests Act**[38] will be repealed by the Plant Quarantine Act of 2007. The Agricultural Pests Act deals with the registration of nurseries, the control and eradication of plants, insects and diseases at nurseries, the control and eradication of exotic (vertebrate) animals (excluding farm animals) and plants infected by insects or plant diseases, control of plant, insect and plant disease imports, honey bees, honey and exotic animals, the eradication of plant diseases, insects and locusts as well as defining the powers of inspectors. Section 9 provides for the eradication of exotic animals as well as any plants infected by insects or disease.

The **Soil Conservation Act**[39] makes provision for the prevention and control of soil erosion and the protection, improvement and conservation of soil, vegetation and water supply sources and

36 No. 6 of 1981.
37 No. 5 of 2002.
38 No. 3 of 1973.
39 No. 76 of 1969.

resources. The **Second Soil Conservation Amendment Act**[40]applies the Soil Conservation Act to Namibia and deals mainly with soil conservation, soil stabilisation and fire protection. This Act is being revised by the Ministry of Agriculture, Water and Forestry as part of the new Conservation of Agricultural Resources Bill.

3.6 Legislation on Forestry

The **Forest Act**[41]consolidates the laws relating to the use and management of forests and forest produce; it provides for the control of forest fires and creates a Forestry Council. It replaces the Preservation of Trees and Forests Ordinance[42] and the 1968 Forest Act[43]. The 2001 Forest Act defines forest produce in very broad terms as anything which grows or is naturally found in a forest. The Act is formulated around the tenets of sustainable management of forests, and the purpose for which forest resources are managed and developed. This also includes the planting of trees where necessary, as well as soil conservation, the safekeeping of water resources and the maintenance of biological diversity.

3.7 Legislation on Energy and Mining[44]

The **Minerals Prospecting and Mining Act**[45]makes it illegal for any person to prospect and mine without a license, as such may have a negative impact on the environment. Section 122 stipulates that the Minister may, for the protection of the environment or the natural resources of Namibia or the prevention of pollution or damage, declare that certain explorative and mining processes may not be carried out or only with special permission.

The **Petroleum (Exploration and Production) Act**[46]was enacted to provide for the reconnaissance, exploration, production and disposal of, and the exercise of control over petroleum. Production licences must be obtained to carry on reconnaissance operations and according to Section 71, rights-holders are held responsible for the pollution of the environment, or other damages or losses caused.

The **Diamond Act**[47]contains several provisions aimed to protect the environment. Section 55 is of specific importance, as it prohibits the removal of sand, soil, clay, gravel, stone and rock

40 No. 38 of 1971.
41 No. 12 of 2001.
42 No. 37 of 1952.
43 No. 72 of 1968.
44 For more details on energy and mining see chapter 5, V.
45 No. 33 of 1992.
46 No. 2 of 1991.
47 No. 13 of 1999.

from restricted areas unless specific permission is obtained. Section 56 prohibits the exportation of the above said.

3 Selected Environmental Legislation in Preparation

The Parks and Wildlife Management Bill of 2005 has not been enacted as of yet. It will protect all indigenous species and control the exploitation of all plants and wildlife. The Preamble to this Bill states its intention to give effect to paragraph (l) of Article 95 of the Namibian Constitution. In it the state undertakes to establish a legal framework that provides for and promotes the maintenance of ecosystems, essential ecological processes and the biological diversity of Namibia and to promote the mutually beneficial co-existence of humans with wildlife, to give effect to Namibia's obligations under relevant international legal instruments, including the Convention on Biological Diversity and the Convention on International Trade in Endangered Species of Wild Fauna and Flora. In case the proposed Act comes into force, it repeals the Nature Conservation Ordinance 4 of 1975.

In its Principles of Conservation (Section 3) the Bill recognises that biological diversity must be maintained, and where necessary, rehabilitated; and that essential ecological processes and life support systems must be maintained.

The **Pollution Control and Waste Management Bill** aims to promote sustainable development; to provide for the establishment of a Pollution Control and Waste Management Unit; to prevent and regulate the discharge of pollutants to the air, water and land, to regulate noise, dust and odour pollution, to make provision for the establishment of an appropriate framework for integrated pollution prevention and control, to establish a system of waste planning and management and to enable Namibia to comply with its obligations under international law in this regard.

The**Trade in Wildlife Bill** is currently under discussion in Parliament and aims at realising Namibia's obligations under the CITES Convention.

The **Access to Biological Resources and Associated Traditional Knowledge Bill** was drafted with the objective to protect biodiversity and traditional knowledge. The Bill applies to the derivatives of the biological resources, community knowledge and technologies, local and indigenous farming communities, and plant breeders. The benefit derived from the resource that is found within a specific area is limited to the inhabitants of that area. The Bill prohibits patents over life forms and biological processes. Furthermore, it recognises the rights of local and indigenous communities, and lays down a platform for the application of customary law to community rights. Local communities will be entitled to exercise their inalienable right to access, use, exchange, or share their biological resources in sustaining their livelihood systems, as regulated by their customary practices and laws.

4 Customary Law[48]

Despite the legal influence of the ex-colonial powers, a large number of Namibians still live under indigenous customary law.[49] This makes the Namibian legal system an object of fascination to comparative lawyers as well as to legal ethnologists and sociologists. Legal pluralism prevails, hence two or more types of law or legal traditions operate simultaneously.[50]

Before the arrival of the colonists the indigenous populations have lived for generations according to their own distinctive laws. Customary law was passed on - orally - from generation to generation. Article 66 of the Namibian Constitution lays the foundation for the constitutional recognition of customary law. It states that both the customary law and the common law of Namibia in force on the date of Independence shall remain valid to the extent that such customary or common law does not conflict with the Constitution or any other statutory law. Section 3 of the Traditional Authorities Act[51] gives certain powers, duties and functions to traditional authorities and members thereof. It is the overall responsibility of traditional authorities to supervise and ensure the observance of the customary law of that community by its members. As to nature conservation it is one of the duties of a traditional authority to ensure that members of the traditional community use the natural resources at their disposal on a sustainable basis and in a manner that keeps the environment and maintains the ecosystem for the benefit of all Namibians.[52]Customary law plays an important role in the sustainable development of natural resources and the protection of biological diversity as it incorporates a broad knowledge of ecosystems relationships.[53] Still, while most of the customary rules have been transmitted orally from generation to generation, the process of ascertaining customary law in Namibia is on-going.[54]

5 Criminal Aspects of Environmental Law

Environmental crimes include violations of environmental laws attracting criminal sanctions. An environmental crime can be defined as an act or omission that damages or endangers the environment. Examples of environmental crimes are inter alia the illegal emission of hazardous substances into air, water or soil; illegal harvesting or hunting; dumping of waste and illegal trade in endangered species. Environmental crimes may be committed by enterprises in the widest sense or individuals. Enforcement efforts in terms of environmental duties are partially

48 For a detailed discussion on customary law and its relevance for environmental concerns see Hinz in chapter 6 of this book.
49 Hinz (2002a); Sippel (2003:69ff.).
50 Griffiths (1986:1ff.).
51 No. 25 of 2000.
52 See Hinz (2003:8ff.).
53 Hinz / Ruppel (2008b:57f.).
54 Hinz (2010a).

inadequate as compared with the magnitude of environmental and economic losses imposed by national and trans-national environmental crimes.[55]

Therefore, national and international enforcement programmes are necessary, and adequate resources need to be available to enable them to succeed. Penal law within environmental law aims to protect the environment by deterring detected violators from violating again or deterring other potential violators from violating by sending a message that they too may experience adverse consequences for non-compliance.[56]

Many of the environment related national enactments cited in this publication contain criminal clauses in terms of environmental crimes. Such makes the Nature Conservation Ordinance 4 of 1975 inter alia provision for illegal

- hunting, catching or capturing protected game;
- placing, releasing or angling any fish in inland waters;
- picking, selling, donating, exporting and removing of protected plants.

The Communal Land Reform[57] may serve as one further example of legislation with criminal law character for it contains criminal implications relating to illegal grazing and fencing. Despite the possibility of withdrawal of grazing rights, the respective penalties include fines up to N$ 4 000 or imprisonment up to one year or both.

Sanctions can range from fines for petty offences to imprisonment for serious offences. Despite from these sanctions it may be appropriate to impose specific penalties in addition to the principal punishment. In some cases provisions are made for the forfeiture either of items used for an offence or for items resulting from an offence. Another appropriate measure might be the cancellation or at least suspension of permits or licences that have been granted. In some cases it might even be prescribed that permits or licences might not be renewed in future due to committed offences. Another additional penalty may be the confiscation of property used for the offence and some provisions also contain regulation as to specific compensation or reimbursement of expenses incurred as a result of the offence. Yet, the overall aim of criminal sanctions is deterrence rather than retribution.[58] Deterrence can, however, also be achieved by measures not including criminal sanctions. These are, to name but a few, administrative

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55 In this respect, the South African Government ha s taken a commendable initiative; cf. http://www.environment.co.za/laws-and-procedures/stepping-up-law-enforcement, last accessed 20 January 2011.

56 Some relevant Namibian cases include the following: *S v Maritz* 2004 NR 22 (HC); *S v Kau and Others* 1995 NR 1 (SC); *Van Rensburg and Another v the Government of the Republic of Namibia* 2009 (2) NR 431 (HC); *S v Maseka* 1991 NR 249 (HC); *S v Eiseb and Another* 1990 NR 142 (HC); *S v Nangombe* 1990 NR 165 (HC); *S v Makwele* 1994 NR 53 (HC).

57 No 5 of 2002

58 Ruppel (2009d).

measures (directives and withdrawal of authorisation), civil measures (e.g. interdict), economic or market based instruments etc.[59]

6 Development Framework

6.1 Namibia's Green Plan

Namibia's Green Plan aims at securing - for present and future generations - a safe and healthy environment and a prosperous economy. It was compiled by the Ministry of Wildlife, Conservation and Tourism in consultation with various governmental and non-governmental organisations and first presented at the Rio Conference in 1992.[60] The Green Plan recognises that "the health of individuals, society and the economy are inextricably linked to the health of the environment. A healthy environment provides the opportunity of realising the full developmental potential of a region and country."[61] Accordingly, the objective is to manage its natural resources for present use without jeopardising the future accessibility of these resources.Namibia's Green Plan is divided into Chapters as follows:

- Life's three essentials – clean air, water and land;
- Sustaining our renewable resources;
- Our special spaces and species;
- Namibia's unique stewardship: The Namib Desert;
- The importance of wetlands management in arid regions;
- The threat of desertification;
- Global environmental security; and
- Environmentally responsible decision-making.

Namibia's Green Plan cautions that environmental policies must be based on the precautionary principle and that all major construction projects, especially in the water sector, should always be preceded by an Environmental Impact Assessment (EIA) in order to prevent or minimise the potential negative effects on the environment. Further to this, the plan makes provision for the protection of the country's genetic resources; also its rich biodiversity must be maintained.

Namibia's Green Plan has identified a multitude of actions needed to achieve sustainable development. These actions include helping to ensure that Namibia has clean air, water and

59 Cf. Kidd (2008:221) with further references.
60 Brown (1992).
61 Brown (1992:1).

land; supporting the sustainable use of natural resources; protecting Namibia's special spaces and species; highlighting the importance of wetlands in arid regions; promoting global environmental security; and encouraging environmentally responsible decision-making at all levels of society. The plan furthermore acknowledges that environmental as well as social requirements such as poverty reduction, education, public participation and a high level of primary health care must be addressed in order to achieve the interrelated objectives of wise environmental management and sustainable development.[62]

Namibia's Green Plan at a very early stage of Namibian nationhood set out an ambitious national programme for achieving environmental protection in the country. The topics set out in the plan are still, or even more of concern in the country. Thus, Namibia's Green Plan remains a relevant basic document with regard to sustainable development and environmental protection in Namibia.

6.2 Vision 2030 and the National Development Plans

Namibia's Vision 2030 was launched in June 2004 by the Founding President, Dr Sam Nujoma.[63] The vision's rationale is to provide long-term policy scenarios on the future course of development in the country at different points in time up until the target year of 2030. Vision 2030 regards the sequential five-year National Development Plans (NDPs) as the main vehicles for achieving its long-term objectives. Chapter 5 of Vision 2030 states the following:

> The integrity of vital ecological processes, natural habitats and wild species throughout Namibia is maintained whilst significantly supporting national socio-economic development through sustainable low-impact, consumptive and non-consumptive uses, as well as providing diversity for rural and urban livelihoods.[64]

Thus, one of the long-term aims of Vision 2030 is the availability of clean water, and productive and healthy natural wetlands with rich biodiversity.[65]

The successive NDPs will contain the goals and intermediate targets (milestones) that will eventually lead to the realisation of Vision 2030. NDP2,[66] which spanned the period 2001/2–2005/6, sought sustainable and equitable improvement in the quality of life of all of the country's inhabitants. The national development objectives were to [67]

62 Brown (1992:172ff.).
63 GRN (2004a).
64 Ibid:167.
65 For more detailed information on wetlands in Namibia, Cf. Ruppel / Bethune (2007:14).
66 GRN (2002a).
67 Ruppel / Bethune (2007:14).

- reduce poverty
- create employment
- promote economic empowerment
- stimulate and sustain economic growth
- reduce inequalities in income distribution and regional development
- promote gender equality and equity
- enhance environmental and ecological sustainability, and
- combat the further spread of HIV/AIDS.

NDP3 spans the five-year period 2007/8–2011/2.[68] The draft guidelines for the formulation of NDP3 were prepared in the latter part of 2006, and approved by Cabinet in December of that year.[69] The predominant theme of NDP3 is the accelerated economic growth through intensified rural development,[70] while the productive utilisation of natural resources and environmental conservation are key result areas. Principal environmental concerns include water, land, marine, natural resources, biodiversity and ecosystems, drought, and climate change. Waste management and pollution will grow significantly with increasing industrialisation. NDP3 recognises that with the country's scarce and fragile natural resource base, the risk of overexploitation is considerable, and that sustained growth is highly dependent on the sound management of these resources. The guidelines for preparing NDP3 stipulated that the renewable resource capital needs to be maintained in quantity and quality. This is to be achieved by reinvesting benefits into natural resources by way of diversifying the economy away from resource-intensive primary sector activities, and by increasing productivity per unit of natural resource input. Two NDP3 goals to ensure the protection of environmental concerns are the optimal and sustainable utilisation of renewable and non-renewable resources on the one hand, and environmental sustainability on the other.

7 Policy Framework

A policy is a deliberate plan of action to guide decisions and achieve rational outcomes. Policies differ from rules or law. While law can compel or prohibit behaviours (e.g. a law requiring permits for specific actions) policy merely guides actions to achieve a desired outcome.

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68 GRN (2007a).

69 Ibid.

70 Ibid.

Environmental policy determines the objectives guiding, and the strategies to be used in order to strengthen the respect for environmental values, taking into account the existing social, cultural and economic situation. The foundation for the Namibian environmental policy framework is Article 95 (l) of the Constitution. It stipulates that the state shall actively promote and maintain the welfare of the people by adopting policies which include the"maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefits of all Namibians…".

Although many policies have at least an indirect impact on the environment, only those considered to be most relevant are listed in the table below. A brief introduction to some of the policies listed forms part of the subsequent paragraphs.

Environmental Policies in Namibia

Environment and Wildlife
- Namibia's Environmental Assessment Policy
- Policy for Prospecting and Mining in Protected Areas and National Monuments
- National Policy on Human Wildlife Conflict Management

Water and Fisheries
- Water Supply and Sanitation Policy
- The National Water Policy
- Namibia's Draft Wetland Policy
- Namibia's Aquaculture Policy – towards responsible development of aquaculture

Agriculture
- The National Agricultural Policy
- The National Drought Policy and Strategy
- The Regional Planning and Development Policy
- The National Seed Policy

Land
- Land-use Planning: Towards Sustainable Development
- The National Land Use Planning Policy
- The National Land Policy
- The National Resettlement Policy
- The National Land Tenure Policy

Climate Change
- Namibia's Draft Climate Change Policy

Forestry
- Namibia Forestry Strategic Plan
- Development Forestry Policy

Tourism
- The Tourism White Paper
- The Draft National Tourism Policy
- The Community–Based Tourism Policy
- Revised Draft Tourism Policy

Biotechnology
- Enabling the Safe Use of Biotechnology Policy

7.1 Policies on Environmental Assessment and Biotechnology

The Environmental Assessment Policy[71] approved by Cabinet in 1994, obliges Namibia to place a high priority on maintaining ecosystems and related ecological processes, and to uphold maximum biological diversity. The Policy recognises that environmental assessments are a key tool towards implementing integrated environmental management. The policy has also gained legislative support by the Environmental Management Act[72].

71 GRN (1995b).
72 No. 7 of 2007.

The National Policy on Enabling the Safe Use of Biotechnology[73] was prepared by the Namibian Biotechnology Alliance and the Ministry of Higher Education, Vocational Training, Science and Technology in October 1999.[74] Pertinent to this review are two of the major objectives of this policy. The first is to guide the judicious use of modern biotechnology in Namibia for sustainable development in ways which do not in any way jeopardise human and environmental health, including Namibia's biodiversity and genetic resources. A second objective is to ensure the effective control of transboundary movements of genetically modified organisms or products thereof resulting from modern biotechnology, inter alia through the exchange of information. The policy recognises that, in addition to a competent lead authority, cooperation from several other ministries is essential to ensure regulation. Several institutions will be involved in conducting risk assessments, advising on permit issues, and ensuring effective control and law enforcement.[75]

7.2 Policies on Land and Agriculture

The Land-Use Planning Policy Document[76] drafted by the Ministry of Environment and Tourism in 1994 defines five physiographic land forms, namely communal state land, privately owned commercial farmland, proclaimed state land, urban areas, and wetland systems, including their catchments. The policy emphasises the sustainability of natural resources, biodiversity and essential ecological processes.

In 1998, the Ministry of Lands and Resettlement issued the **National Land Policy**,[77] which is based on constitutional principles and on the national commitment to redress the social and economic injustices inherited from Namibia's colonial past. The policy calls for the establishment and proclamation of urban areas, and strives to promote decentralisation and community involvement. The policy proposes financial and tax incentives for the protection and rehabilitation of natural environments, e.g. planting of indigenous trees and using alternative energy to reduce rates of deforestation and pollution. In accordance with Article 95(1) of the Constitution, it promotes environmentally sustainable land use, stating that failure to demonstrate environmental sustainability may be grounds for the denying or termination of a title. One of the aims of this policy is to establish a Land Use and Environmental Board to promote environmental protection and contribute towards coordinated planning and management at national and regional levels. This Board is obliged to ensure that

73 GRN (1999a).

74 For environmental law and policy education in Namibia, see Ruppel (2008c) and chapter 12 in this volume.

75 GRN (1999a).

76 GRN (1994b).

77 GRN (1998b).

environmental protection is promoted in order to guarantee environmental, social and economic sustainability.

The **National Land Use Planning Policy**[78] was drafted by the Ministry of Lands and Resettlement in 2002. It provides a framework for the implementation of regionally integrated land use plans.

The 1997 **National Resettlement Policy**[79] regulates that resettlement must be institutionally, socially, economically and environmentally sustainable, to enable the beneficiaries to become self-supporting.[80]

The 2003 **National Land Tenure Policy**[81] covers all land tenure systems in urban, communal, commercial (freehold) and resettlement areas, and is intended to guide all land tenure rights in Namibia. The policy promotes the sustainable utilisation of land and other resources. By regulating different land tenure rights, it provides secure tenure for informal urban settlers, farm workers and occupiers (those who have been employed less than ten years on a single farm and do not have secure tenure elsewhere). Furthermore, it provides guidelines on compensation for occupiers of expropriated land. In line with the 1995 National Agricultural Policy,[82] the National Land Tenure Policy recognises the environmental limitations of the country. Some 22% of Namibia's land surface area is desert, receiving less than 100 mm of rainfall a year. Another 33% of the land is classified as arid, with an annual rainfall of between 100 to 300 mm. Some 37% of the land is semi-arid, meaning it receives between 300 and 500 mm rainfall a year, leaving only 8% classified as semi-humid and sub-tropical, i.e. with 500–700 mm annual rainfall.[83]

The aims of the 1995 **National Agricultural Policy** are largely economic, focusing on increasing agricultural productivity. One of the policy's objectives is to promote national and household food security,[84] while recognising the limitations imposed by the country's climate and soils. The policy seeks to promote sustainable utilisation of the land and other natural resources within the context of a vulnerable ecosystem. Potential problems such as deforestation, soil erosion, bush encroachment and overgrazing are also addressed.

The **Regional Planning and Development Policy** was drafted by the National Planning Commission in 1997.[85] The policy acknowledges the trend of the increasing degradation of pastures, rangelands and woodland, with special attention to soil, water and forest

78 GRN (2002b).
79 GRN (2001c).
80 Woeller (2005:141).
81 GRN (2002c).
82 GRN (1995c).
83 See World Bank (2007:100ff.).
84 Jones (2000a:11).
85 GRN (1997c).

management as development tools. The policy promotes strategies such as soil conservation and controlled grazing cycles, which are important to agriculture.

Namibia's Drought Policy and Strategy was drafted in 1997 and is concerned with developing an efficient, even-handed and sustainableapproach to drought management. In line with Namibia's National Agricultural Policy, the Drought Policy recognises that aridity and highly variable rainfall are normal phenomena. Farmers must also take into account the risks associated with variable input and output prices, exchange and interest rates, in addition to weather conditions. The policy aims to shift responsibility for managing drought risk from government to the farmer, with financial assistance and food security interventions only being considered in the event of an extreme or disaster drought. The objectives of the policy are inter alia to ensure that household food security is not compromised by drought; to encourage and support farmers to adopt self-reliant approaches to the risk of drought; to minimise the degradation of the natural resource base during droughts; to preserve adequate reproductive capacity in livestock herds in affected areas during drought periods; and to ensure the continuous supply of potable water to communities, and particularly to their livestock, schools and clinics.

7.3 Policies on Water

The following policy documents are the most relevant to water and wetland resources in Namibia:[86]

The 1993 **Water and Sanitation Policy** deals with water supply and sanitation issues. It aims to improve sustainable food self-sufficiency and security, and provides a foundation for the equitable and efficient development of water supply in Namibia.[87] The policy promotes the supply of water, as well as, improved sanitation at an affordable cost to all Namibians. The objective here is to subject these developments to Environmental Impact Assessments to guarantee their sustainability. The policy states that improved provision of sanitation can contribute to improved health, ensure a hygienic environment, protect water sources from pollution, promote water conservation, and stimulate economic development. The policy laid the foundations for the establishment of a Directorate of Rural Water Supply, the community-based management of rural water supplies, and over 200 Water Point Committees countrywide. The policy grants communities the right, with due regard for environmental needs, to plan, maintain and manage their own water supply and choose their own solutions and levels of service. Yet, the policy makes it clear that this right is subject to the obligation that beneficiaries should contribute towards the cost of the water provision services. Furthermore, the policy stresses the environmentally sustainable development and utilisation of water

86 Heyns (2005:89–106, at 95f and 105).

87 Ibid: 89–106, at 95.

resources. The Water Point Committees are obliged to raise concerns about any developments or alterations that may pose a threat to the water supply and their water resources. They are also responsible for implementing specific management measures, such as the strict allocation of an ecological water reserve and water demand management measures. With these provisions, the policy places strong emphasis on community involvement, participation and responsibility.

In 2002 Cabinet approved the **National Water Policy White Paper**,[88] which formed the foundation of the Water Resources Management Act[89]. The policy provides a framework for equitable, efficient and sustainable water resources management and water services, and stresses sectoral coordination, integrated planning and management as well as resource management aimed at coping with ecological and associated environmental risks. It states that water is an essential resource to life and that an adequate supply of safe drinking water is a basic human need. The policy makes it clear that water concerns extend beyond human needs for health and survival. Water is essential to maintain natural ecosystems, and the policy recognises that, in a country as dry as Namibia, all social and economic activity depends on healthy aquatic ecosystems. The National Water Policy stresses that the management of water resources needs to harmonise human and environmental requirements, recognising the role of water in supporting the ecosystem. One of the strategies to ensure environmental and economic sustainability is that in-stream flows are adequate – both in terms of quality and quantity – to sustain the ecosystem.

The vision of the 2004 **Draft Wetland Policy**[90] is to manage national and shared wetlands wisely by protecting their vital ecological functions and life-support systems for the current and future benefit of people's welfare, livelihoods and socio-economic development.[91] The objectives of the policy are to protect and conserve wetland diversity and ecosystem functioning to support basic human needs, to provide a framework for sustainable use of wetland resources, to promote the integration of wetland management into other sectoral policies, and to recognise and fulfil Namibia's international and regional commitments concerning shared wetlands and wetlands of international importance. The basic principles of the policy are intended to provide a framework for the development of all water-related policies. In terms of ecosystem values and sustainability, the Policy follows the Ramsar Convention on Wetlands 'definitions and guidelines regarding the wise use of wetlands.[92]

Namibia's 2001 **Aquaculture Policy**[93] deals with the responsible and sustainable development of farming aquatic plants, fish, molluscs and crustaceans. It advocates responsible aquaculture

88 GRN (2000a).
89 No. 24 of 2004.
90 GRN (2004c).
91 On wetlands in Namibia, Cf. Ruppel / Bethune (2007).
92 The text of the Ramsar Convention is available at http://www.ramsar.org.
93 GRN (2001b).

developments. This policy deals directly with the potential impact of alien and other invasive species and seeks to minimise their often destructive influence on aquatic ecosystems. Issues specifically mentioned include the release of introduced species and genetically modified organisms, the mixing of farmed and wild stock (genetic pollution), and the risk of disease transfer. The policy aims to ensure the protection of the living resources of national and international waters.

7.4 Policy on Forests

Biodiversity conservation is central to the 2001 **Development Forestry Policy for Namibia**,[94] which aims to reconcile rural development with biodiversity conservation by empowering farmers and local communities to manage forest resources on a sustainable basis. The policy identifies effective property rights; a supportive regulatory framework; good extension services; community forestry; and forest research, education and training as instruments essential to the successful implementation of sustainable forestry management in Namibia. The policy also paves the way for the establishment of community forests and their custodianship by the people most dependent on such resources. In 2005, the Ministry of Agriculture, Water and Forestry's Directorate of Forestry introduced the Community Forestry Guidelines.[95] The main objective of these guidelines is to provide all stakeholders with a standard for establishing and managing community forests, by describing the legal procedures involved in setting up a community forest; describing the organisational arrangements and administrative procedures necessary for the sustainable management of community forests; and by specifying the respective roles of government forestry officials, communities and other stakeholders involved.[96]

7.5 Policies on Tourism

The1994 **Tourism White Paper**[97] commits the government to, inter alia develop the tourism industry without threatening Namibia's biodiversity. It requires part of the income derived from tourism be reinvested in the conservation of natural resources, including those associated with wetlands. The policy identifies ecotourism for foreign visitors as the primary product, and assigns the Ministry of Environment and Tourism the lead role in coordinating inter-ministerial activities relevant to tourism and in cooperating with the private sector to create a national tourism identity.[98]

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94 GRN (2001d).
95 GRN (2005).
96 Ibid.
97 GRN (1994a).
98 Section 3.13 of the 1994 Tourism Policy.

The1999draft **National Tourism Policy**[99] aims to secure and develop important tourism areas so that their value is not undermined by other, unsustainable land use options.

In 1995 the **Community-based Tourism Policy**[100] was developed by the Ministry of Environment and Tourism to recognise the fact that tourism could bring significant social and economic benefits to previously disadvantaged people, whilst also promoting biodiversity conservation. Under the terms of the policy, the Ministry of Environment and Tourism is obliged to ensure that development of the community-based tourism sector is environmentally sustainable, and that no development takes place without the participation of the people affected. This objective is geared to emphasise environmental sustainability, biodiversity conservation and community participation in tourism.

Finally, in 2001, the Ministry of Environment and Tourism issued the **Revised Draft Tourism Policy 2001–2010**.[101] This policy stresses that no tourist development should be at the cost of biodiversity, and requires that some of the income derived has to be reinvested into natural resource conservation.

8 Selected Strategies and Action Plans

8.1 National Biodiversity Strategy and Action Plan

Namibia has taken up the challenge to conserve species and ecosystems to limit the increasing rate of loss of biological diversity, by drafting the National Biodiversity Strategy and Action Plan. The aim of this document is to protect ecosystems, biological diversity and ecological processes through conservation and sustainable use, thereby supporting the livelihoods, self-reliance and quality of life of Namibians.[102] The Action Plan intends to provide overall strategic guidance for the implementation of Article 95 (l) of the Constitution, and detailed, practical activities through which sustainable development can be achieved. Further to this, the Action Plan attempts to provide a national strategic framework for natural resource management activities, involving biological resource management, also including trade and economic incentives. It aims to prioritise activities and measures needed to implement this strategy effectively for the next decade.

The Action Plan also advocates the facilitation of sustainable natural resource management throughout Namibia as a fundamental theme for development planning; this it proposes to do through appropriate ecosystem management and land use practices, and the selective, sustainable harvesting of species. Government is urged to develop monitoring and incentive

99 GRN (1999b).
100 GRN (1995a).
101 GRN (2001e).
102 Barnard et al. (2000:13).

systems for sustainable natural resource use. It is proposed that the users themselves become the monitoring agents, practising adoptive management, since they are the custodians of resources. Incentive systems should be aimed at making the sustainable management of natural resources profitable.[103]

8.2 Namibia's Proposed Climate Change Strategy and ActionPlan

Namibia's Proposed Climate Change Strategy and Action Plan was drafted in 2009 and provides a background to climate change impacts predicted globally, regionally and nationally.[104] It highlights how vulnerable Namibia is in this regard and argues the need for climate change adaptation and mitigation. Guiding principles are proposed in the strategy to guide the planning, development, implementation and monitoring and evaluation of climate change response activities. The three main responses to climate change, namely adaptation, mitigation and tackling cross-cutting issues through adaptation and mitigation are highlighted from a Namibian perspective. Adaption focuses on food security and a sustainable resource base, on sustainable water resources, on human health and well-being and infrastructure. Climate change mitigation is addressed through two themes namely sustainable energy provision and low-carbon development and transport. Cross-cutting issues particularly refer to capacity building, training and institutional strengthening, research and information needs, public awareness, participation and access to information, disaster reduction and risk management, financial resource mobilisation and management, international cooperation and networking, technology development and transfer, and legislative development. The Action Planoutlines in detail specifically proposed activities to address each strategic aim through adaptation or mitigation.

8.3 Aquaculture Strategic Plan

Namibia's 2004 Aquaculture StrategicPlan[105] was developed to provide guidance on the regulatory framework, business climate, public acceptability, also on strategies to ensure training, research, marketing and infrastructure development for aquaculture. The plan outlines targets for employment creation, investment, training and the value of production. Diverse needs call for sustainable economies in rural areas, both inland and coastal; improved viability of non-productive areas; poverty reduction; and pollution prevention supporting renewable

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103 Sub-strategic aim 2.2 of the National Biodiversity Strategy and Action Plan.

104 Available at http://www.met.gov.na/Documents/NAMIBIA-roposed%20Climate%20Change%20Strategy%20 and%20Action %20Plan%20(13.pdf; last accessed 20 November 2010.

105 GRN (2004b).

natural resource-based food production. With regard to environmental considerations, the plan emphasises the importance of site selection prior to developing any aquaculture facility, and the permanent assessment of good water quality as the most important prerequisites for successful aquaculture.

8.4 Strategic Action Plan for the Implementation of RenewableEnergy Policies

An important aspect of the meaningful and large-scale introduction of renewable energy technologies is to ensure sustainable development by promoting broad economic empowerment, socio-economic development and environmental protection. To this end, this Strategic Action Plan provides that the Renewable Energy and Energy Efficiency Institute should co-ordinate institutional cooperation on gender-based energy issues and promote regionally based broad economic empowerment. Environmental considerations should also form part of its responsibilities. The plan emphasises thatincreased population pressure results in increased pressure on natural resources as rural households often have no choice, but to rely heavily on wood for energy and shelter; this often happens at the expense of environmental sustainability. For this reason, it is proposed that the Renewable Energy and Energy Efficiency Institute assists in the establishment of environmental impact assessments that consider energy needs within a socio-economic framework. The institute intends to expand the scope of environmental impact assessments to consider the impact of, for instance, power stations' emissions to greenhouse gas development, respiratory diseases from household smoke, etc. within a national, sub-regional, regional and global perspective.

8.5 Forestry Strategic Plan

The **Forestry Strategic Plan** was issued by the Ministry of Environment and Tourism in 1996.[106]It is the major instrument for implementing the 2001 Development Forestry Policy. The plan aims to promote development of community level natural forest management which includes the community management of riparian forests and woodlands.

106 GRN (1996).

Chapter 4

PRACTICAL IMPLICATIONS OF ENVIRONMENTAL MANAGEMENT IN NAMIBIA: THE CASE STUDY OF OHORONGO

Peter Koep& Meyer van den Berg

1 Background

The independence of the Republic of Namibia on 21 March 1990 brought with it increased attention and interest in the country, its people, its resources and its environment. Prior to independence it would have been unusual for a financier or developer to have insisted on an Environmental Impact Assessment (EIA) before agreeing to finance and/or develop a particular project. This changed with the independence of Namibia and the enactment of the Constitution, which specifically provides for the

> maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living, natural resources on a sustainable basis for the benefit of all Namibians, both present and future; in particular, the Government shall provide measures against the dumping or recycling of foreign nuclear and toxic waste on Namibian territory.[1]

But not only was this introduced in Namibia, it was a trend which was adopted world-wide and with the increased demands made by a growing population world-wide, the protection of the environment has taken on a different meaning in that an EIA is a *conditio sine qua non* for obtaining permission to proceed with a development. Even more so, financial institutions around the world are reluctant to finance a project which is not environmentally friendly and which has not received the approval by the appropriate authority.

The preparation of an EIA and to a greater extent the protection of the environment is an expense with which every developer has to contend. When instructing an environmental consultant, that consultant must on the one hand take into consideration the pressure which a developer exerts in wanting his/her development to become a reality, and to, above all, become profitable for its shareholders, at the same time not putting his/her professional

[1] Article 95(l) of the Constitution of the Republic of Namibia.

integrity on the line when it comes to making recommendations which may not be popular or which may make the whole scheme more expensive in order to protect the environment.

2 Ohorongo's mining activities

Ohorongo Cement (Pty) Limited ("Ohorongo") obtained Mining Licence No 153 on 14July 2008. This entitled Ohorongo to prospect and mine for minerals necessary in order to produce cement. A cement plant has been erected on the Farm Sargberg, situated approximately 30km north of Otavi and 40km south of Tsumeb on the western side of the B1 Highway. The Mining Licence was only granted after the Ministry of Mines and Energy had studied and perused an EIA in respect of the proposed plant. The conditions of that Mining Licence are that

> The holder of the mining licence shall observe any requirements, limitations or prohibitions on his or her mining operations as may in the interest of the environmental protection, be imposed by the Minister.
>
> The holder of the mining
>
> others, the water supply and sustainability for the life of the mine.
>
> The holder of the mining
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> The holder shall come u
>
> The holder of the mining

This must be read together with the obligations of holders of mineral licences contained in the Minerals (Prospecting and Mining) Act.[3]

3 The Environmental Impact Assessment

The EIA was drafted and compiled by Colin Christian & Associates CC. The approach to the Scoping Report was:[4]

1. Public participation meetings;
2. Consultations with Authorities;
3. Consultation with Specialists;
4. A field trip;
5. Review of literature;
6. The RSA DEAT (1992) checklist of Environmental Characteristics.

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2 The terms of Mining Licence 153.

3 No. 33 of 1992. See Section 98 of the Act.

4 Colin Christian Environmental Scoping Report, page 4 ("the Report").

The most important issues that were identified in the Scoping Report and which would be the subject of the EIA, were:[5]

- the sustainable yield and potential impact on neighbouring farmers' boreholes;
- the potential impact on species of conservation importance in the quarry area as far as vegetation is concerned;
- the potential impacts on animals and birds;
- air pollution, mainly dust from quarry area and any unpaved roads, for instance the access road;[6]
- noise from blasting, vehicles and the factory itself;
- the rehabilitation of the quarry area.

The other prerequisites are dealt with in the report itself.

The Environmental Impact Assessment and Management Plan was also prepared by Colin Christian & Associates CC in February 2008. It dealt with related matters as follows:

3.1 Water

As the site is situated within a subterranean water controlled area[7], a permit would be required to drill boreholes and to utilise the water for industrial and domestic purposes.

A borehole was sunk into the dolomite formation and the water level was found at 31,52m below the ground surface. A yield of approximately 4 m^3 per hour was achieved and a draw-down of 9,72m was recorded. As the yield from one borehole would have been insufficient, it was suggested that another three boreholes be drilled, in order to deliver approximately 70000m^3 per year. In fact, very little water will be used in this process and it will only be used in the process of grinding the clinker. Most of the consumption will, in fact, be for domestic use, the washing of vehicles, the courtyard, the gardens and for dust suppression (insofar as this may still be necessary).

5 Page 23 and 24 of the Report.
6 In the meantime the access road has been tarred.
7 GN 1969 of 13 November 2010 in terms of Proclamation 278 of 31 December 1976.

3.2 Vegetation

It was noted that none of the species listed and found in the project area had a special status and it was found that no species will be regionally threatened by the project[8].

Concomitantly the Report proposes as possible mitigation that "trained personnel [be used] working with the machine on the ground." It goes on to suggest that "a person who is acquainted with the species of protected bushes and trees should walk ahead of the machine in order to identify to the operator protected species, and so ensure their protection."[9]

In order not to fall foul of any of the provisions of the Nature Conservation Ordinance of 1975, it is stated that the Operator (and Ohorongo) should take all steps to ensure that protected plant species as well as eggs of protected and huntable bird species are not disturbed or destroyed.[10]

3.3 Animals

A separate research was undertaken by the zoologist M Griffin, who found that there were a number of amphibians, reptiles and mammals in the area and he came to the conclusion that whereas 92 species of mammals are expected to occur within the development area, that as the footprint of the proposed development is relatively small, the mammal fauna should not be affected enough to alter the national conservation status of any species. He recommends that an effort should be made to prevent the staff from collecting firewood and wildlife from the area adjacent to the development area and that the disruption of the natural surface substrate, in particular the rock outcrops, should be kept to a minimum. He furthermore found that as far as amphibians and reptiles and mammals are concerned, no species are expected to be affected to the extent that their regional or national conservation will be degraded.[11]

3.4 Dust

As far as dust is concerned, all facilities will have de-dusting filters (baghouse filters with a maximum dust omission of 20mg per m^3. The average is below approximately 10mg per m^3.

Approximately 80% of the total dust omissions are less than 10um (PM10) (i.e. extremely small particles which have the potential for human health impacts if concentrations exceed

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8 See page 10 of EIA.

9 See page 111 of the Report.

10 As this will be almost inevitable and impossible to ensure it may be advisable to apply for a permit from the Ministry of Environment & Tourism.

11 See the EIA, page 16 and the report referred to there.

international omission standards for these small particles. The total dust emission, including PM10, will be within the limits of international emission standards (to question this in the light of tarring the road). All emission levels will be according to international standards and / or far below European legal provisions. In fact, all the requirements of environmental principles as set out in ISA14001 will be implemented with technical equipment.[12]

3.5 Noise

Noise is from blasting, vehicles and the factory itself.

3.6 Air Pollution

In the light of the fact that Ohorongo uses sophisticated filters, it is unlikely that it will commit an offence in terms of the APPO.

4 Rehabilitation

In terms of the Mining License Ohorongo, is compelled to register a Rehabilitation Trust into which sufficient monies will have to be transferred, in order to provide for the rehabilitation of the area on the termination of the activities.

Even though the Report and the EIA refer to legal and policy requirements, which have to be observed and taken into account, these are, it is submitted, insufficient in order to give legal force to implement the Constitutional Principles referred to above[13]. Namibia does not yet have a central environmental statute, or an overriding statute, covering all environmental sectors which clearly determine the principles of environmental policies, their aims and objectives and the control mechanisms. Much of the environmental legislation was inherited from South Africa at the time of independence and is therefore out-dated and fragmented.

The Minerals (Prospecting and Mining) Act[14] is one of the few pieces of legislation which imposes various duties on the holder of a licence to, for example, prepare an EIA, provide detail of the impact of its activities on the environment, etc.[15]

The true value of any law lies in its efficacy and its enforcement. Laws which are not enforced or not enforced consistently lead to confusion and tend to be ignored by those against whom

12 See page 7 of the Report.
13 Article 95(1) of the Constitution of the Republic of Namibia.
14 No. 33 of 1992.
15 For further details see Chapter 5 on Mining and Energy in Namibia.

they should be enforced and for whom such laws were ultimately made. Whereas the Ministry of Mines and Energy previously had in their employ mining inspectors, whose duty it was to control the observance and implementation of the conditions contained in mineral licences, there are no such dedicated inspectors anymore (to verify). There are few, if any, known instances where these laws have been enforced and more specifically where damage has been done to the environment. In terms of the Minerals Act, the Minister is granted the authority to close a mine should it not adhere to the conditions of its licence of fail to comply with those directives.[16]

In an under-regulated society such as Namibia, it often depends on the integrity of the investor to what extent that investor imposes upon itself a duty to comply to international environmental standards. An example of self-regulation, to be emulated, is that of the Uranium Industry, who has, as a result of incomplete legislation prescribing control of their industry, implemented their own forms of control. Every producer and most of the licence holders of Nuclear Fuels have voluntarily become a member and contribute financially to the management of it and undertake to observe and adhere to its stringent rules and regulations.[17]

The actual construction of the cement plant by Ohorongo Cement was another example of self-regulation. As the site on which the plant is built is situated on agricultural land,[18] the design and the construction was not subject to any building regulation other than those which the owners decided to impose upon themselves. The EIA also does not touch upon issues such as the building of sewers, the depth of foundations, height restrictions etc. The decision to build the most modern plant using the best available technology by a world-renowned construction company was motivated by a commitment to professionalism and the compliance with world standards, even though none of it was imposed by legislation.

From the outset, the promoters of the Ohorongo Cement Plant[19] had a vision that alternative fuels should be used to fire the kiln of their plant. The promoters of the Ohorongo Cement Plant operate various cement plants in Europe, one of which is fired exclusively by alternative fuels and others use mostly alternative fuels.

In their venture to identify alternative fuels, the promoters struck upon the idea of using invader bush so prevalent on much of the farmland, in especially the northern parts of Namibia. Studies were conducted, samples of invader bush were taken to Germany, their energy content determined, with the conclusion that if sufficient encroacher bush could be harvested, it could be used to fire the kiln to such an extent that only 20% of the fuel required would consist of coal and that the remainder would consist of alternative fuels consisting mainly of encroacher bush.

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16 Section 55 of the Act.

17 To obtain info, contact the Uranium Institute, c/o the Chamber of Mines, Swakopmund.

18 See Section 1 of the Agricultural (Commercial) Land Reform Act, Act 6 of 1995, as amended.

19 Schwenk Zement International KG.

In line with the modern approach and in line with Namibia's Constitution and for this Energy-to-Fuel-Project, an EIA was prepared.[20]The EIA describes in some detail the most relevant aspects of the Project Environment and highlights those parts of the environment which may be affected, viz. climate, topography, geology, soils, vegetation, animals, birds, arthropods as well as the socio-economic environment.[21]

Even though there have been many attempts to clear invader bush by various means, including mechanical, mechanical combined with manual labour, manual labour only and chemical, none have been as potentially invasive or on a scale as the intended bush-to-fuel-project described in the EIA.

The Report discusses the proposed Project in great detail. The scale of the Project is a first of its kind in Namibia, the effects of the clearing and the methods used will be of importance for the future sustainability, not only of this, but also of other similar projects. Bush clearing activities are being used in order to generate electricity from invader bush. Other such projects are planned.[22]

This Project is of potential interest to the farmer / landowner, as it will open up areas for utilisation which were previously of little, if any, economic value. As a result of traditional energy resources becoming expensive and scarce, this has changed. All of a sudden a piece of land, which previously could not be used due to sometimes impenetrable invader bush, opens up new possibilities to its owner and to the parties wanting to make use of such bush.

However, here too there is another side to the coin, as not all is what it appears to be. Throughout the Report, the author is careful to highlight the importance of what he refers to as the "aftercare" and the tension between the needs of EFF and the needs of farmers.

> The services offered by EFF will be limited to cutting and transport of the material to the processing plant near the cement plant. EFF will not undertake any aftercare activities….[23]

For many cattle farmers the ideal will be to achieve a stable state of open savannah matrix with optimum grazing productivity. The degree to which they can achieve this ideal will depend, again on species, environmental conditions, rainfall etc., but also the resources they commit to aftercare, the methods used and time. To the extent that the farmer is successful in achieving the ideal of sustainable grazing, he will reduce the bush cutting potential of the area in question.[24]

The author of the report goes into greater detail as far as aftercare is concerned.

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20 See Environmental Impact Assessment Report April 2010 prepared by Colin Christian & Associates CC.

21 Page iii of the Report.

22 There are bush clearing activities by the CF.F.

23 See page 88, 8.10.7 of the Report.

24 See page 89 of the Report It is submitted that this will be of little concern for EFF, as at harvesting rate of 4,250 ha/ year it would take 78 years before it would be necessary to return to the areas already harvested, see p. 90 of the Report.

> The most important economic benefit is expected to be increased rangeland productivity for many commercial farmers. In order to optimize this benefit, farmers would be well advised to do aftercare to control the regrowth of encroacher bush species……
>
> …. aftercare is likely to deliver the best environmental outcomes and the more sustainable grazing resources……
>
> ….If aftercare is not implemented especially where *sekelbos* is dominant, the result is often increased bush densities after a few years, resulting in a worse problem as before….[25]

An important part of an EIA is to be able to hear, assess and report on the views of the public, especially those immediately affected by the activities of the Company.[26]

A description of the Public Participation Process is described in the Plant Report.[27]

All previous attempts at bush clearing, apart maybe from the use of chemicals, did not require an EIA and whether or not there was compliance in all or some of the instances is uncertain.[28] As a result of a dearth of legislation regulating the clearing of invader bush, it has been left up to the farmer / landowner to employ those means which he / she can afford and the manner best suited to the particular circumstances. As a result, there is little if any scientific record available to guide EFF, or indeed the author of the EIA.

The environmental impact assessment was then prepared for a company by name Energy for Future (Pty) Limited (EFF), which is a company owned by the original proposer of the cement plant.

The Ohorongo cement plant will have a capacity of producing approximately 700 000 tonnes of cement per year. For this it would need between 70 000 to 75 000 tonnes of coal per year at full production. However, by substituting 85 000 tonnes with encroacher bush chips, it would be possible to save 55 300 tonnes of coal per annum, this being a saving of an estimated 73% to 79% per year[29].

Machines would be built, which would be track mounted, in order to be manoeuvrable and therefore be able to selectively harvest the bush. It would cut and shred the bush and blow the chips into a hopper which would be situated behind it. These wood chips would be stored and further processed to reduce the size, in order to be able to be blown into the furnace for rapid combustion in the kiln.

It was proposed that blocks of at least 200 ha would be cut per farm per year, it being estimated that approximately 4 000 ha per year will yield the required amount of bush chips.

The key motivations for the project are seen to be:

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25 Page 112 of the Report.

26 Part of the cement plant study.

27 Page 14.

28 Attempts to establish this from the responsible authorities proved impossible.

29 See the report, page 2.

- reduce the demand for imported coal (a non-renewable energy resource);
- a contribution to reducing greenhouse gasses in the atmosphere (relative to fossil fuels);
- restored grazing potential leading to restored beef production;
- consequent benefits to meet industries and exports;
- management;
- potential restoration of biodiversity, assuming appropriate environmental groundwater recharge may also be improved in some cases.[30]

It is estimated that it will take 75 years to remove 4 000 ha per year of encroacher bush within a radius of 75km from the cement plant. This is without harvesting the same land during that period.

The idea to use invader bush as an alternative to fuel and at the same time combating bush encroachment is an innovative idea which should benefit the shareholders of Ohorongo as well as farmers as the techniques of combating invader bush develop.

30 See EIA report, page 2.

Chapter 5

SELECTED SECTORAL ASPECTS OF ENVIRONMENTAL LAW IN NAMIBIA

Various Authors

I Legal Protection of Biodiversity in Namibia

Manfred O Hinz & Oliver C Ruppel

1 Introduction

This sub-Chapter intends to give a synoptic overview of biodiversity conservation under environmental law in Namibia.[1] The aim of this overview about the legal protection of biodiversity in Namibia is to describe in broad terms the legal framework in which efforts to protect biodiversity have to be understood. Prior to introducing specific international agreements applicable in Namibia connected to the protection of biodiversity, some general remarks on biodiversity and the legal protection thereof are provided. Then, relevant provisions in the Constitution of Namibia are highlighted before turning to statutory law pertinent to the protection of biodiversity. Chapter 6 in this publication deals extensively with customary law and the environment and focuses on biodiversity amongst others, customary law aspects of biodiversity protection will thus not form part of this sub-Chapter.

2 Biodiversity in Perspective

In the 1980s, when the concept of biological diversity (now more commonly biodiversity) was in its infancy, biological diversity comprised an estimate of roughly 1.5 million described species living on earth. Today's estimates range widely, largely because most living species are micro-organisms and tiny invertebrates. Estimates range from 5 to 30 million species. Roughly 1.75 million species have been formally described and given official names. The number of

[1] This sub-chapter is substantially based on the publications by Hinz / Ruppel (2008b and 2010), of the research done at the Faculty of Law of the University of Namibia within the ambit of the BIOTA project.

unclassified species is much higher.[2] The coinage of the term biological diversity can be attributed to Lovejoy[3], Norse and McManus[4] and Wilson[5]. Lovejoy was probably the first person to use the term in 1980.[6] Biological diversity can be defined as the variability among living organisms from all sources, including terrestrial, marine and freshwater ecosystems, which includes diversity within species, between species, and habitats or ecosystems.[7] Biodiversity has also been defined as the "totality of genes, species, and ecosystems of a region". This describes most circumstances and presents a unified view of the traditional three levels at which biodiversity has been identified: Genetic diversity, referring to the diversity of genes within a species. There is a genetic variability among the populations and the individuals of the same species. Species diversity means the diversity among species in an ecosystem; and ecosystem diversity describes diversity at a higher level of organisation, the ecosystem. Ecosystem diversity refers to all the various habitants, biological communities and biological processes as well as the variations and interconnections and interrelations between and or among various ecosystems.

As the fundamental building blocks for development, biological resources provide the basis for local food sufficiency, and a backbone for many countries' economies.[8] At the same time, biological diversity is a global asset, and is expected to benefit people in all parts of the world.[9] For millennia, people have relied on ecosystems to meet their basic needs such as food, water and other natural resources. Apart from these, there are a multitude of further benefits of biodiversity. For instance, a significant proportion of drugs are derived, directly or indirectly, from biological sources. As early as the mid-19th century, the Scottish adventurer and missionary David Livingstone brought plants from the African continent, hoping they would serve as a basis for medicinal drugs.[10] Over the last decade, the interest in drugs of plant origins and their use in various diseases has increased in many industrialised countries since plants used in traditional medicine are more likely to yield pharmacologically active compounds.[11] Indeed, in most cases, it is impossible to synthesise plant-based medicinal drugs in a laboratory setting. Higher biodiversity also controls the spread of certain diseases as viruses will need to adapt to infect different species. Moreover, a wide range of industrial materials are derived directly from biological resources. These include building materials, fibres, dyes, resins, gums, adhesives, rubber and oil. Many people also derive value from

2 Heywood (1995).
3 Lovejoy (1980).
4 Norse / McManus (1980:32).
5 Wilson (1985:400).
6 Lovejoy (1980).
7 Article 2 of the 1992 Convention on Biological Diversity.
8 Ruppel (2009h,j).
9 McNeely et al. (1990).
10 Blaikie (2004).
11 Paing et al. (2006:1).

biodiversity through leisure activities. And finally, many cultural groups view themselves as an integral part of the natural world and show respect for other living organisms.

Biological diversity has to be safeguarded and conserved. The term conservation is defined as the management of human use of the biosphere, so that it may produce the greatest sustainable benefit to present generations while maintaining its potential to meet the needs and aspirations of the future generations. Thus, conservation embraces the preservation, maintenance, sustainable utilisation, restoration, and enhancement of the natural environment. While ecosystems may be used by present generations for their benefit, they should only be used in a way not depriving future generations of their right to use such ecosystems in the same manner for their survival. The maintenance of biological diversity at all levels is fundamentally the maintenance of viable populations of species or identifiable populations.[12]

Efforts to maintain the diversity of biological resources are urgently required at local, national, and international level Southern Africa and Namibia, as part of this region, is no exception. Van Wyk and Gericke introduced their publication, titled *People's Plants,* by stating the following:[13]

> Southern Africa is exceptionally rich in plant diversity with some 30 000 species of flowering plants, accounting for almost 10% of the world's higher plants. The region also has great cultural diversity, with many people still using a wide variety of plants in their daily lives for food, water, shelter, fuel, medicine and the other necessities of life.

In the last few decades, the Southern African region has seen great changes in access to modern health care and education, shifts from rural to urban areas, changes from subsistence farming to cash-crop production, greater flows of migrant labour, and unprecedented environmental degradation. These changes in the socio-cultural and environmental landscape have severely eroded the indigenous knowledge base.

Namibia's biodiversity includes innumerable species of wild plants and animals. Indeed, as little as about 20% of Namibia's wildlife species have been captured scientifically to date. More than 13000 species have been described, of which almost 19% are endemic or unique to Namibia.[14] By 2006, the World Conservation Union (IUCN) had classified 79 species in Namibia as threatened, which includes those species listed as critically endangered, endangered or vulnerable.[15] Five major threats have been identified as threats to biodiversity:

- **Habitat loss, alteration, and fragmentation:** mainly through conversion of land for agricultural, aquaculture, industrial or urban use; damming and other changes to river systems for irrigation, hydropower or flow regulation; and damaging fishing activities

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12 Groombridge (1992:xvi). The book by Wulfmeyer (2006) is an interesting record on how this global task has been incorporated into Namibia's education system.

13 Van Wyk / Gericke (2000:7).

14 GRN (2004a:164).

15 See composition of threatened species: mammals 10; birds 21; reptiles 3; amphibians 1; fish 20; plants 24; World Conservation Union (IUCN) Red List at http://www.iucnredlist.org/info/tables/table5; last accessed 21 October 2007.

- **Over-exploitation of wild species populations:** harvesting of animals and plants for food, materials or medicine at a rate above the reproductive capacity of the population
- **Pollution:** mainly from excessive pesticide use in agriculture and aquaculture; urban and industrial effluents; mining waste; and excessive fertiliser use in agriculture
- **Climate change:** due to rising levels of greenhouse gases in the atmosphere, caused mainly by the burning of fossil fuels, forest clearing and industrial processes
- **Invasive species:** introduced deliberately or inadvertently to one part of the world from another; they then become competitors, predators or parasites of native species.[16]

For most of human history, the natural world has been protected from the most disruptive human influences by relatively humble technology; cultural-ecological factors, such as taboos preventing overexploitation; inter-tribal peace, maintained by keeping wide areas of wilderness 'buffer zones' between groups; land ownership by ancestors or lineages rather than individuals; relatively sparse human populations; and many other factors.[17] All but a handful of countries have national parks and national legislation promoting conservation. Most governments have joined international conservation conventions, and built environmental considerations into the national education system. Non-governmental organisations (NGOs) are active in promoting public awareness of conservation issues, including those dealing with biological diversity. Still, devastation continues.Why?

Naturalists, including interested amateurs and trained biologists, have led the conservation movement. While their contributions have been fundamental, they are unable to fully address the basic problems of conservation because the problems are not only biological, but rather political, economic, social, and even ethical. Pressures influence the decisions, affecting the natural environment and incentives that go far beyond the relatively straightforward technical considerations of what might in theory be best for biological resources. Conservation action, therefore, needs to be based on the best available scientific information and be implemented by development practitioners, engineers, sociologists, anthropologists, agronomists, economists, lawyers and politicians. Local resource users are often the ones who make local-level decisions, and their decisions are, above all, affected by enlightened self-interest. Those seeking to conserve biodiversity need to be able to identify the legitimate self-interest of rural people, and design ways of ensuring that the interest of conservation and community coincides.

Namibia's large biodiversity endowment has been outlined by Namibia's Minister of Environment and Tourism, Netumbo Nandi-Ndaitwah as follows:

> Namibia has a large biodiversity endowment, which is of global significance. Although predominantly a semi-arid country, Namibia contains a remarkable variety of ecosystems,

16 WWF (2010:12).
17 McNeely et al. (1990:18).

> ranging from hyper-arid deserts with less than 10mm of rainfall to subtropical wetlands and savannahs receiving over 600mm of precipitation per annum. Four major terrestrial biomes exist, namely: Succulent Karoo, Nama Karoo, Desert and Tree and Shrub Savannah. On a finer scale, 29 different vegetation types are currently recognised, many of which are wholly unique to Namibia or to the southern African sub-continent. These biomes are storehouses of high species richness: the country harbours 4,000 species and subspecies of higher plants and 658 species of birds have been recorded, of which approximately 30% is migrant. 217 species of mammals are found including unique arid varieties of desert-adapted rhino and elephant. This biodiversity richness generates global and national benefits through protecting globally important ecosystems.[18]

Considering this, it becomes very clear, why biodiversity protection has been given high importance under environmental law in Namibia. But how can legal science contribute to the conservation of biodiversity in Namibia? The aim of environmental protection in general and biodiversity maintenance in particular can be achieved by different means.[19] Traditional legal methods, inter alia,include establishing protected areas, to regulate harvesting and trade in certain species, to manage habitats and ecosystems, or to prohibiting the introduction of new, alien or invasive species. Pollution control and the management of hazardous substances are other effective mechanisms to contribute to the preservation of biological diversity. Other innovative regulatory techniques or policies to preserve biological diversity include the access to genetic resources, biotechnology as well as access to and transfer of technology. All aforementioned methods are to a certain extent governed by legal mechanisms and the success of Namibia's effort to control, manage, and conserve the sustainable use of biodiversity depends to a large extent on the effectiveness of the different legal instruments in place.

3 International Environmental Law Pertinent to Biodiversity Protection in Namibia

It has been discussed in Chapter 2, how international law is applied in the national setup. On the global level, several multilateral environmental agreements have been established that directly or indirectly contain provisions relating to the protection of biological diversity. The Convention on Biological Diversity (CBD), and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) as the most relevant international biodiversity related agreements will be sketched in the following.[20]

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18 Nandi-Ndaitwah (2010).

19 Barnard (1998:283ff.).

20 Other international agreements which also relate to the protection of biodiversity include the UN Convention to Combat Desertification; the UN Framework Convention on Climate Change; the International Convention for the Protection of New Varieties of Plants (UPOV Convention); international

There was no consensus regarding biodiversity among the nations of this world until the 1992 Earth Summit in Rio. It was at this Summit, marked the first of its kind at international level, where consensus was reached among scientists, policymakers and civil society that humanity was in the process of unconsciously depleting an invaluably important resource central to our food, health and economic security. The consensus reached at the Summit was in the form of a legal instrument, the Convention on Biological Diversity, which aims to regulate, protect and preserve global environmental resources. The CBD was signed by Namibia on 12 June 1992 in Rio de Janeiro and ratified it on 18 March 1997. Accordingly Namibia is obliged to ensure that its domestic legislation is conform with the objectives and obligations of the CBD. Namibia gives effect to the CBD inter alia by implementing the National Biodiversity Strategy and Action Plan and has issued its fourth national report under the CBD.[21]

The CBD's Preamble affirms that biodiversity is humankind's common concern and that it has to be conserved for continued human survival. However, rather than lay down substantive rules, the CBD rather sets up overall principles, objectives and goals, leaving it up to the contracting states to develop and adopt detailed means to achieve these. It leaves it up to individual countries to determine exactly how to implement most of its provisions. Thus, major decision-making is placed at national level. The CBD provides guidelines and directions to state parties as to how they should use these resources in a conservative manner for the benefit of present and coming generations. The objectives of the CBD comprise the conservation of biodiversity, the sustainable use of its components, and the fair and equitable sharing of benefits arising from the use of genetic resources.

Methods applied to ensure the maintenance of biological diversity are *in situ* and *ex situ* conservation. *In situ* conservation is defined as being —[22]

> … where the maintenance and recovery of habitats, species and populations occur in their natural surroundings or, for domesticated or cultivated species, in the place where they developed their distinctive properties, …

while *ex situ* conservation refers to the conservation of components of biodiversity outside their natural habitats, for example in zoos and aquaria.[23]

The CBD provides that states have and should maintain their sovereign rights over their biological or generic resources, and they bear the power to determine access to these resources through established mechanisms for the fair and equitable sharing of benefits arising from their use. There was consensus on the need to protect, conserve and sustainably utilise the available biological diversity for the benefit of humanity.

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conventions containing fishery provisions e.g. UN Convention on the Law of the Sea; the Ramsar Convention on Wetlands; and the Global Biodiversity Strategy.

21 GRN (2010a).

22 Article 2 of the CBD.

23 Glazewski et al. (1998:281).

Thus, the CBD becomes the basis of domestic legislation on the promotion, protection and preservation of biological diversity. It gives the green light to states to exercise full control over their natural resources, provided that proper mechanisms protecting biological diversity are in place. Article 8(j) of the CBD provides that a state is obliged,

> … subject to its national legislation, [to] respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of benefits arising from the utilisation of such knowledge, innovations and practices.[24]

Although national sovereignty is recognised, states are obliged to conserve biodiversity and regulate the sustainable use of its component resources. They are also urged to cooperate with each other regarding areas beyond national jurisdiction and other matters of mutual interest. Article 5 of the CBD states that contracting parties are obliged to develop and adopt national biodiversity strategies, plans, or programmes, and integrate the conservation of biodiversity and the sustainable use of its components into relevant sectoral or cross-sectoral plans, programmes and policies.

Due to the fact that the trade in wild animals and plants crosses borders between countries, the effort to regulate it requires international cooperation to safeguard certain species from over-exploitation. CITES, a convention that is legally binding on its parties, was conceived in the spirit of such cooperation. Today, it accords varying degrees of protection to more than 30000 species of animals and plants, whether they are traded as live specimens, fur coats or dried herbs. CITESwas drafted as a result of a resolution adopted in 1963 at a meeting of members of IUCN (The World Conservation Union) and entered in force in 1975. CITES provides a framework to be respected by each party, which has to adopt its own domestic legislation to ensure that CITES is implemented at national level. To date, CITES has 172 parties.[25]Namibia acceded to the Convention in 1990, and the Convention came into force for Namibia in March 1991.[26] One current issue in Namibia under the CITES convention is the production of high-value modern jewellery pieces containing traditional ivory amulets, known as *ekipas*. Such items have thus far used antique *ekipas* considered as pre-Convention ivory. Since the supply of antique *ekipas* has become severely limited, the Ministry of Environment and Tourism in collaboration with the jewellery industry of Namibia, has designed a control system for worked

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24 Cf. here also Articles 10(c), 17(1) and (2), and 18(4): The CBD does not differentiate between *indigenous*, *traditional* and *local*, although the terms may refer to different social situations. For example, compare the use of *indigenous* in the United Nations Declaration on the Rights of Indigenous People (to which we will refer below), which applies to specifically defined groups of people and not to all traditional communities – and certainly not to all that could be called *local*. For the purpose of this study, the term *traditional* is preferred unless there is a need to differentiate.

25 For more information on CITES as well as the text of the Convention, see: http://www.cites.org/; last accessed 26 September 2006.

26 http://www.cites.org/end/disc/parties/alphabet.shtml; last accessed 20 January 2008.

ivory and the legal production of new *ekipas* in particular. CITES approval was sought for the export of items of modern jewellery of high value, involving *ekipas* permanently mounted in precious metals and other materials and rendered uniquely identifiable through a combination of engraved marks, documentation and a photographic record of each item.[27]

Major foundations of biodiversity protection on the African continental level are contained in the African Union's Convention on the Conservation of Nature and Natural Resources. The original African Convention on the Conservation of Nature and Natural Resourceswas adopted in Algiers, Algeria in September 1968 and entered into force in June 1969. Of the 53 member states 40, excluding Namibia, have signed the Convention of which 30 have ratified it. Recognising that soil, water, flora and faunal resources constitute a capital of vital importance to mankind, the Convention's fundamental principle is that the contracting states shall undertake to adopt the measures necessary to ensure conservation, utilisation and development of soil, water, flora and faunal resources in accordance with scientific principles and with due regard to the best interests of the people. The Convention contains several provisions related to the conservation and perpetuation of species. Special provisions as to protected species and trade in specimens are formulated.

The Revised African Convention on the Conservation of Nature and Natural Resources was adopted by the second ordinary session of the Assembly of Heads of States and Government of the African Union in Maputo, Mozambique, in July 2003. It commits parties in particular to manage their natural resources more sustainable. The convention has however not yet come into force, as the requirements for coming into force have so far not been fulfilled: According to Article 38 the Convention comes into force on the thirtieth day following the date of deposit of the fifteenth instrument of ratification, acceptance, approval or accession with the Depositary. While 34 of 53 member states have so far signed the convention, it has only been ratified by 7 states, namely Burundi, Comoros, Libya, Lesotho, Mali, Niger and Rwanda. Provisions directly related to the protection of biodiversity are contained in Article IX on Species and Genetic Diversity; Article X on Protected Species; Article XI on Trade in Specimens and Products thereof; and Article XII on Conservation Areas.

The parties to the Convention shall maintain and enhance species and genetic diversity of plants and animals whether terrestrial, fresh-water or marine. They shall for that purpose, establish and implement policies for the conservation and sustainable use of such resources. Parties are obliged to undertake to identify the factors that are causing the depletion of animal and plant species which are threatened or which may become so, with a view to their elimination, and accord a special protection to such species. Furthermore, domestic trade in as well as the transport and possession of specimens and products must be regulated by the parties appropriate penal sanctions, including confiscation measures must be provided. To

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27 GRN (2004d) "Control system for worked ivory in Namibia" Doc CoPInf. 33; available at http://www.cites.org/common/cop/13/inf/E13i-33.pdf; last accessed 15.12.2010.

ensure the long term conservation of biological diversity, the Parties shall establish, maintain and extend conservation areas.

Sub-regional agreements relevant for biodiversity protection in Namibia are the various protocols under the umbrella of the Southern African Development Community (SADC). The Parties may conclude Protocols as may be necessary in each area of co-operation, which shall spell out the objectives and scope of, and institutional mechanisms for, co-operation and integration. SADC Protocols of major concern with regard to biodiversity conservation are the Protocols on Fisheries; on Forestry; on Wildlife Conservation and Law Enforcement and on Shared Watercourse Systems. Furthermore, the Regional Indicative Strategic Development Plan (RISDP) of the SADC developed in 1999, recognises a need for policies and strategies to offset the high rate of natural resource degradation, focusing on biodiversity amongst others.

4 Biodiversity Protection under National Environmental Law

Namibian environmental law is a complex and interlocking system of statutes, policies, treaties, common, customary and case law with the Constitution as the supreme law of the land and therefore the ultimate source of law in Namibia. However, research done under the BIOTA project administered in the Faculty of Law of the University of Namibia has demonstrated that many obstacles prevent the societally expected degree of implementation. Statutory environmental law meets challenges from customary law.[28] Apart from this, environmental policies and their translation into law are, in general and this as in all parts of the world, faced with economic interests of the members of the society, which are not easy to harmonise with each other.[29]

According to its Article 1(6), the Constitution of the Republic of Namibia is the law above all laws. Therefore all legislations ought to be consistent with the provisions of the Constitution. Although the Constitution so far contains no enforceable environmental right as such, the foundation is laid for all policies and legislation in Namibia.[30] Two key "environmental clauses" relevant to sustainable use of natural resources are included in the Constitution: On the issue of biological diversity and its protection, the Namibian Constitution is very clear. It is one of the provisions enshrined under the Chapter on principles of state policy. The relevant clause is Article 95(l) which stipulates that the state shall actively promote and maintain the welfare of the people by adopting policies which include the "…maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural

28 Cf. Hinz / Mapaure (2010); Ruppel (2009h).

29 How to balance environmental policies with economic interests, given the conditions of Namibia, is still an area where more research is needed. Groenewaldt (2008) submitted BIOTA-based legal research in which possibilities to provide incentives in support of individual measures to prevent land degradation were analysed.

30 Ruppel (2010i).

resources on a sustainable basis for the benefits of all Namibians both present and future…". With this particular Article Namibia is obliged to protect its biological diversity and to promote a sustainable use of its natural resources. Furthermore, Article 91(c) includes in the functions of the Ombudsman "the duty to investigate complaints concerning the over utilisation of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia.[31] In addition to these clauses it needs to be emphasised that Article 100 provides that, all natural resources, including water, vest in the state, unless otherwise legally owned.

The Constitution sets the framework and Independence created the opportunity to revise a wide range of national policies and laws. This, together with the emphasis placed on environmental concerns at the Rio Summit in 1992, and the increasing awareness, triggered widespread legislative reform particularly in terms of natural resource management. Thus, recent policy and legislative reforms have created a unique opportunity for Namibia to incorporate environmental sensitivity, and as a result Namibian legislation is supported by sound policy direction regarding sustainable development and sustainable use of natural resources.[32]

So far, no specific Act dealing with the conservation of biological diversity as a main topic has come into force. However, the Draft Bill on Access to Biological Resources and Associated Traditional Knowledge was formulated in 2000.This draft bill which is aimed specifically at the protection of biodiversity and traditional knowledge has not yet been passed in Parliament. The Namibian Government has, however, developed Namibia's 10-year National Biodiversity Strategy and Action Plan for Sustainable Development through Biodiversity Conservation (2001-2010), which is currently being subject to review. The goal of this action plan was to protect ecosystems, biological diversity and ecological processes, through conservation and sustainable use, thereby supporting the livelihoods, self-reliance and quality of life of Namibians in perpetuity.[33] The action plan attempts to provide a national strategic framework for natural resource management activities involving biological resource management and the natural environment, including trade and economic incentives, and to prioritise, through detailed action plans, activities and measures needed to address this strategy effectively for the next decade, with cost estimates for each. The strategic aims include of this document include: Conserving biodiversity in priority areas; sustainable use of natural resources; monitoring, predicting and coping with environmental change and threats; sustainable land management; sustainable wetland management; sustainable coastal and marine ecosystem management; integrated planning for biodiversity conservation and sustainable development; Namibia's role in the larger world community; and capacity building for biodiversity management in support of sustainable development.

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31 On the environmental mandate of the Ombudsman see chapter 13 in this publication.

32 Ruppel (2008a).

33 Barnard et al. (2000:13).

As shown by the authors of this sub-Chapter, sectoral legislation covering the protection of biodiversity is wide ranging in Namibia.[34] A myriad of legislative instruments provide for the equitable use of natural resources for the benefit of all. Only the most relevant legal instruments will be introduced briefly in the following paragraphs.

One of the major biodiversity related laws in Namibia is the legislation governing the conservation of wildlife, and protected areas, the Nature Conservation Ordinance[35]. The Ordinance was amended by the Nature Conservation Amendment Act[36]. One of its major highlights is the creation of conservancies in communal areas. In terms of the amendment, rural communities have to form a conservancy in order to be able to acquire the use-right over wildlife. Conservancies can be defined as land units managed jointly for resource conservation purposes by multiple landholders, with financial and other benefits shared between them in some way. Conservancies occur in both communal and commercial land.[37] The Ordinance deals with *in situ* and *ex situ* conservation by providing for the declaration of protected habitats as national parks and reserves, and for the protection of scheduled species. It regulates hunting and harvesting, possession of, and trade in listed species. Under the existing laws Namibia has national parks zoos and safari areas to conserve biodiversity. Most people consider these areas as tourist areas but the same areas have a significant scientific significance as they allow for natural movement of large animals and to ensure that there is enough space and food for all of the species. In addition to the broader national agenda on conservation of biodiversity is the Community Based Natural Resource Management (CBNRM). This has enabled local communities to do in situ conservation of natural resources hence biodiversity conservation.

The Environmental Management Act[38] requires adherence to the principle of optimal sustainable yield in the exploitation of all natural resources. The Act gives effect to Article 95(l) of the Constitution by establishing general principles for the management of the environment and natural resources. It promotes the coordinated and integrated management of the environment and sets out responsibilities in this regard. Furthermore, it intends to give statutory effect to Namibia's Environmental Assessment Policy, and to enable the minister responsible for the environment to give effect to Namibia's obligations under international environmental conventions; and to provide for associated matters. The Act promotes inter-generational equity in the utilisation of all natural resources. Environmental impact assessments and consultations with communities and relevant regional and local authorities are provided for to monitor the development of projects that potentially impact on the environment.

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34 Hinz / Ruppel (2008b).

35 No. 4 of 1975.

36 No. 5 of 1996.

37 Barnard (1998:45). Moreover, Section 1(b) of the Amendment Act defines a conservancy. To mean any area declared a conservancy in terms of Section 24A.

38 No. 7 of 2007.

The proposed Parks and Wildlife Management Act will protect all indigenous species and control the exploitation of all plants and wildlife. The preamble clearly states that the Bill is intended to give effect to paragraph (l) of Article 95 of the Constitution by establishing a legal framework to provide for and promote the maintenance of ecosystems, essential ecological processes and the biological diversity of Namibia and to promote the mutually beneficial co-existence of humans with wildlife, to give effect to Namibia's obligations under relevant international legal instruments including the Convention on Biological Diversity (CBD) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). In keeping with the Constitution the principles underlying the draft Act, are simply that biological diversity and essential ecological processes and life support systems be maintained. In case the proposed Act comes into force, it repeals the Nature Conservation Ordinance[39].

Water related legislation is manifold in Namibia.[40] Although the new Water Resources Management Act was approved by Parliament in 2004 the rather out-dated Water Act No. 54 of 1965 remains in force until the new act comes into force upon signature by the Minister. The new act is currently being amended to take into account practical aspects of implementing it. The Water Act of 1956 does not directly refer to the protection of biological diversity; it however contains provisions relating to water quality and conservation which are at least indirectly beneficial for the maintenance of biodiversity.[41]

The Marine Resources Act[42] provides for the conservation of the marine ecosystem and the responsible utilisation, conservation, protection and promotion of marine resources on a sustainable basis. For that purpose it provides for the exercise of control over marine resources and for matters connected therewith. It replaces the Sea Fisheries Act,[43] which in turn replaced the Sea Fisheries Act.[44]

The Aquaculture Act[45] regulates and controls aquaculture activities and the sustainable development of aquaculture resources.[46] All aquaculture ventures will be subject to strict licensing. Section 27 is of most relevance for the protection of biodiversity. A person may not, without written permission granted by the Minister, introduce or cause to be introduced into Namibia or any Namibian waters any species of aquatic organism or any genetically modified aquaticorganism or transfer any species of aquatic organism from one aquaculture facility to another or from any location in Namibia to another.

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39 No. 4 of 1975.

40 See Ruppel / Bethune (2007).

41 Cf. a critical analysis of water law in the BIOTA project by Mapaure (2010a).

42 No. 27 of 2000.

43 No. 29 of 1992.

44 No. 58 of 1973.

45 No. 18 of 2002.

46 Bethune et al. (2004).

The Inland Fisheries Resources Act[47] deals with the conservation and utilisation of inland fisheries resources and allows for the updating and development of new policies for the conservation and sustainable utilisation of Namibia's inland fisheries. It encourages cooperation with neighbouring countries regarding the management and conservation of shared waterways.

Legislation on forest is one further important mosaic in the legal system of biodiversity conservation in Namibia. In 2005 almost 7.7 million hectares of Namibia's land were covered by forests, corresponding to 9.3 % of the total land area.[48] Major threats to forests in Namibia include the expansion of land for agriculture; the use of fuelwood and charcoal for domestic use; tobacco curing and; land clearing for infrastructure development; uncontrolled wild fires; selective logging through timber concessions and unlicensed curio carving; and habitat destruction by elephants.[49] The Forest Act[50] consolidates the laws relating to the use and management of forests and forest produce, provides for the control of forest fires and creates a Forestry Council. Protection of the environment is found in part IV of the Act. This part of the Act deals with protected areas, protection of natural vegetation and control over afforestation and deforestation. Purpose of the Act is to conserve soil and water resources, maintain biological diversity and to use forest produce in a way which is compatible with the forest's primary role as the protector and enhancer of the natural environment.

In recognising the worldwide diversity situation, the Government of Namibia enacted the Biosafety Act[51] after having signed the Cartagena Protocol on Biosafety to the CBD, which was adopted in 2000. The Act provides for measures to regulate activities involving research, development, production, marketing, transport, application and other uses of genetically modified organisms and to establish a Biosafety Council. The objective of the Act is *inter alia* to introduce a system and procedures for the regulation of genetically modified organisms in Namibia in order to provide an adequate level of protection to the conservation and the sustainable use of biological diversity.

47 No. 1 of 2003.
48 FAO (2005).
49 Groenewaldt (2008).
50 No. 12 of 2001.
51 No. 7 of 2006.

II Water and Fisheries Related Statutory Law and Policy in Namibia: An Overview

Shirley Bethune & Oliver C Ruppel

1 The Policy Framework

1.1 The Water Supply and Sanitation Policy

The Water Supply and Sanitation Policy (WASSP) of 2008 is the main policy regarding water use and conservation in Namibia. This policy replaces the National Water Policy of 1992. Its principles are in line with Integrated Water Resources Management, including a strong focus on Water Demand Management.[52] Generally, it aims at ensuring equitable access to water resources sufficient to maintain life, health and productive activities for every citizen.

Under this policy the government is the custodian of all water resources and has the right to control all water use and disposal. Integrated supply and demand planning is required in both the short and long term. Further, the Policy promotes sustainable water utilisation through suitable pricing, promotion of water-efficient technology, public information and awareness programmes, information sharing and co-operation between parties, the promotion of wastewater re-use and active support of research and data gathering on water conservation. There is also provision made for subsidies to those who cannot afford to pay the full costs of water; however, not all communities who cannot pay receive subsidies.[53]

1.2 The National Water Policy White Paper

In 2002 Cabinet approved the National Water Policy White Paper[54] that forms the basis for the new Water Resources Management Act[55] that is currently being amended for ease of implementation. The policy provides a framework for equitable, efficient and sustainable water resources management and water services and stresses sectorial co-ordination, integrated planning and management and resource management aimed at coping with ecological and associated environmental risks. It clearly states that water is an essential resource to life and that an adequate supply of safe drinking water is a basic human need. The policy makes it clear that water concerns extend beyond human needs for health and survival, that water is

52 GRN (2008).
53 Schachtschneider (2001).
54 White Paper on National Water Policy for Namibia (2000).
55 No. 4 of 2004.

essential to maintain natural ecosystems and that in a country as dry as Namibia, all social and economic activity depends on healthy aquatic ecosystems.

The National Water Policyincludes a basic principle headed "Ecosystem values and sustainability" that stresses that the management of water resourcesneeds to harmonise human and environmental requirements, recognising the role of water in supporting the ecosystem. One of the strategies given to ensure environmental and economic sustainability is to ensure that in-stream flows are adequate both in terms of quality and quantity to sustain the ecosystem.

The National Water Policy was developed to guide water resources management in Namibia. It is based on the country's physical and climatic setting, particularly its aridity, the legacy of the pre-Independence era and current trends in development, specifically relating to Namibia's water resources management. This Policy clearly states that water concerns extend beyond human needs for health and survival, that water is essential to maintain natural ecosystems and that in a country as dry as Namibia, all social and economic activity depends on healthy aquatic ecosystems. This policy further recognises the need for inter-sectoral coordination between all stakeholders involved in using and managing water resources. Salient principles contained in the policy include:

- **Ownership of water**–Namibia's limited and vulnerable water resources are an indivisible national asset, whose ownership is vested in the state on behalf of the whole society.
- **Shared watercourses** - Namibia should strive to promote the equitable and beneficial use of international watercourses based on generally accepted principles and practices of international law, respect the rights of upstream and downstream users in other countries, strive to harmonise domestic legislation with the tenets of international law and will respect the right of all stakeholders including basin communities to participate in negotiations and consultations at international level.
- **Integrated management and planning** - Management and planning of water resources should be integrated across economic, environmental, and social dimensions.
- **Development and intergenerational equity** - The country's water resources should be utilised, developed and managed in a way that promotes equitable and sustainable socio-economic development without prejudicing the benefits and opportunities of future generations.
- **Equity**- All Namibians should have the right of access to sufficient safe water for healthy productive life.
- **Water for Ecosystems** - Water resources management needs to harmonise human and environmental requirements and recognise the role of water in supporting ecosystems.

- **Recognition of economic value** - Economic value of water resources in Namibia should be recognised given its scarcity and vulnerability, and that abstraction, management, conservation and use should be efficient and cost effective.
- **Stakeholder involvement** - Water resources and services planning and management should take place within a framework that encourages awareness and participation among stakeholders at all levels.
- **Information exchange** - Water resources information systems should be developed and made accessible to the public, and that institutions involved in the management and provision of water services should do so in an open and transparent manner.
- **Decentralisation** - The management of water resources and water services should be decentralised to the lowest practicable level and recommends basin management.
- **Roles of Institutions** - There is a need to have institutional functions clearly defined.
- **Capacity building** - Capacity building should be a continuous process of institutional and human development and should include participation from public, private, civil society and community structures.

The Policy recognises the need to promote equitable and beneficial use of international watercourses based on generally accepted principles and practices of international law. This realisation originated from the 1974 Water Master Plan that identified the need for Namibia to negotiate for access to shared perennial rivers to complement the internal water sources.

The policy proposes to protect water resources from pollution by enforcing the "polluter pays principle" and regular water quality monitoring on all proposed projects. Furthermore, it proposes to improve knowledge on the vulnerability of critical wetland ecosystems and to develop strategies for their effective management. Two clauses within Sections 2.3 on Water Use and Conservation Principles and 2.5 on Legislative and Regulatory Principles are relevant to shared water resources:

> Precautionary environmental protection: The resource base shall be protected against any kind of contamination or pollution that would render ay part of it unfit for beneficial human, economic and environmental purposes….applying the precautionary principle.

Factoring environmental considerations in decision making: The need to protect the environment in general, and the aquatic ecosystems in particular, including their bio-diversity and the nation's wetlands will be factored into the allocation of water resources for use and will include the prior assessment of the environmental impacts of proposed water uses.

The totality of the principles found in Namibia's policy framework for water resources management satisfies the criteria for sustainable use of shared watercourse systems and principles found in international law instruments that Namibia is party to and provides sound guidelines for future legislation and regulations.

1.3 Namibia's Draft Wetland Policy

Namibia's Wetland Policy Vision is to manage national and shared wetlands wisely by protecting their vital ecological functions, life support systems for the current and future benefit of people's welfare, livelihoods and socio-economic development. The objectives of the policy are to:

- protect and conserve wetland diversity and ecosystem functioning to support basic human needs
- provide a framework for endurable use of wetland resources
- promote the integration of wetland management into other sectoral policies; and to
- recognise and fulfil Namibia's international and regional commitments concerning shared wetlands and wetlands of international importance.

The basic principles used in Namibia's National Water Policy which are intended to provide a framework for the development of all water-related policies have been adapted for the Wetlands Policy in order to complement existing national policy instruments relevant to sustainable development and sound natural resource management and to help meet the national commitments as a signatory to the SADC Protocol on Shared Watercourse systems, NEPAD, several regional water commissions on shared river courses, the Ramsar Convention, the UNCBD, the UNCCD and the UNFCCC. It was prepared in consultation with all relevant ministries.

Recognising that wetlands often span two or more political regions within a single country or two or more sovereign states and that this can lead to conflicts of interest, duplication and possible habitat loss a basin-wide approach to wetland management is advocated and to conserve shared wetlands, the establishment of transfrontier protected areas is specifically stated.

Legislative and regulatory principles include the development of legislation to protect Namibia's diverse and vulnerable wetlands; further to this, the need to protect the biodiversity and ecological functioning of wetlands will be factored into all new laws and policies as well setting aside water for aquatic ecosystems (water for environmental flows). The right to consultation between all relevant stakeholders, including basin communities affected by development decisions occurring at the local, basin and international level shall be respected.

1.4 Namibia's Aquaculture Policy

The 2003 Aquaculture Policy deals with the responsible and sustainable development of farming with aquatic plants, fish, molluscs and crustaceans and advocates responsible aquaculture developments. This policy deals directly with the potential impacts of alien and other invasive species and seeks to minimise the impacts on aquatic ecosystems. Impacts specifically mentioned include the release of introduced species and genetically modified

organisms, the mixing of farmed and wild stock (genetic pollution) and the risk of disease transfer.

One of the principles on which the policy is based is to insure the protection of the living resources of national and international waters, both marine and freshwater, from possible adverse effects resulting from aquaculture activities, introductions and effluents. The strategies to address the stated objective of responsible and sustainable aquaculture development include maintaining genetic diversity and the integrity of aquatic ecosystems and ensuring responsible aquaculture production. The policy is firmly rooted in the internationally accepted ICES (International Council for the Exploration of the Seas) Code of Conduct on Responsible Fisheries, the FAO Technical Guidelines for Aquaculture Development as well as the Holmenkollen Guidelines and recognises international responsibilities in terms of CITES, Ramsar and other agreements governing shared water resources. The policy recognises the need for specific aquaculture laws and regulations and lays the foundations for these. It thus provides a framework for the subsequent development of the Aquaculture Act to establish both the duties of the state and the responsibilities and the rights of aquaculturalists,and to identify the responsible authorities in terms of enforcement and clear procedures for conflict resolution.

The policy lays the foundations for a National Development Master Plan for Aquacultureand promotes support for communal aquaculture. It recognises the importance of environmental assessments under the authority of the Ministry of Environment and Tourism, particularly in designating aquaculture zones. It specifically states that the Government may take measures such as the establishment of hatcheries, to reduce reliance on wild-caught juvenile indigenous fish and repeated introductions of exotics in order to protect genetic resources.[56]

The policy explicitly deals with maintaining genetic diversity and the integrity of aquatic ecosystemsand stresses a precautionary approach.[57] Any proposals for further introductions or translocations of freshwater aquatic organisms, particularly the introduction of exotics and potential transfer of disease organisms will be carefully examined and guided by a strict code of practice. Provision is made for lists of allowable and prohibited species to be compiled and regularly reviewed and if required to establish watershed zonation beyond which indigenous or exotic organic organisms may not be translocated. Preservation of genetic diversity will be promoted and care will be taken to limit adverse impacts on internationally shared waters. Responsible aquaculture production practices are outlined, firmly placing the responsibility with the aquaculturalists for safe and efficient farm management; it touches on quality, health and ethical concerns.[58]

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56 Cf. Section 3.1.11(d) of the policy.

57 Cf.Section 4 of the policy.

58 Cf.Section 5 of the policy.

2 The Statutory Framework

2.1 The Water Act[59]

This rather out-dated legislation remains in force until the new Water Resources Management Act comes into force upon signature by the Minister. Although the new Water Resources Management Act was approved by parliament in 2004 it has yet to be signed by the Minister and is currently being amended to take into account practical aspects of implementing it.

The main purpose for passing the Water Act, as its preamble states, was to consolidate and amend the laws relating to the control, conservation and use of water for domestic, agricultural, urban and industrial purposes. The Act also aims at making provision for the control of the use of sea water for certain purposes, for the control of certain activities on or in water in certain areas and for the control of activities which may alter the natural occurrence of certain types of atmospheric precipitation. It must be noted that this Act does not apply to Namibia in its entirety since certain Sections were suspended or never applied to Namibia.[60]This reveals that this Act cannot cover all the areas of Namibian water law. For this reason, Government drafted the Water Supply and Sanitation Policy (WASSP) which will be considered in brief below.

The Act distinguishes between private and public water. Private water is that which flows, naturally rises, falls or generally drains or is directed into land but is not available for common use.[61]Public water includes any water flowing or found in or derived from the bed of a public stream, whether visible or not.[62] There is no private property right to public water,[63] and the sole and exclusive use and enjoyment of private water is vested in the owner of the land on

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59 No. 54 of 1956.

60 Only the following provisions of the Act have been made applicable to Namibia: Sections 1-4, with effect from 25 June 1969 – according to Section 180(2) of the Act; Section 162, with effect from 1 April 1971, by Proclamation 281 of 1970 in terms of South African Government Gazette 2921 of 13 November 1970); Sections 5 to 7, 9A, 21 to 23, 26 (excluding paragraph (a)), 27, 28(1), 30, 34 to 43, 44(2), 45 to 51, 54 to 56, 57(1), 59(2), 66, 69, 70 (excluding paragraphs (d) , (f.) , (g) and (h)), 139 to 152, 164 *bis*, 164 *ter*,165, 166, 170 (excluding subSection (3) and paragraph (c) of subSection (5)) and 171 - with effect from 26 June 1971 by Proclamation 151 of 1971 in terms of South African Government Gazette 3167 of 25 June 1971; and Sections 9B; 30A (a) and 170(3) with effect from 18 December 1985 by Act No. 22 of 1985.

61 Section 1.

62 Section 1.

63 Section 6.

which such water is found.[64] The Act thus gives preferential abstraction rights to the landowners on whose land such water is found.[65]

The private-public water dichotomy might be unconstitutional in the current constitutional dispensation because whereas the Act provides for private and public water, the Constitution regards natural resources as common resources thus they constitutionally belong to the state unless otherwise lawfully owned. Considering that all water is controlled by the state under the public trust doctrine emanating from Article 100 read together with schedule 5 of the Constitution all the water can be regarded as a common resource – hence public.[66]The Act however has some balancing provisions whereby the Minister of Agriculture, Water and Rural Development has the power to control the amount of water to be used by a person who has private water rights.[67] Connected to this in terms of Section 21, the Minister has the power to order a person to purify water he has contaminated. A person can, however, apply for an exemption from this duty and the Minister has to use his/her powers to consider whether to grant the application or not.[68]

Section 23 prohibits pollution of public or private water, including underground water, or sea water. Sections 27 to 55 deal with control and use of subterranean water. The President is empowered to declare certain waters to be a subterranean water control area, if the Minister is of the opinion that it is in the public interest to do so.[69] Once proclaimed, Cabinet has extensive powers to determine how that water is going to be extracted and all concomitant matters.[70]

This Act gives the Minister the power to investigate water resources, plan water supply infrastructure, develop water schemes, control pollution, protect, allocate and conserve water resources, inspect water works, levy water tariffs and advise on all matters related to the water environment in general. It makes the Department of Water Affairs responsible for the use, allocation, control, and conservation of Namibia's surface and groundwater resources.

2.2 The Water Resources Management Act[71]

This Act has been approved and published in the Government Gazette;[72] however, it has not yet come into force. The new Act is currently being amended to take into account certain

64 Section 5.

65 Land-based entitlement: Rights to abstract and use public and private water is based on the riparian principle which means that the right to water usage is determined by the location of the water resources in relation to the land.

66 See similar arguments advanced in GRN (2000b).

67 Section 9A.

68 Section 21(5).

69 Section 28(1) as substituted by sec 5 of Act No. 42 of 1975. Only this sub-Section is applicable in Namibia. The other sub-Sections including Section 29 are not applicable to Namibia.

70 See the powers in Section 30.

71 No. 24 of 2004.

72 GG 3357/2004.

practical aspects of its implementation. Thus, the Water Act of 1956 is generally referred to as the *old* Water Act and often in the past tense, although, strictly speaking, it remains applicable until officially repealed.[73]Once the Act is in force, the Water Act of 1956 will be repealed as whole. The Act is based on the National Water Policy and provides for the management, development, protection, conservation, and use of water resources. The new Act introduces equitable access to water resources for all population groups in Namibia. It provides an integrated, enabling legislative framework within which Namibian water resources can be managed, and water services can be provided. The objective of the new Act is to ensure that Namibia's water resources are managed, developed, protected, conserved and used in ways which are consistent with or conducive to certain fundamental principles set out in section 3 of the Act. It must be consistent with and promote –

- equitable access to water resources by every citizen, in support of a healthy and productive life;
    - access by every citizen, within a reasonable distance from their place of abode, to a quantity of water sufficient to maintain life, health and productive activities;
    - essentiality of water in life, and safe drinking water a basic human right;
    - harmonisation of human needs with environmental ecosystems and the species that depend upon them, while recognising that those ecosystems must be protected to the maximum extent;
    - integrated planning and management of surface and underground water resources, in ways which incorporate the planning process, [and] economic, environmental and social dimensions;
    - management of water resources so as to promote sustainable development;
    - facilitating and encouraging awareness programmes and participation of interested persons in decision-making;
    - prevention of water pollution, and the polluter's duty of care and liability to make good; and
    - meeting Namibia's international obligations and promoting respect for Namibia's rights with regard to internationally shared water resources and, in particular, to the abstraction of water for beneficial use and the discharge of polluting effluents.

This reflects both the principles stated in the policy and the environmental clause in the Namibian Constitution.

The Act provides for basic human and environmental water needs, although not as specifically as stated in the National Water Policy. Two of the general functions and powers of the Minister are to participate in consultations and negotiations with other countries regarding shared

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73 The Water Act, No.54 of 1956, was still applied by the High Court in Windhoek in the case concerning the use of groundwater by the Valencia Uranium Mine; see Menges (2008).

water resources, and to ensure that water resources management operates in accordance with the principles of environmental sustainability.

Water supply is a major challenge in Namibia, especially in the rural areas. The water supply infrastructure has to be maintained, facilities have to be managed, and fees are to be collected in order to organise the water supply.[74]According to part V of the Act,[75]WaterPoint User Associations[76] are established at community level, consisting of those rural community members who permanently use a water point. Their function is to operate and maintain the water point in question. Water Point User Associations are at liberty to make their own decisions about water use regulations. A Water Point Committee monitors and enforces compliance with such regulations. The ultimate punishment against any offence is the suspension of membership in the association, meaning exclusion from the water supply. In case of conflict, a mediator is appointed. Depending on the wish of the residents, this may be a Traditional Authority, government officials, church leaders, or anyone else.[77]

In keeping with the Legislative and Regulatory Principles of the Water Policy, which clearly states that legislation will provide for determining an environmental reserve for freshwater sources before they can be used to supply any other demand than domestic and subsistence livestock watering, the Act contains Section 27 called Reservation of Water Resources that states that:

> The Minister, with the concurrence of the regional councils concerned, may on recommendation of the Water Resource Management Agency or the Basin Management Committee, reserve part or all of the flow of a watercourse, including any groundwater resource and the water stored in a dam or lake to-
>
> (a) meet the domestic use of the water users concerned and
>
> (b) reasonably protect aquatic and wetland ecosystems, including their biological diversity and to maintain essential ecosystem functions.

Regulations will need to be developed on how to determine these reserved water resources. It is assumed that this reserve will be based on the ecological environmental flow requirements and basic human water requirements pertinent to a particular river system or basin.

The Act provides for the establishment of a Water Resources Management Agency as well as Basin Management Committees to manage our water resources sustainably.

Section 7 outlines the functions of the proposed Water Resources Management Agency which include integrated management of Namibia's water resources, the collection, analysis and

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74 On water management problems, especially in the Kavango Region, see Falk (2008) and the following sub-chapter.

75 Sections 16–22 of the Act.

76 For more details on water point associations, see Falk (2008) and the following sub-chapter.

77 Cf. GRN (2001a).

sharing of data concerning the conservation and management of water resources and resource quality in Namibia, guiding, assisting and coordinating Basin Management Committees.

Section 13 gives those of the proposed Basin Management Committee the functions to protect, develop, conserve, manage and control water resources and water resource quality within its water management area in consultation with other water management stakeholders; and to promote community participation in the protection, use, development, conservation, management and control of water resources in its water management area through education and other appropriate activities. Further functions of the Committee include to provide input in the preparation of a water resources plan for the basin; to monitor and report on the effectiveness of policies and action in achieving sustainable management of the basin; and to collect, manage and share such data as are necessary to properly manage the basin in coordination with the Water Resources Management Agency

It is assumed that the responsibility to protect the basin and its resources includes the requirement to do environmental impact assessments for all proposed development projects. The Basin Management Committees as proposed in this Act aim to involve all stakeholders in decisions regarding their water resources and to delegate the task to the most appropriate level of management as captured in the Fundamental Principle regional diversity and decentralization to the lowest possible level of government consistent with available capacity at such level.

It is assumed that the Agency will be responsible for determining water quality, pollution control and environmental flow requirements to be prescribed in the Regulations under this Act and that these will be subject to public consultation. Once agreed, the water standards, allocations, pollution control measures and determined environmental flow requirements should be taken into consideration when licenses for water abstraction, impoundment, inter-basin transfers and effluent discharges are issued. The requirement to conduct environmental impact assessments for water projects is adequately taken into account in the Environmental Management Act, and is also a requirement for water abstraction and effluent discharge permits under the Water Resources Management Act.

The Act specifically deals with the control of alien invasive species in Section 133 on regulations, stating that the Minister may declare any species to be an alien invasive species and may make regulations for their eradications or control. Further as the Act requires water resources management to operate according to the principles of environmental sustainability this implies that where aquatic invasive species threaten water resources and wetland habitats they will be dealt with.

Another fundamental principle upon which the Water Resources Management Act is based, that Namibia meets its international obligations and promotes respect for Namibia's rights with regard to internationally shared water resources, resource quality and, in particular, to the abstraction of water for beneficial use and the discharge of polluting effluents.Part 10 on

Internationally Shared Water Resources recognizes Namibia's obligations under international treaties, conventions, such as the UNCBD, and agreements and specifically mentions the Law of Non-Navigational Uses of International Watercourses and the revised SADC Protocol on Shared Water Resources. Regarding shared water courses, the minister is authorized to participate in the development of a common database, joint projects and conflict resolution and to establish institutional links and ensure stakeholder participation with neighbouring riparian states. The Act includes the obligation to collect and share data and information on internationally shared water resources and lists these in Section 55.

2.3 The Namibia Water Corporation Act[78]

The Namibia Water Corporation Act establishes the water utility company, NamWater, and places an obligation on NamWater to conduct its functions in an environmentally sustainable and sound manner, and specifies a duty to conserve and protect the environment. It should conduct all activities with due regard for the protection and conservation of ecological resources and habitats. Water is allocated through a permit regulatory system and NamWater is entitled to apply for a permit to impound surface runoff in ephemeral rivers, and to abstract water from perennial rivers as well as groundwater.

2.4 Marine Resources Act[79]

The Marine Resources Act provides for the conservation of the marine ecosystem and the responsible utilisation, conservation, protection and promotion of marine resources on a sustainable basis. For that purpose it provides for the exercise of control over marine resources and for matters connected therewith. The provisions of the Act do only apply to coastal waters. The Marine Resources Act replaces the Sea Fisheries Act[80], which in turn replaced the Sea Fisheries Act[81]. It furthermore replaces the Sea Birds and Seals Protection Act[82], and the Fishing Boat and Factory Owners' Committee Ordinance[83]. However, according to Section 64 (2) of the Marine Resources Act, regulations made under previous legislation remain in force. Many such regulations have been drafted, for example on the northern limit of Namibian waters; the licensing of foreign flag vessels for the purpose of harvesting Namibia's marine resources; or the declaration on the Namibian Islands Marine Reserve.

78 No. 12 of 1997.
79 No. 27 of 2000.
80 No. 29 of 1992.
81 No. 58 of 1973.
82 No. 46 of 1973.
83 No. 16 of 1968.

2.5 The Aquaculture Act[84]

The Aquaculture Act regulates and controls aquaculture activities and the sustainable development of aquaculture resources. It allows the Minister to formulate a policy based on social, economic and environmental factors, the best scientific information and advice from the advisory council to inter aliapromote sustainable aquaculture and manage, protect and conserve aquatic ecosystems. All aquaculture ventures are subject to strict licensing.[85] Important clauses are Sections 27 (1) and (3), dealing specifically with the introduction and transfer of aquatic organisms.

> A person may not, without written permission granted by the Minister, introduce or cause to be introduced into Namibia or any Namibian waters any species of aquatic organism or any genetically modified aquaticorganism or transfer any species of aquatic organism from one aquaculture facility to another or from any location in Namibia to another.The Minister must not issue any approval under this Section unless the impact of any introduction or transfer of any aquatic species or genetically modified aquatic organism has been assessed, if so required, in accordance with the legislation or policy dealing with environmental assessments.

The import or export of aquatic organisms is subject to written permission by the Minister according to Section 28 (1).

2.6 The Inland Fisheries Resources Act[86]

The Inland Fisheries Resources Act deals with the conservation and utilisation of inland fisheries resources and allows for the updating and development of new policies for the conservation and sustainable utilisation of Namibia's inland fisheries. It encourages cooperation with neighbouring countries regarding the management and conservation of shared waterways. No fishing is allowed in parks nor by net within 100m from a bridge, culvert or spillway or in a manner, that obstructs more than half the width of any watercourse. Furthermore it prohibits the use of destructive fishing methods such as the use of poisons, explosives and night lights and the introduction and/or transfer of non-indigenous fish species. Fines or imprisonment are prescribed for destructive fishing and the use of nets where they are banned of importance in terms of shared water resources is that it prohibits the introduction, transfer, import and export of any species of fish or crustacean without written permission (Section 19(a and b)) and that anyone convicted of this may be fined or imprisoned. The Act makes provision for the establishment of an Inland Fisheries Council and although no environmental officer is specified to serve on this, it makes provision for the appointment of honorary inspectors from the environmental affairs Ministry. Section 23(2a) sets out the

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84 No. 18 of 2002.

85 Regulations related to licensing are contained in GN 246/2003 (GG 3104).

86 No. 1 of 2003.

powers of fishery inspectors. The Act makes it compulsory to have a fishing licence to fish in any inland water using any regulated fishing gear, specified as a rod, line, hook and/or nets and requires the registration of nets. The Act allows for the protection of endangered fish species as well as the declaration of fisheries reserve areas where no one may fish, pollute the water, dredge the area nor disturb the natural environment of fish and related ecosystems.The Act allows the Minister to make regulations necessary to manage inland fishery resources that range from methods allowed and gear limitations, through allowable fish sizes to types of surveys to be conducted and what data should be collected.

2.7 Prevention and Combating of Pollution at Sea by Oil Act[87]

This Act prohibits the discharge of oil from ship, tanker or off-shore installation and gives the state certain powers to prevent such pollution and to deal with the removal of oil spills. The Act is applicable to coastal waters, while inland pollution is covered by the Water Act.

87 No. 6 of 1981.

III Reform of Rural Water Supply

Thomas Falk, Bernadette Bock & Michael Kirk[88]

Sufficient, safe, physically accessible and affordable water for personal and domestic use has become a nationally and internationally recognised human right.[89] It is one of the Millennium Development Goals (MDGs) to halve the number of people who do not have access to or can afford safe drinking water.[90] In order to achieve this vision, decisions must be made about allocation mechanisms and conservation of water that are compatible with societal objectives such as economic efficiency, sustainability and the equity imperative.[91]

Namibian water policy is driven by these objectives. Water reforms became necessary because, historically, Namibian rural water supply was characterised by racially based inequality and strong subsidising. This created a low-quality water sector, making the rural population highly dependent on government hand-outs and unaware of sustainability considerations.[92] The reform of rural water supply fundamentally changes the paradigm of "control and command" by empowering water users and increasing water management efficiency. The main pillars of the reform are polycentrism and cost recovery. Both are meant to increase the natural resource management efficiency.

The currently implemented rural water supply reform has the objective to reverse the negative effects of the previous policy. The satisfaction of basic human needs and environmental ecosystems must be harmonised. This shall be achieved by the stronger involvement of different stakeholders and the empowerment of water users. Resulting incentives to save water and to maintain infrastructure are supposed to improve the ecological and financial sustainability of the water supply. Making better use of the capacities of different stakeholders would decrease the government's burden for water supply in order to invest the saved funds in more efficient sectors.[93]

Various laws and policy papers address the water issue.[94] In particular, the Water Resources Management Act[95] provides the legal framework for the implementation of the water reform.

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88 This sub-chapter is based on a study that was part of the BIOTA project, which was funded by the BMBF, the German Federal Ministry of Education and Research. Special thanks go to Mr. Clever Mapaure, who not only served as a research assistant in the aforementioned project, but also rendered editorial assistance in this sub-chapter.

89 GRN (2000b). The Water Resources Management Act No. 24 of 2004 and UN (2002).

90 UN (2000).

91 Bock / Kirk (2006).

92 Ibid.

93 See GRN (1997c); GRN (2000b).

94 See Article 100 and Schedule 5 of the Constitution of the Republic of Namibia, GRN (1997d); GRN (2000a); GRN (2008).

95 No. 24 of 2004.

The new legislation has not changed anything regarding the ownership of water resources, which still remains in the hands of the state. In this way the government can control and ensure that water is managed and used to the benefit of all people. This legal perception is not uncontested, because state ownership is in contradiction to the customary law of at least some ethnic groups. Customary law is recognised under the Namibian Constitution.[96] Perceived overlapping jurisdictions of statutory and traditional authorities are a threat rather than an opportunity for improved water management in this unclear legal situation. Disregarding this centralised ownership constellation, community participation and subsidiarity are key strategies of the Namibian government in order to achieve the objective of economically, environmentally and socially sustainable water management.

The Water Supply and Sanitation Sector Policy of 2008 states that

> …equitable improvement of water and sanitation services should be achieved by the combined efforts of the government and the beneficiaries, based on community involvement and participation, the acceptance of a mutual responsibility and by outsourcing services where necessary and appropriate, under the control and supervision of government….[97]

The commitment to a broad stakeholder involvement is a commitment to a polycentric reform approach. Reformed rural water supply is based on the following main principles: a) maximum involvement of users; b) delegation of responsibility to the lowest possible level; c) an environmentally sound utilisation of water resources; d) controlled out-sourcing; and e) cost recovery.[98] In 1997, it was decided that, within ten years, the responsibility for managing and paying for water services should be progressively devolved to community organisations.[99]

The core of the organisational framework consists of the bodies proposed by the Water Resources Management Act. Following subsidiarity principles, the Act strongly focuses on the establishment of Water Point User Associations (WPAs).[100] These consist of those community members who permanently use a particular water point. The WPAs have the right and duty to operate and maintain their water points in order to foster a sense of ownership.[101] Their constitutions contain stipulations on water use regulations and access. They are further given power to adopt measures to prevent the wastage of water and to protect water infrastructure against vandalism and other damages.[102] A backbone of the reform lies in the empowerment of water users through capacity-building in issues related to infrastructure operation and maintenance as well as water conservation.[103]

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96 Article 66 of the Constitution of the Republic of Namibia; see Hinz (2000).
97 GRN (2008).
98 Ibid.
99 GRN (2000a).
100 Water Resources Management Act No. 24 of 2004.
101 Ibid.
102 Ibid.
103 GRN (2008).

The WPAs elect Water Point Committees for the day-to-day management and financial activities.[104] Water Point Committees are empowered to monitor and enforce the compliance with regulations. Penalties against violations have to be specified in the Management Plan.[105] Generally, the WPAs can incorporate various stakeholders, such as traditional authorities, government officials or church leaders in their committees.[106] Such a polycentric approach makes use of existing structures and is intended to allow for efficient management, since an authority is chosen who best represents the interests of the local users. Social and moral-based institutions minimise the need for external enforcement. The list of authorities involved can be extended if one considers that legally recognising the rights of users creates overlapping responsibilities in a positive, hence subsidiary way. WPAs can in most cases use informal mechanisms to monitor and enforce their rules. When associations are overstrained, they have the power to call, *de jure*, on the government judiciary and executive system which would be obliged to assist in enforcing WPA rules. This is an important claim in terms of institutional sustainability.

At the top level the Ministry of Agriculture, Water, and Forestry, and in particular the Directorate of Rural Water Supply, has mainly policy making and strategic planning functions. The Minister establishes water management structures and has the power to register or deregister WPAs. A national Water Advisory Council will advise the Minister on water-related matters. Basin Management Committees will be set up to manage water catchments. One of their functions is to promote community participation in the protection, use, development, conservation, management and control of water resources.[107] Different government departments even outside the Ministry of Agriculture, Water, and Forestry are held responsible for various reform related tasks.[108]

Policy makers are aware that water is a scarce and valuable resource. Therefore, it is of high priority to them to place an economic value on water in order to include environmental externalities in the water costs and to encourage efficient and sustainable resource supply.[109] Cost effective water supply is one of the fundamental principles of the Water Resource Management Act and the Water Supply and Sanitation Policy.[110] The policy highlights, however, the social responsibility to make water available to the poor. For communal farmers, the introduction of cost recovery means stronger self-support and more responsibility for water facilities, as they are recommended to own and operate their installations.[111]

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104 Water Resources Management Act No. 24 of 2004.
105 GRN (2001f.).
106 GRN (2001a).
107 Water Resources Management Act No. 24 of 2004.
108 GRN (2008).
109 GRN (2000b).
110 Water Resources Management Act No. 24 of 2004. GRN (2008).
111 GRN (2008).

The ecological consequences of more efficient water use are difficult to assess. Hardly any data is available on the impact of communal farmers' water consumption on aquifers. Farmers and the government are concerned about pumps providing decreasing amounts of water, dropping groundwater levels and water salinisation. Generally, the principle of maintenance cost recovery does not factor in environmental costs. Within the context of the reform people are not paying for water but only for the delivery of water. Decentralising expenditure responsibility will in the first place increase incentives to manage water infrastructure more carefully and reduce maintenance costs and only in the second place provide incentives to steer water consumption towards most efficient use.

IV Land and Agricultural Laws and Policies Relevant for Environmental Protection in Namibia

Shirley Bethune & Oliver C Ruppel

Land degradation is one of the major environmental concerns in Namibia as land is the basis for survival. Land degradation threatens environmental quality and has a negative economic impact. In Namibia, farming has deep cultural and social meaning. About 70% of the Namibian population depends on agricultural activities for a livelihood.[112] Thus, the conservation of land by legal means is of utmost importance for the country.[113]

1 Land and Agricultural Policies

A number of policies impact on land and agriculture in general and they do have provisions on environmental protection. These policies include the National Agricultural Policy, the National Drought Policy and Strategy, and the Namibia Forest Development Policy. To ensure environmental protection these policies promote Community Based Natural Resources Management (CBNRM). This means that the role of the government is limited to regulatory functions and the provision of technical support that will enable farmers to improve their capacity to manage resources more effectively. The government provides the necessary fiscal and administrative support under these policies, while the farmers do the groundwork of managing their land and agricultural resources; however issues such as bush encroachment require collaborative efforts.

1.1 Land-use Planning: Towards Sustainable Development

This policy document drafted by the Ministry of Environment and Tourism in 1994 defines five physiographic land forms: communal state land; privately-owned commercial farmland; proclaimed state land; urban areas; and wetland systems including their catchments. The policy emphasises sustainability of natural resources, biodiversity and essential ecological processes.

1.2 The NationalLand Policy

The National Land Policy drafted in 1998 is based on constitutional principles and on the national commitment to redress the social and economic injustices inherited from Namibia's

112 GRN (2007b:1).

113 This Chapter is based on Ruppel / Bethune (2007) and Hinz / Ruppel (2008b).

colonial past. The policy calls for the establishment and proclamation of urban areas as townships and municipalities and strives to promote decentralisation and community involvement. This policy proposes financial and tax incentives for the protection and rehabilitation of natural environments (e.g. planting of indigenous trees and using alternative energy to reduce rates of deforestation and pollution). It states that, in accordance with Article 95(1) of the Constitution, the Policy will promote environmentally sustainable land use, and goes further to state that failure to demonstrate environmental sustainability may be grounds for the denying or termination of a title.

One of the aims of this policy is to establish a Land Use and Environmental Board (LUEB) to promote environmental protection and contribute towards coordinated planning and management at national and regional levels. This LUEB shall ensure that environmental protection is promoted in order to guarantee environmental, social and economic sustainability.

1.3 The National Resettlement Policy

This policy provides for resettlement, which is institutionally, socially, economically and environmentally sustainable and will enable the beneficiaries to become self-supporting, in accordance with the basic objectives of the government.

1.4 The NationalLand Tenure Policy

The policy covers all land tenure systems in urban, communal, commercial (freehold) and resettlement areas and is intended to guide all land tenure rights in Namibia. The policy promotes sustainable utilisation of the nation's land and other resources, provides a way to regulate different land tenure right systems, provides secure tenure for informal urban settlers, farm workers and occupiers (those who have been employed less than ten years on a single farm and do not have secure tenure elsewhere), and provides guidelines on compensation for occupiers of expropriated land. In keeping with the National Agricultural Policy (1995), the policy recognises the environmental limitations of a country as dry as Namibia.

1.5 The National Agricultural Policy

The National Agricultural Policy of 1995 provides an enabling environment for increased food production by smallholder producers, as a means of improving employment opportunities, incomes, household food security and the nutritional status of all Namibians. In terms of the National Agricultural Policy, long-term or continuing subsidies will be avoided. However, the Policy still allows for the possibility that well-targeted subsidies can play an important part in

achieving short-term agricultural and socio-economic objectives. There is an apparent need for a well formulated policy to provide for the management of the savannahs, whether on commercial or communal land. Such a policy has to create a socio-economic environment that provides incentives for farmers to improve the productivity of their pastures by controlling intruder bush and preventing re-infestation in an environmentally sustainable way.[114] At the same time, improved pasture management practices need to be encouraged to minimise the risks of future land deterioration.[115]

The National Agricultural Policy regards land degradation as a serious problem and recognises that water resources in Namibia are limited and that growth within the agricultural sector should not be at the expense of the natural environment. Furthermore, it encourages the use of Environmental Impact Assessments for agricultural projects and proposes a review of legislation related to the use of agrochemicals. The aims of the National Agricultural Policy are largely economic and focus on increasing agricultural productivity and real farm income as a contribution to national and household food security. It recognises the limitations imposed by the Namibian climate and soils and seeks to promote sustainable utilisation of the land and other natural resources within the context of a vulnerable ecosystem. Potential problems such as deforestation, soil erosion, bush encroachment and over-grazing are addressed.

1.6 The National Drought Policy and Strategy

The National Drought Policy and Strategy of 1997 shifts the onus of drought management from government aided relief to appropriate farming techniques aimed at empowering farmers to better cope with droughts themselves. Although incentives such as the Forum for Integrated Resource Management, FIRM, promotes this actively in communal areas that participate in the National Programme to Combat Desertification, NAPCOD,[116] recent responses to crop failures in the north and north east have again reverted to relief programmes. Drought preparedness is one of the important aspects of sustainable resource use and strongly advocated in activities of conservancies elsewhere in the country.

1.7 The Regional Planning and Development Policy

This policy drafted in 1997 under the supervision of the National Planning Commission acknowledges trends of increasing degradation of pastures, rangelands and woodland and gives attention to soil, water and forest management as development tools. It promotes strategies such as soil conservation and controlled grazing cycles.

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114 Groenewaldt (2008).

115 Ibid.

116 Bethune (2003).

2 Land and Agriculture Related Legislation

2.1 The Communal Land Reform Act[117]

The Communal Land Reform Act provides for the allocation and administration of all communal landin the areas described in the first Schedule to this Act or in any area declared to be communal land under Section 16(1)(a). The minister is obliged to establish Communal Land Boards to perform the functions conferred on such a board by the Act within the area for which each board is established. The boards are to exercise control over the allocation and the cancellation of customary land rights by chiefs or traditional authorities. They have to consider and decide on applications for the right of leasehold, establish and maintain a register and a system of registration of customary land rights and leasehold rights, and give advice to the minister.

The Act makes provision for the prevention of land degradation and for mitigating the impacts of mining, prospecting, road works and water provision. It provides for certain rights to communal farmers and traditional authorities and representation on Communal Land Boards. Of note, is the provision of Communal Land Boards, with representation of officials from the Ministry of Environment and Tourism and the Ministry of Agriculture, Water and Rural Development as well as representatives from any of the conservancies.

The President of Namibia may declare non-alienated state land to be a communal area. Communal areas are vested in the state, in trust, for the benefit of the traditional communities residing in those areas, and for the purpose of promoting the economic and social development of the people of Namibia, especially the landless and those with insufficient access to land. Customary land rights are to be allocated upon application for a limited period. Only specific customary land rights may be allocated in respect of communal land, and size limits are imposed.

The Act also provides for the recognition of existing customary land rights, and the granting of a right of leasehold for agricultural purposes or a right of grazing on communal land. The Act makes provision for the prevention of land degradation and, therefore, indirectly contributes to the preservation of biological diversity. Of note is the provision for communal land boards, on which officials from both, the Ministry of Environment and Tourism and the Ministry of Agriculture, Water and Forestry will serve, together with conservancy representatives. Fundamental environmental provisions of the Act refer to the allocation of customary land rights. If a land right is being used predominantly for a purpose not recognised under customary law, customary land rights may be cancelled according to Section 27 of the Act. Furthermore, special provisions are made with regard to grazing rights. A chief or traditional authority is vested with the power to prescribe conditions relating to the kind and number of stock that may be grazed on communal land, as well as to the section or sections of the

117 No. 5 of 2002.

commonage where stock may be grazed, and the grazing in rotation on different sections. This provision, in particular, ensures the sustainable use of grasses and herbs.

Section 45 of the Act addresses issues pertinent to the conservation and sustainable management of certain natural resources. The Minister may make regulations in relation to watercourses, woods and the use of water (Section 45 (g)) and to the combating and prevention of soil erosion, the protection of the pastoral resources and the limitation and control of the grazing of stock.

2.2 The Agricultural Pests Act[118]

This Act deals with the registration of nurseries, the control and eradication of plants, insects and diseases at nurseries, the control and eradication of exotic (vertebrate) animals (excluding farm animals) and plants infected by insects or plant diseases, control of plant, insect and plant disease imports, honey bees, honey and exotic animals, the eradication of plant diseases, insects and locusts, as well as defining the powers of inspectors. It is essentially aimed at preventing the introduction and spreading of plants, insects, non-farming exotic vertebrates and diseases that may prove detrimental to the agricultural sector. Section 9 provides for the destruction of exotic animals as well as any plants infected by insects or disease. Section 11 serves to regulate plant and exotic animal imports, prohibiting the import of plants, insects, plant diseases, honey bees, honey, beeswax or exotic vertebrates without permits, whilst Section 12 allows the importation of biological control agents needed for the control or eradication of weeds and pests. There is potential to amend this act to incorporate a wider spectrum of alien invasive species and make use of the existing measures of inspection and enforcement already in place administered jointly by Customs and Excise and the Phytosanitary Section in the Ministry of Agriculture. This Act will be repealed by the new Plant Quarantine Act[119] although any permits issued under Section 11(1) that are in force at the commencement of the new Act will remain valid and deemed to be permits as specified in Section 4(1).

2.3 The Soil Conservation Act[120]

The Soil Conservation Act makes provision for the prevention and control of soil erosion and the protection, improvement and conservation of soil, vegetation and water supply sources and resources. Although the jurisdiction of the original Act was limited to commercial land, the recent Communal Land Reform Act of 2002 specifically mentions it and requires compliance in

118 No. 3 of 1973.

119 No. 7 of 2008. This Act has not come into force as of 30 June 2010.

120 No. 76 of 1969.

terms of conservation and prevention of soil erosion (clause 31), implying that these measures apply to communal land areas too.

2.4 The Agricultural (Commercial) Land Reform Act[121]

Approximately 36,2 million hectares, representing 44 per cent of the total land area or 52 per cent of agriculturally utilisable land, continue to be held under freehold title. This land is commonly referred to as the commercial farming sector and it is regulated mainly by the Agricultural (Commercial) Land Reform Act of 1995. This Act, as its preamble states, was passed to provide for the acquisition of agricultural land by the state for the purposes of land reform and for the allocation of such land to Namibian citizens who do not own or otherwise have the use of any or of adequate agricultural land, and foremost to those Namibian citizens who have been socially, economically or educationally disadvantaged by past discriminatory laws or practices. The Act vests in the state a preferential right to purchase agricultural land and it empowers the state to compulsorily acquire certain agricultural land for the purposes of land reform. It also regulates the acquisition of agricultural land by foreign nationals and establishes a Lands Tribunal to adjudicate disputes that may arise in land matters.

121 No. 6 of 1995.

V Mining and Energy in Namibia

Peter Koep & Meyer van den Berg

The searching for and extraction of mineral and petroleum resources, by their very nature, have an impact on the environment. Each type of mining method causes different forms of pollution and environmental degradation.[122]

1 Mining Laws and Policy

There is currently no general, overriding environmental legislation that regulates the impact of mining on the environment. Many legislative measures, in fact, predate the Minerals (Prospecting and Mining) Act ("the Minerals Act"). Despite this, the Minerals Act contains various provisions aimed at protecting the environment. Apart from the Minerals Act, the Minerals Policy for Namibia ("the Policy") and the SADC Protocol on Mining ("the Protocol") also contain provisions aimed at protecting the environment.

1.1 The Minerals (Prospecting and Mining) Act[123]

The Act came into force in 1994 and provides for the reconnaissance, prospecting and mining for, and disposal of, and the exercise of control over, minerals in Namibia and related matters. According to the Act, mining claims require an application process and restrictions and certain conditions may be fixed in the license in order to avoid environmental degradation.[124] Particularly, when applying for an exclusive prospecting licence, mining licence, mineral deposit retention licence or the registration of a mining claim, the applicant must provide particulars of the condition of, and any existing damage to, the environment in the area to which the application relates, as well as an estimate of the effect which the proposed prospecting and /or mining operations may have on the environment and the proposed steps to be taken in order to minimise or prevent any such effect.[125] The same applies to an application for the renewal of a mineral licence or the registration of a mining claim.[126] The same does not apply to applications for non-exclusive prospecting licences or reconnaissance licences. This is probably an oversight by the legislature. It is submitted, however, that application for non-exclusive prospecting licences or reconnaissance licences or the renewal of these licences should include particulars of the condition of, and any existing damage to, the environment in the area to

122 Glazewski (2005:455).
123 No. 33 of 1992.
124 See Section 35(e)(iii).
125 Section 33(2)(c)(vi), Section 68(f.), Section 79(f.) and Section 91(f.).
126 Section 38(1) read with Section 33(2)(c)(vi), Section 72(1) read with Section 68(f.), Section 84(1) read with Section 79(f.) and Section 96(1) read with Section 91(f.).

which the application relates, as well as an estimate of the effect which the proposed prospecting and/or mining operations may have on the environment and the proposed steps to be taken in order to minimise or prevent any such effect. This is in line with the general tenor of the Act, as well as international standards.

The Mining Commissioner shall not grant the application for the registration of a mining claim unless the Commissioner is on reasonable grounds satisfied that, in the course of any such mining operations or any prospecting operations which may be carried on in lieu of such mining operations appropriate measures will be taken to minimise or prevent any pollution of the environment.[127] Furthermore, it is a term and condition of the registration of a mining claim that the holder of such mining claim shall take all reasonable steps necessary to prevent or minimize any pollution of the environment.

If a mining claim, reconnaissance area, prospecting area, retention area or mining area is abandoned, the holder of the mining claim or mineral licence to which such area relates shall take all such steps as may be necessary to remedy to the reasonable satisfaction of the Minister any damage caused by any prospecting operations and mining operations carried on by such holder to the surface of, and the environment on, the land in the area in question.[128] The Minister may, with due regard to good reconnaissance practices, good prospecting practices or good mining practices by notice in writing addressed and delivered to the holder of a mineral licence, give directions to such holder in relation to the protection of the environment.[129]

It is a term and condition of every mineral licence that the holder must prepare an environmental impact assessment indicating the extent of any pollution of the environment before any prospecting operations or mining operations are being carried out and an estimate of any pollution, if any, likely to be caused by such prospecting operations or mining operations.[130] If any pollution is likely to be so caused, an environmental management plan indicating the proposed steps is to be prepared in order to minimise or prevent to the satisfaction of the Commissioner any pollution of the environment and consequence of any prospecting operations or mining operations carried on by virtue of such mineral licence.[131] Furthermore, the holder must from, time to time as circumstances change, revise such environmental management plan either out of his/her own motion or as required by the Commissioner.[132]

The Minister may by notice, if he/she deems it necessary or expedient for the protection of the environment or the natural resources of Namibia or the prevention of the pollution of such

127 Section 92(2)(c)(ii)(bb) of the Minerals Act.
128 Section 43(2)(c) and Section 54(2)(b) of the Minerals Act.
129 Section 57(1)(c) of the Minerals Act.
130 See Section 50(f.)(i)of the Minerals Act.
131 See Section 50(f.)(ii)of the Minerals Act.
132 See Section 50 (g) of the Minerals Act.

environment or damage to the natural resources, declare that any prospecting operations or mining operations may be carried on in, on or under any such land or area by any holder of a non-exclusive prospecting licence, mining claim, exclusive prospecting licence, mineral deposit retention licence or mining licence only with the special permission of the Minister and subject to such terms and conditions as may be determined by the Minister.[133]

If a non-exclusive prospecting licence or mineral licence or the registration of a mining claim has been cancelled or has expired or, if any area to which such licence or mining claim relates has been abandoned or has for any reason ceased to be part of the area to which such non-exclusive prospecting licence relates or of the prospecting area, mining area or claim area, as the case may be, the Minister may by notice in writing addressed and delivered to the person who was the holder of such licence or mining claim direct such person to take all such steps as may be necessary to remedy to the satisfaction of the Minister any damage caused by any prospecting operations and mining operations carried on by such holder to the surface of, and the environment in, such area.[134] If the person fails to comply with a direction given in the notice, the Minister may cause such steps to be taken and recover the costs thereof from that person.[135]

When in the course of any reconnaissance operations, prospecting operations or mining operations carried on under any non-exclusive prospecting licence, a mining claim or a mineral licence, any mineral or group of minerals is spilled in the sea or on land or in any water on or under the surface of any land or the sea or such land or water is otherwise polluted or any plant or animal life, whether in the sea, other water in, on or under land, is endangered or destroyed or any damage or loss is caused to any person, including the state, by such spilling or pollution, the holder of such licence or mining claim shall forthwith report such spilling, pollution, loss or damage to the Minister and take at his or her own costs all such steps as may be necessary in accordance with good reconnaissance practices, good prospecting practices or good mining practices or otherwise as may be necessary to remedy such spilling, pollution, loss or damage.

If the holder of a licence or mining claim fails to comply with these provisions within such period as the Minister may deem in the circumstances to be reasonable, the Minister may direct by notice in writing addressed and delivered to such holder to take within such period as may be specified in such notice such steps as may be so specified in order to remedy the spilling, pollution or damage or loss, and the Minister may, if such holder fails to comply with such directions to the satisfaction of the Minister within the period specified in such notice or such further period as the Minister may on good cause shown allow in writing, cause such steps to

133 Section 122(2)(b) of the Minerals Act.
134 Section 128(1)(b) of the Minerals Act.
135 Section 128(2)(a) of the Minerals Act.

be taken as may be necessary to remedy such spilling, pollution or damage or loss and recover in a competent court the costs incurred thereby from such holder.[136]

1.2 The Minerals Policy

In 2002, the Ministry of Minerals and Energy published a Minerals Policy for Namibia ("the Policy"). This policy states, in its foreword, that the government recognises the importance of the mining industry in the social and economic development of Namibia. The vision of the policy is

> to achieve a high level of responsible development of national resources in which Namibia becomes a significant producer of mineral products while ensuring maximum sustainable contribution to the socio-economic development of the country [and] [t]o further attract investment and enable the private sector to take the lead in exploration, mining, mineral beneficiation and marketing.[137]

The mission of the policy is stated as follows:

> The Ministry of Mines and Energy (MME), as the custodian of Namibia's rich endowment of mineral and energy resources, facilitates and regulates the responsible development and sustainable utilisation of these resources for the benefit of all Namibians.[138]

The Policy recognises the effect that mining has on the environment and the need for appropriate legislation to regulate the environment in mining. It furthermore recognises that there is little effective environmental management within the Namibian mining industry.[139] The policy attributes this to inadequate co-ordination between the Ministry of Mining and Energy and the Ministry of Environment and Tourism in relation to environmental legislation; a lack of public awareness, capacity weaknesses and education programmes focused on environmental issues; the absence of an environmental budget, and the public antagonism towards mining activities because of its negative effects on the environment.[140]

The Policy further calls for clear funding mechanisms for environmental rehabilitation, management and control, which will be achieved through the development and implementation of internationally benchmarked Environmental Trust Funds or Bonds, and the implementation of industry good practices in respect of waste management.[141]

The Government's policies with regard to the mining industry and the environment are summed up as follows:

- Government will ensure that the development of Namibia's mining industry proceeds on an environmentally sustainable basis.

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136 Section 130(2) of the Minerals Act.
137 Par 1.2 of the Policy.
138 Par 1.2 of the Policy.
139 GRN (2002e:26).
140 Par 5.2. of the Policy.
141 Par. 5.3. and par. 5.4. of the Policy.

- Government will enact exploration and mining legislation benchmarked against environmental global best practice.
- Government will ensure compliance during rehabilitation with national policies and guidelines, and where appropriate and applicable, with global best practice.
- Government, with relevant stakeholders, will investigate the establishment of financial mechanisms for environmental rehabilitation and aftercare.
- Government, in consultation with the mining industry, will develop waste management standards and guidelines for Namibia.

1.3 The SADC Protocol on Mining

The SADC Protocol on Mining ("the Protocol on Mining") states that member states must promote sustainable development by ensuring that a balance between mineral development and environmental protection is attained.[142] Member states must encourage a regional approach in conducting environmental impact assessments especially in relation to shared systems and cross-border environmental effects.[143] Member states must collaborate in the development of programmes to train environmental scientists in fields related to the mining sector.[144] Through the Protocol on Mining, member states undertake to share information on environmental protection and environmental rehabilitation.

2 Energy Laws and Policy

2.1 The Petroleum (Exploitation and Production) Act[145]

This Act regulates the upstream petroleum industry. It provides for the reconnaissance, exploration, production and disposal of, and the exercise of control over, petroleum.[146]

Upon receipt of an application for, or the renewal or transfer of, petroleum licences, or for the approval for the granting, cession or assignment of interest in a petroleum licence, or an application to be joined as a joint holder of the licence, the Minister may, to enable him or her

142 Article 8(1).
143 Article 8(2).
144 Article 8(3).
145 No. 2 of 1991.
146 Petroleum is defined by Section 1 of the Act as "any liquid or solid hydrocarbon or combustible gas existing in a natural condition in the earth's crust and includes any such liquid or solid hydrocarbon or combustible gas which has in any manner been returned to such natural condition, but shall not include coal, bituminous shales or other stratified deposits from which oil can be obtained by destructive distillation, or gas arising from marsh or other surface deposits."

to consider the licence, require the applicant, by notice in writing, to carry out or cause to be carried out such environmental impact studies as may be specified in such notice and to furnish the Minister, within such period as may be specified in the notice, with such proposals, by way of alteration to or in addition to proposals set out in the application, as may be so specified.[147]

An application for a reconnaissance licence, exploration licence or production licence must contain particulars of an estimate of the effect which the proposed reconnaissance operations may have on the environment.[148] The same applies to an application for the renewal of a reconnaissance licence and exploration licence.[149]

The Petroleum Act does not require that this information be included in an application for the renewal of a production licence. The applicant may, however, include matters in the application which, in the opinion of the applicant company, is relevant to the application. It is submitted that the legislature's failure to include provide that particulars of an estimate of the effect which the proposed production activities may have on the environment does not absolve the holder from its obligation towards the environment. The holder is still bound to other legislation (which will be referred to later). Furthermore, the holder is also bound by the Model Petroleum Agreement, which is discussed below. The general tenor in the national and international energy sector is also sympathetic towards the environment and the impact of exploration and production activities on the environment. It would be wise for a holder of the licence, even *mero motu*, to include particulars relating to the impact of its activities on the environment.

It is a term and condition of an exploration licence that the holder thereof shall remove from such exploration area, or otherwise deal with, as directed by the Minister in consultation with the Minister or Ministers responsible for environment, fisheries and finance, all installations, equipment, pipelines and other facilities, whether on-shore or off-shore, not used or intended to be used in connection with such exploration operations.[150] Furthermore, there is an obligation of the holder of a production licence to:

a. control the flow and prevent the waste, escape or spilling in the exploration area of petroleum, water or any gas;

b. prevent the waste or spilling in the exploration area of water or drilling fluid or water and drilling fluid or any other substance extracted from a well drilled for purposes of or in connection with exploration operations or used in relation to the drilling of such a well;

c. prevent damage to petroleum-bearing strata in any area outside the exploration area;

147 Section 12(2)(b) of the Petroleum Act.

148 Section 24(c)(iii), Section 32(1)(c)(iii) and Section 42(2)(i)(vii) of the Petroleum Act.

149 Section 25(c)(iii), Section 33(1)(c)(ii) of the Petroleum Act.

150 Section 38(1)(d) of the Petroleum Act.

d. prevent petroleum reservoirs in the exploration area or such water sources as may be determined by notice in writing by the Commissioner and addressed and delivered to such holder, from being connected with each other;

e. prevent water or any other substance entering any petroleum reservoir through the wells in the exploration area, except if required by, and in accordance with, good oilfield practices;

f. prevent the pollution of any aquifer, estuary, harbour, lake, reservoir, river, spring, stream, borehole and all other areas of water by the spilling of petroleum, drilling fluid, chemical additive, any gas or any waste product or effluent;

g. furnish to the Commissioner prior to the drilling of any well a report containing particulars of the technique to be employed, an estimate of the time to be taken, the material to be used and the safety measures to be employed in the drilling of such well;

h. not flare any combustible gas, except for purposes of testing such gas, or for operational reasons, or with the approval in writing, previously obtained in every particular case, of the Minister and in accordance with such terms and conditions as may be determined by the Minister;

i. not abandon, close or plug a well without the approval in writing, previously obtained in every particular case, of the Minister and in accordance with such terms and conditions as may be determined by the Minister.[151]

The Minister may, in consultation with the Minister of Fisheries and Marine Resources and the Minister of Environment and Tourism, for such period and on such conditions as may be determined by the Minister of Mines and Energy, by notice in the Government Gazette, exempt holders of exploration licences generally.[152] The Minister may also, in consultation with the Minister of Fisheries and Marine Resources and the Minister of Environment and Tourism, for such period and on such conditions as may be determined by the Minister of Mines and Energy, upon an application in writing by any holder of a licence, by notice in writing exempt any such holder in any particular case, from any one or more of the provisions above.[153] In consultation with the Minister of Fisheries and Marine Resources and the Minister of Environment and Tourism means that there must be concurrence between the functionaries.[154]

An application for a production licence must, apart from what has been stated above already, contain a proposed programme of production operations and of the processing of petroleum in question which must include separate decommissioning plans in respect of the production area and any area outside such production area where activities in connection with the production operations in such production area are being carried out, setting out to the satisfaction of the Minister (acting in consultation with the Minister of Environment and Tourism, the Minister of Fisheries and Marine Resources and the Minister of Finance), the measures proposed to be

151 Section 38(2) of the Petroleum Act.

152 Section 38(2A)(a) of the Petroleum Act.

153 Section 38(2A)(b) of the Petroleum Act.

154 *McDonald and Others v Minister of Minerals and Energy and Others* 2007 (5) SA 642 (C) at par [18].

taken after cessation of such production operations to remove or otherwise deal with all installations, equipment, pipelines and other facilities, whether on-shore or off-shore, erected or used for purposes of such operations and to rehabilitate land disturbed by way of such operations.[155]

On a date one year before the estimated date on which 50 per cent of the estimated recoverable reserves of petroleum in the production area would have been produced, the holder of the production licence must review and, if necessary, revise the decommissioning plan.[156]

The Minister may, acting in consultation[157] with the Minister of Environment and Tourism, the Minister of Fisheries and Marine Resources and the Minister of Finance, approve the reviewed or revised decommissioning plan or refer it back to the holder of the production licence concerned to make such amendments as the Minister may deem necessary.[158]

When in the course of production operations carried out under a production licence any petroleum or other substances are spilled in the sea or on land or in any water on or under the surface of any land or the sea or such land or water is otherwise polluted or any plant or animal life, whether in the sea, other water or on, in or under land, is endangered or destroyed or any damage or loss is caused to any person, including the state, by such spilling or pollution, the holder of such production licence shall forthwith report such spilling, pollution, loss or damage to the Minister and take, at its own costs, all such steps as may be necessary in accordance with good oilfield practices or otherwise as may be necessary to remedy such spilling, pollution, loss or damage.[159] If the holder fails to do so, the Minister may, by notice in writing addressed to the holder, order the holder to take such necessary steps in order to remedy the spilling, pollution or damage or loss. If the holder fails to comply with the directions of the Minister, the Minister may cause such steps to be taken as may be necessary to remedy such spilling, pollution or damage or loss and recover in a competent court the costs incurred thereby from such holder.[160]

In 1999, regulations relating to the health, safety and welfare of persons employed, and protection of other persons, property, the environment and natural resources in, at or in the vicinity of exploration and production areas ("the Petroleum Regulations") were published.[161] These regulations were made by the Minister of Mines and Energy, acting in consultation with the Minister of Fisheries and Marine Resources and the Minister of Environment and Tourism.

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155 Section 42(2)(i)(vi) of the Petroleum Act.

156 Section 68A(1) of the Petroleum Act.

157 For the meaning of "in consultation with" see *McDonald and Others v Minister of Minerals and Energy and Others* 2007 (5) SA 642 (C) at par [18].

158 Section 68A(2) of the Petroleum Act.

159 Section 71(1) of the Petroleum Act.

160 Section 71(2) of the Petroleum Act.

161 Government Notice 190 of Government Gazette2188 of 23 September 1999.

The Petroleum Regulations regulate, inter alia, electricity, fires and explosions, transport (including transport of hazardous substances), subsea operations, emergency preparedness (including pollution by spilling of petroleum) and safety zones.

2.2 The Atomic Energy and Radiation Protection Act[162]

The Act was passed in Parliament in2005, and it is administered by the Ministry of Health and Social Services. Due to the lack of a date for the Act to come into operation, which is to be gazetted by the Minister (Section 47(1)), the Act has – except for Section 44 on the administration of the Act – not yet come into force[163]. This piece of legislation was enacted to

> provide for protection of the environment of the people incurrent and future generations against harmful effects of radiation, by controllingradiation sources and nuclear materials, and controlling and regulating prescribed non-ionising radiation sources.

One objective of the Act is to "minimise the exposure of persons and the environment in Namibia to the effects of harmful radiation." To this end, an Atomic Energy Board has been established in 2009 according to Sections 3ff of the Act, which serves as a national advisory board on all matters relating to radiation sources and nuclear energy. An independent National Radiation Protection Authority is established according to Sections 33ff of the Act, which informs the Atomic Energy Board about the extent of radiation exposure in the country; inspects any radiation source or nuclear material in order to assess radiation safety conditions; and to establish and maintain a register of radioactive materials in Namibia, amongst others.

According to Section 16, a respective licence is generally required for the possession, import, and dispose of radiation sources or nuclear materials and every radiation source must be registered must be registered in line with Section 18. The application process for such licence follows the procedure of Section 21. The licence holder has several duties with regard to the licence (Sections 29(2) and 30, 31 and 32) and is responsible for the safety and security of radiation sources and nuclear materials (Section 29(1)).

2.3 The Petroleum Product and Energy Act[164]

The Petroleum Products and Energy Act of 1990 regulates the downstream petroleum industry. The Act states that the Minister of Mines and Energy may make regulations relating to the conducting of business in respect of petroleum products application of health, hygiene,

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162 No. 5 of 2005.

163 Except for Section 44 on the administration of the Act.

164 No. 13 of 1990.

safety and environmental standards.[165] In 1991, regulations relating to the purchase, sale, supply, acquisition, storage, transportation, recovery and re-refinement of used mineral oil were published.[166] The Regulations prohibit the disposal, contamination, usage and possession, storage and transportation in certain containers, of used mineral oil without the necessary authorisation.[167]

2.4 The Draft Gas Bill[168]

The Ministry of Mines and Energy has drafted the Gas Bill in order

> topromote the establishment of a natural gas transportation and distribution network in Namibia for the purposes of domestic supply and for export;
>
> to establish a framework of licensing for the gas industry and a national gas regulator to monitor the performance of licence conditions;
>
> to ensure safety, efficiency and environmental responsibility in the transportation and distribution of natural gas;
>
> to facilitate investment in pipeline infrastructure by private, public, municipal and mixed owned enterprises.[169]

It is envisaged to establish a Gas Regulatory Authority to make recommendations to the Minister to inter alia grant licences for gas transportation, storage, distribution and marketing;monitor and approve of gas transportation, storage, and distribution tariffsand charges; approve tariffs and charges to gas distributors and customers who do nothave choice of suppliers; to assist the Minister in the preparation of gas supply regulations; monitor the operation of the gas system; and to settle disputes between licensees and between licensees and customers atthe request of a licensee or any interested party.

A comprehensive licensing regime has been developed based on the principle that "[N]o activity in connection with the transportation, storage or distribution andmarketing of gas may be carried out by any person other than a companyauthorised to do so by the Minister under the licensing regime set out in this Act."

The Bill explicitly recognises the importance of environmental protection in that it provides in Section 38 that

> (1) All infrastructure facilities established and operated in connection with a gassupply network shall operate in accordance with the applicable laws with respectto the protection of the environment.

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165 Section 2A(b)(ii).

166 General Notice 112 in *Government Gazette* 281 of 21 October 1991.

167 Regulation 3 of the Petroleum Product Regulations.

168 See http://www.mme.gov.na/pdf/gas_act_draft_2b.pdf.

169 See http://www.mme.gov.na/energy/workshop-gas-act.htm.

> (2) No pipeline infrastructure shall be laid without an environmental impactassessment first taking place and the results assessed, in accordance with theEnvironmental Management Act 1998, the Pollution Control and WasteManagement Act and the Parks and Wildlife Management Act, where appropriate,including the Petroleum (Exploration and Production) Act, 1991: Regulationsrelating to the health, safety and welfare of persons employed, and protection ofother persons, property, the environment and natural resources, in at or in thevicinity of exploration and production areas, 1999.
>
> (3) Provision shall be made for the proper restoration of the operating environment toits natural condition, with plans for pipeline decommissioning being submittedaccording to the environmental laws and the appropriate regulations.

Although the second draft of the Bill dates back to June 2001, the Bill has not materialised.

2.5 The Electricity Act[170]

The Electricity Act of 2007 ("the Electricity Act") provides for the establishment of the Electricity Control Board ("the Board") and provides for the requirements and conditions for obtaining licences for the provision of electricity andthe powers and obligations hereunder.[171]Electricity may only be generated or distributed with due compliance with the requirements of any other law, in particular laws relating to health, safety and environmental standards.[172]When considering an application for the issue, renewal or amendment of a licence, the Minister, and the Board, in making its recommendations to the Minister, must give due consideration to matters or activities which may adversely affect, or result in damage to the environment.[173] The Minister of the Board may request the applicant to submit an environmental impact assessment study indicating the extent of any potential damage to or pollution of the environment and the steps proposed to be taken by the applicant to prevent or minimise such damage or pollution and to restore the environment generally and in terms of existing environmental legislation.[174]

Installations for the provision of electricity, including any alterations or extensions thereto, and all other electricity practices and activities by licensees, customers and other persons, must be built, operated and conducted with due compliance with the requirements of applicable laws, in particular laws relating to health, safety and environmental standards.[175]

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170 No. 4 of 2007.
171 See the Preamble to the Electricity Act.
172 Section 18(4)(b).
173 Section 21(1).
174 Section 21(2)(a).
175 Section 33(1)(a).

2.6 Draft White Paper on the Energy Policy of Namibia

In 1998, the Energy Policy Committee of the Ministry of Mines and Energy has released the Draft White Paper on the Energy Policy of Namibia.[176]Effective governance; security of supply; social upliftment; investment and growth; economic competitiveness and efficiency; and sustainability have been declared as goals of this Policy.

White Paper Executive Summary

This White Paper embodies a new, comprehensive energy policy aimed at achieving security of supply, social upliftment, effective governance, investment and growth, economic competitiveness, economic efficiency and sustainability. Policies will affect energy demand (mainly households), supply (electricity, upstream oil and gas, downstream liquid fuels, downstream gas, and renewable energy) and a number of cross-cutting issues (economic empowerment, environment, energy efficiency and regional energy trade and cooperation).

Government is committed to ensuring that energy demand by the productive sectors of the economy continues to be met through reliable competitively-priced energy. Special attention is given in the White Paper to those demand sectors which have been neglected historically, namely, poor urban and rural households. Policies proposed for these households include those for widening access to electricity as well as other commercial fuels. Generally, not enough is known about the problems and needs in this sector so national studies will be initiated as a basis for future policy development, including the pressing issue of sustainable biomass usage in rural areas and the role of women. Rural energy policies will also be integrated with development initiatives in other ministries.

Government has embarked on the reform of the electricity sector and a study has been commissioned to look at possible rationalisation and restructuring, as well as competition and ownership changes. At the same time, an Electricity Act is being drafted which will put in place an electricity regulator to govern the industry. Tariffs and electrification targets will be governed through a licensing system. The creation of a rural electrification fund is also proposed. New investment in the sector will be encouraged through appropriate regulatory, fiscal and environmental frameworks, harmonised with those in SADC countries.

The legislative framework governing upstream oil and gas is well developed, and the White Paper merely clarifies an accepted policy framework which seeks to optimise possible national benefits while achieving the necessary balance of interests to attract investment. The policy identifies the different roles and functions of industry participants, and lays out the basic legal and fiscal criteria.

176 GRN (1998a).

Namibia does not yet, but soon will, have a downstream gas sector. The key challenge is to create a policy and legislative framework which attracts initial investment into the sector, while maintaining options for competition in the future and the fair distribution of economic rents. A new Gas Act is proposed, but it is thought premature to install a Gas Regulator. Licensing requirements will include the need for separate accounting for the different operations of gas production, transmission, distribution and marketing, allowance for third party access, and the application of fair and reasonable tariffs.

The downstream liquid fuels sector will be subject to controlled and phased deregulation with regard to price setting, subject to competitive behaviour being evident. Government will, however, require obligations in terms of diversified imports, international product specifications, strategic stocks, third party lease access to uncommitted infrastructure, security of forecourt jobs, health and safety, and adequate rural service in terms of access and pricing.

Government will promote the use of renewable energy through the establishment of an adequate institutional and planning framework, the development of human resources and public awareness and suitable financing systems. It also seeks to meet development challenges through improved access to renewable energy sources, particularly in rural electrification, rural water supply and solar housing and water heating.

The energy policy goal of sustainability will further be promoted through a requirement for environmental impact assessments and project evaluation methodologies which incorporate environmental externalities. Energy efficiency will be promoted through policies on better information collection and dissemination, and particularly with respect to energy efficiency and conservation practices in households, buildings, transport and industry.

The White Paper reaffirms Namibia's commitment to constructive engagement in SADC and SAPP in order to maximise economic benefits. Security of supply will be achieved through an appropriate diversification of economically competitive and reliable sources, but with particular emphasis on Namibian resources.

Finally, the Ministry of Mines and Energy is mindful that the effective implementation of these policies is dependent on the creation of adequate institutional and human resource capacity. Policies have been proposed in each sector to address this issue.

2.7 Namibia's Uranium and Nuclear Energy Policy

The Ministry of Mines and Energy is currently in the process of drafting Namibia's first Nuclear Policy to cover the entire nuclear fuel cycle, being uranium exploration, mining, milling and nuclear energy,as it is envisaged to generate electricity from its own nuclear reactor by 2018.[177] It is envisaged that this policy, together with relevant laws is finalised by mid- 2011.

177 Weidlich (2011).

2.8 The Model Petroleum Agreement

Section 13 of the Petroleum Products and Energy Act of 1990 dealt with in brief that, before an exploration licence is issued, the applicant(s) must enter into a petroleum agreement with the state. A Model Petroleum Agreement (MPA) was published in 1998. The MPA is entered into between the applicant (the Company) and the Minister of Mines and Energy.

Clause 11 of the MPA deals with environmental protection. In terms of this clause, the company must conduct its petroleum operations in a manner likely to conserve the natural resources of Namibia and protect the environment.[178] The company must employ the best available techniques in accordance with Good Oilfield Practices[179] for the prevention of environmental damage[180] to which its petroleum operations might contribute and for the minimisation of the effect of such operations on adjoining or neighbouring lands.[181] The company must also implement the proposals contained in its development plan regarding the prevention of pollution, the treatment of wastes, the safeguarding of natural resources and the progressive reclamation and rehabilitation of lands disturbed by petroleum operations.[182]

The company undertakes, for purposes of the MPA, to take all reasonable, necessary and adequate steps in accordance with Good Oilfield Practices to minimise environmental damage to the licence area and adjoining or neighbouring lands.[183] If the Company fails to comply with this provision, or contravenes any law on the prevention of environmental damage, and such failure or contravention results in environmental damage, the Company must take all necessary and reasonable measures to remedy such failure or contravention and the effects thereof.[184] These measures and methods must be determined in timely consultation with the Minister upon the commencement of petroleum operations or whenever there is a significant change in the scope or method of carrying out petroleum operations. The company must take into account the international standards applicable in similar circumstances and the relevant environmental impact assessment studies carried out in accordance with the MPA. The company must notify the Minister in writing of the nature of the measures and methods finally determined by the

178 Clause 11.2(a) of the MPA.

179 "Good Oilfield Practices" means "any practices which are generally applied by persons involved in the exploration or production of petroleum in other countries of the world as good, safe, efficient and necessary in the carrying out of exploration operations or production operations". See Section 1 of the MPA and Section 1 of the Petroleum Act.

180 "Environmental Damage" includes "any damage or injury to, or destruction of, soil or water or any plant or animal life, whether in the sea or in any other water or on, in or under land."

181 Clause 11.2(b).

182 Clause 11.2(c).

183 Clause 11.3.

184 Clause 11.4.

company and must cause such measures and methods to be reviewed from time to time in view of prevailing circumstances.[185]

If the Minister has reason to believe that any works or installations erected by the company or any operations carried out by the company are endangering or may endanger persons or any property of any other person or is causing pollution or is harming wildlife or the environment to a degree which the Minister deems unacceptable, the Minister may require the company to take reasonable remedial measures within such reasonable period as may be determined by the Minister and to take reasonable and appropriate steps to repair any damage to the environment. If the Minister deems it necessary, he may require the company to discontinue Petroleum Operations in whole or in part until the company has taken such remedial measures or has repaired any damage.

The company must cause a person or persons, approved by the Minister on account of their special knowledge of environmental matters, to carry out two environmental impact assessment studies. These studies must be carried out in order to determine the prevailing situation relating to the environment, human beings, wildlife or marine life in the licence area and in the adjoining or neighbouring areas at the time of the studies.[186] The environmental impact studies are also carried out in order to establish what the effect will be on the environment, human beings, wildlife or marine life in the licence area in consequence of the petroleum operations to be made under the MPA, and to submit for consideration by the parties to the MPA, measures and methods for minimising environmental damage and carrying out site restoration in the licence area.[187]

The procedure applicable to the environmental impact studies, including the phases in which it must be carried out and information relating to the guidelines it must contain is dealt with in detail in the MPA.[188] Furthermore, the company's obligations in respect of the environment in every phase of its operations are determined in the MPA, including the company's duty to report to the Minister of Mines and Energy at various stages of its operations and the company's duty to establish a trust fund for purpose of decommissioning.[189]Lastly, the Company must ensure that:[190]

- petroleum operations are carried out in an environmentally acceptable and safe manner consistent with Good Oilfield Practices and that such operations are properly monitored;
- the pertinent completed environmental impact assessment studies are made available to its employees and to its contractors to develop adequate and proper awareness of

185 Clause 11.6.
186 Clause 11.7(a).
187 Clause 11.7(b).
188 Clause 11.8 to clause 11.10.
189 Clause 11.12 to clause 11.17.
190 Clause 11.11.

the measures and methods of environmental protection to be used in carrying out its petroleum operations; and

- any agreement entered into between the Company and its contractors relating to its petroleum operations shall include the terms set out in the MPA and any established measures and methods for the implementation of the Company's obligations in relation to the environment under the MPA.

2.9 The SADC Protocol on Energy

The SADC Protocol on Energy states, as one of its general principles, that member states must ensure that the development and use of energy is environmentally sound.[191]Various guidelines for co-operation between member states are set forth in an annexure to the Protocol. The Guidelines emphasise the sustainable development of energy.

191 Article 2(8).

Chapter 6

CUSTOMARY LAW AND THE ENVIRONMENT

Manfred OHinz

1 Introduction

The very special relationship of - often referred to as traditional or indigenous - communities to nature, to the use of natural resources in general and to plants and animals in particular has been the subject of many empirical studies and theoretical reflections.[1] Nevertheless, the focus on customary environmental law is a rather recent focus. So far, customary environmental law has not been of much concern to authors of textbooks on environmental law or legal anthropological treatises.[2]

In Namibia, the interest in customary environmental law developed when, after independence, the Ministry of Environment and Tourism drafted a new conservation policy, which changed the inherited approach to conservation. Instead of focusing on nature alone, i.e. nature minus human beings, the new approach took note of the relationship between nature as such and human beings living in and with nature, and by doing so, also acknowledged that traditional communities had their own ways of dealing with nature. What characterises those 'own ways'? Were there customary rules and practices which modern conservation policies could utilise? With these questions on hand, the new approach in Namibia tapped into an on-going international and regional African debate.

It was in this context that customary environmental law research was initiated. The legal side of the research resulted in the publication of *Without chiefs, there would be no game. Customary law and nature conservation*[3]. And it was also in this context that the internationally designed and conducted BIOTA project requested legal anthropological research on the potential of customary law for the protection of biodiversity. *Biodiversity and the ancestors: Challenges to customary and environmental law. Case studies from Namibia*[4] a first set of studies

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1 Cf. Hinz (2003:16ff.) with further references.

2 An exception is the discourse about the legal protection of traditional knowledge. Cf. on this below.

3 Cf.Hinz (2003).

4 Hinz / Ruppel (2008a).*Biodiversity and the ancestors* is (apart from the introduction by Hinz / Ruppel (2008b) - and a summary by Hinz (2008b) composed of 11 pieces of research which were conducted by students of the Faculty of Law of the University of Namibia under the supervision of this author. Research completed after the publication of *Biodiversity and the ancestors* will appear in an additional volume in 2011.

accomplished within the BIOTA project.[5] Both publications are important sources for this Chapter.[6]

The following observations have been divided into six parts. The first part takes note of the development of the post-independence conservation policy and the implications for customary law in environmental matters. Following this, I look at the place of customary law in the overall legal system of Namibia, with special attention on customary environmental law. The next part offers information on the development of conservancies in Namibia and the role played by customary law in the implementation of the conservancy policy. Then I give an overview of customary law research in the context of the BIOTA project, followed by a Section on customary law and the protection of traditional knowledge.

2 Post-Independence Conservation Policy in Namibia: Gateway for Customary Environmental Law[7]

The history of nature conservation in colonial and postcolonial Africa went through various stages. After exploration and exploitation, preservation was the principle that governed conservation policies for many years. Preservation was defined as the "complete insulation of wildlife and their habitat from human interference".[8] Reserves were established to which only conservation officials had access, aside from visitors and other, especially permitted persons.

Conflicts between those living inside such nature conservation areas and conservationists have not been resolved and are still a matter of lively debates. In many instances, people were moved from their ancestral lands, without any rights, not even visiting rights to sacred locations. In many cases, their move was facilitated by promises that they would eventually benefit from this change by receiving, e.g. a share in park fees or the sale of licenses to hunters.

A particular problem exists with people living close to parks. In some cases, such park borders on paper only, meaning that animals come and go. Instead of promised returns from cooperation with the official conservation policy, people often suffer from so-called problem

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5 BIOTA stands for *Biodiversity Transect Africa*. The aim of the project (it started in 2000 and ended in 2009) was to monitor the state of affairs of biodiversity and to develop strategic options for political interventions in favour of the sustainability of biodiversity. Cf. Hinz / Ruppel (2008b:59ff.), but in particular the comprehensive account of the project in Jürgens; Schmiedel and Hoffman (2010) and in this: Hinz / Ruppel (2010); Hinz / Mapaure (2010); Pröpper et al. (2010).

6 Part 6 of this chapter on traditional knowledge and customary law extends the relatively short references to traditional knowledge in the introduction to *Biodiversity and the ancestors*. (Cf. Hinz / Ruppel (2008b:17f.) An earlier version of this part 6 is in print for Vol 3(1) of the *Namibia Law Journal*; Hinz (2011).

7 Cf. for the following Hinz (2003:2ff.).

8 Yeager / Miller (1996:34).

animals, which are raiding fields and livestock. The purist approach to nature conservation, which primarily focused on animals, did not develop mechanisms to mediate this kind of conflict between humans and animals. In as much as park borders are not necessarily borders that stop the movements of animals, people very often do not understand that human behaviour and movements are disturbing to animals and cause them to develop into problem animals. How can people who moved into an area known as an area of elephants since time immemorial expect to settle without problems? To declare animals that follow or even defend their customs 'problem animals' that need to be shot is certainly not the best solution.[9]

European concepts of nature conservation through preservation were, step by step, replaced with other approaches. Strategies for the ecologically balanced use of natural resources gained ground in the debate. The IVth World Congress on National Parks and Protected Areas resolved that protected areas

> cannot co-exist with communities, which are hostile to them, but they can achieve significant social and economic objectives when placed in a proper context. The establishment and management of protected areas and the use of resources in and around them must be socially responsive and just.[10]

This statement is based on the very obvious fact that "communities living in and around protected areas, often have important and long-standing relationships with these areas."[11]

However, the new approach manifested itself in concepts with implications differing according to the emphasis put on conservation through protection versus sustainable rural development for which conservation is not an end in itself.[12] While the first would still support the existence of protected areas, the second would opt for radical revision of the existing system of conservation through protection and would eventually abandon the concept of human-free protected areas.

This second concept is associated with the policy of creating Integrated Conservation and Development Projects (ICDP) as put forward by US-American conservationists[13] and adopted by the World Wildlife Fund (WWF).[14] The WWF proposes the introduction of ICDPs in government-operated protected areas, also in conservation projects under the jurisdiction of indigenous people and in specifically designed initiatives on communal or private land in terms of joint management arrangements between the state and the respective communities.

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9 Many concerns about problem animals were raised to the author when he did fieldwork for Hinz (2003), Cf. Hinz (2003:2). See also *The Namibian* of 24 November 2010, which reports that the Ministry of Environment and Tourism compensated each conservancy in Namibia with N$60000 for losses caused by wild animals.

10 IUCN, Parks of Life.Report of the IVth World Congress on National Parks and Protected Areas, quoted from Jones (1997:1).

11 Ibid.

12 Cf. Jones (1997:6ff.).

13 Cf. Wells / Brandon (1992); Brown / Wyckoff-Baird (1992).

14 WWF (1995:1ff.).

Although the Ministry of Environment and Tourism in Namibia was reluctant to introduce the ICDP approach in its entirety, it nevertheless subscribed to its principles outside protected areas.[15] The introduction of conservancies into the Nature Conservation Ordinance is proof of this.[16]

After the approval of the Ministry's Policy on Wildlife Management Utilisation and Tourism in Communal Areas by Cabinet, the Ministry stressed that the new policy intended

> To remove discriminatory provisions of the Nature Conservation Ordinance … by giving conditional and limited rights over wildlife to communal area farmers that were previously only enjoyed by commercial farmers;
>
> To link conservancies to rural development by enabling communal farmers to drive a direct financial income from the sustainable use of wildlife and tourism;
>
> To provide an incentive to rural people to conserve wildlife and other natural resources through shared decision making and financial benefit.17

The Ministry's policy document refers to the development to the actual situation, which is characterised by the alienation of rural people from their environment who, in contrast to commercial farmers, have been, denied access to wildlife and game by the legislation in existence at independence,

> [r]ural communities in pre-colonial times had a well-established conservation ethic based on religious beliefs, the right of chiefs and other cultural values. However, successive colonial administrations throughout Africa have alienate rural people from their environment by taking away their rights and responsibilities in favour of centralising control over natural resources and making traditional practices illegal.[18]

The policy document continues:

> If Namibia is to successfully conserve the wildlife that still exists on communal land and which migrates annually from reserves into communal land and across international borders into Angola, Botswana and Zambia, then the needs and aspirations of rural people living in these areas still have to be addressed.

Not only will they have to gain some direct benefit from wildlife conservations, but they have to be re-empowered to take responsibility for wildlife management and to take responsibility themselves for managing natural resources sustainably.[19]

These policy considerations eventually led to the amendment of the Nature Conservation Ordinance by the Nature Conservation Amendment Act of 1996.[20] The Amendment Act is a very interesting example of the interrelatedness between customary law and the practices

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15 Cf. Jones (1997:10).

16 Ordinance 4 of 1975 as amended by the Nature Conservation Amendment Act, No. 5 of 1996.

17 MET (1995).

18 Ibid:7.

19 Ibid:8.

20 No. 5 of 1996.

andstatutory law of the government. The development and legal implementation of the conservancy policy in Namibia is significant because it took note, explicitly, of the relevance of environmental concerns in customary law and practices? The adoption of the conservancy policy resulted in a very specific recognition of customary law in environmental matters although, as will be seen in the following, the implementation of both appears to be much more difficult than expected from the words of the policy.

3 CustomaryLaw and Customary Environmental Law within the General Legal System

Customary law in general terms enjoys a special constitutional status. Article 66 (1) of the Constitution states:

> Both the customary law and common law of Namibia in force on the date of independence shall remain valid to the extent to which such customary or common law does not conflict with this Constitution or any other statutory enactment.

This constitutional provision has changed the position of customary law. Under Apartheid, customary law was a set of second class law – if law at all. With the enactment of the Constitution, customary law received constitutional confirmation and was placed at the same level as the imported Roman-Dutch common law.

What is customary law?[21] The Traditional Authorities Actdescribes customary law in its Section 1 as the "norms, rules, traditions and usages of a traditional community".[22] This definition is a clear indication of the difficulties existing in the jurisprudence of modern (Western) law in determining African customary law. Traditions and usages are usually distinct from legal rules. The statutory definition of customary law does not follow this distinction, thus acknowledging that African customary law operates differently from modern law. This is one of the reasons why colonial rule created, better accepted, a duality of legal systems in most African countries: the system of imported (modern) law and the system of inherited African customary law. African customary law was only usually only applied subject to the so-called repugnancy clause. This clause implied that where customary law was understood to be against public policy or natural justice, it had to give way to the imported colonial law. This state of affairs led to substantial inroads into and to deformations of customary law, to which remedies had to be found after the African countries gained independence from colonial domination. The duality of legal systems survived the move from colonialism to independence. Up to now, most African countries recognise or at least accept legal pluralism as their way of legal order.[23]

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21 Cf. for the following Hinz (2003:8ff.).

22 No. 25 of 2000.

23 Cf. here Hinz (2006b).

In the case of Namibia, the blueprint for independence was developed under the guidance of the United Nations Institute for Namibia; it provided for the recognition of the importance of customary law, hence its inclusion as a constitutional clause.[24] Customary law neglected during the Apartheid era required space and freedom to develop out of the stagnation into which it had been forced by South African jurisprudence, centred, as this jurisprudence was, on Roman-Dutch law. Namibia enacted a number of statutes which provided the necessary space for the development of customary law in line with the country's new constitutional dispensation. Of these, the already quoted Traditional Authorities Act is the most important: a kind of constitution of traditional governance.

The Namibian parliament enacted the first version of the Traditional Authorities Act in 1995.[25] The act was amended in 1997 and a fully revised version was enacted in 2000. In pursuance of the 1995 act, a process of recognition of traditional authorities began. To date, 49 traditional authorities have been gazetted in the Government Gazette of Namibia. All 49 traditional authorities are represented in the Council of Traditional Leaders, established under the Council of Traditional Leaders Act.[26]

Section 3 of the Traditional Authorities Act deals with the powers, duties and functions of traditional authorities. The powers and duties have to be seen as part of the overall responsibility of the traditional authority which is to "promote peace and welfare" amongst the members of their community.[27]

Section 3(2)(c) of the Act is about the environmental responsibility of traditional authorities. The provision stipulates that the members of the traditional authority

> shall ensure that the members of his or her traditional authority use the natural resources at their disposal on a sustainable basis and in a manner that conserves the environment and maintain the ecosystem for the benefit of all persons in Namibia.

Although the wording of this provision is reminiscent of the wording of Article 95(l) of the Constitution, the legal status of Section 3(2)(c) of the Traditional Authorities Act reaches beyond the limits of Article 95(l) of the Constitution. Article 95 is part of Chapter 11 of the constitution, titled Principles of State Policy, which, as stipulated in Article 101, are not "of and by themselves enforceable by any Court". Section 3(2)(c) of the Traditional Authorities Actis fully legally enforceable in a court of law, be it a traditional court (community court in terms of the Community Courts Act[28]) or a state court.

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24 UNIN (1986:963).
25 No. 17 of 1995.
26 No. 13 of 1997.
27 Cf.Section 3(1) of the Traditional Authorities Act.
28 No. 10 of 2003.

It is part of the already quoted overall responsibility of traditional authorities to supervise and to ensure the observance and enforcement of customary law.[29] According to Section 3(3)(c) of the Act, traditional authorities "may make customary law". It is obvious that the law-making capacity of traditional authorities is of utmost importance for any undertaking that looks at customary environmental law as it confirms the power of local stakeholders to embark on the necessary legislative translations of the rapidly growing concerns with regard to the environment, the protection of biodiversity and the sustainable use of natural resources.

The recently published first volume of customary laws of Namibia contains customary law of the Owambo, Kavango and Caprivi communities and gives an important insight into the state of affairs with respect to customary environmental law.[30]

The *Laws of Oukwanyama*[31] provide for the protection of trees, fruit trees in particular, plants and water. It is an offence to cut fruit trees, and all water has to be kept clean. The *Laws of Ondonga*[32] provide for the protection of trees with specific reference to fruit trees, palm trees and the Marula tree. The use of fishing nets is only allowed when permission is given by the traditional authority. The *Laws of Uukwambi*[33] provide for the protection of water, the protection of trees, wild animals and grass. The *Laws of Shambyu*[34] provide for the protection of water: Anyone who pollutes or contaminates water commits an offence. In the Caprivi Region, the *Laws of the Masubia*[35] prohibits the cutting of fruit trees, causing veld fires and the use of fishing nets to catch small fishes.

It is interesting to note that the more recent versions[36] of the self-stated customary laws pay more attention to environmental issues than the earlier noted versions of self-stated customary laws. Obviously, environmental awareness is growing among traditional authorities. This led these to consider the extension and further development of their customary law in terms of the authority conveyed to them by Section 3(3)(c) of the Traditional Authorities Act.

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29 See the Chapeau of Section 3(1) of the Traditional Authorities Act.

30 Cf..Hinz (2010a). See in this publication the introduction by Hinz (2010b), which, inter alia clarifies that what can be found in what has been commonly referred to as the self-stated customary laws of the various communities is never a full reflection of the customary law in existence in a given community. Self-statements offer only aspects of the customary law in place, usually those aspects that are seen of particular importance to the community.

31 Hinz (2010a:169ff.).

32 Ibid:87ff.

33 Ibid:233ff.

34 Ibid:311ff.

35 Ibid:467ff.

36 Such as the Laws of Uukwambi.

4 Conservancies and Customary Law

Since the enactment of the Nature Conservation Amendment Act of 1996, 59 conservancies have been established on communal land.37 The number of established conservancies shows that the policy of government to open nature conservation in terms of the above-quoted policy was taken up positively. Indeed, there is no doubt that the possibility to establish conservancies, met the aspirations and expectations of many people living on communal land.[38]

What does the Nature Conservation Amendment provide for? According to Section 24A(1)

> any group of persons residing on communal land and which desires to have the area which they inhabit, or any part thereof, to be declared a conservancy, shall apply therefore to the Minister in the prescribed manner ... .

An application must be supported by the following: a document that lists the names of the persons who are members of the conservancy committee; the constitution of the committee; and a statement that sets out the boundaries of the area to be declared a conservancy. Before approving the application, the minister must be satisfied that the conservancy committee is representative of the area's community.[39] It is also necessary that the conservancy constitution contains provisions for the sustainable management and utilisation of game in the proposed conservancy. Further to this, it is required that the committee is able to manage funds accountably, and that it can guarantee the equitable distribution of the benefits derived from the consumptive and non-consumptive use of game in its area. The proposed area has to be sufficiently delimited and the views of the relevant Regional Council have to be accommodated.

The amendment to the Nature Conservation Ordinance does not make any reference to traditional authority, traditional leaders or other institutions recognised under the Authorities Act. What the amendment act applied is a civil society approach looking at individuals living in a particular area and by this in a way ignoring the traditional governmental structure which may be relevant to the individuals and the areas in which the individuals live.[40] However, practice shows that most if not all conservancies established on communal land are clearly related to traditional territories.[41] Their administrative structure is, in particular, in areas where traditional

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37 Cf. The Namibian of 24 November 2010.

38 Cf. NASCO (2006). It is noteworthy that this publication is not a result of empirical research, with recorded details on the internal workings of conservancies. So far, not much is known about this. Cf. the critical comments in reports in *Daily Sun* of 19 November 2010 and *The Namibian* of 25 November 2010.

39 Cf. here and for the following Section24A(2) of the Nature Conservation Amendment Act.

40 The submission through the Faculty of Law of the University of Namibia to the Ministry Environment and Tourism, which pleaded for a clause on traditional authorities in the draft Nature Conservation Amendment Act was not accepted.

41 This was the result of the research done for Hinz (2003). New research is needed that would take note of the many conservancies established since 2003.

governance is firmly grounded in the local culture as it is the case in North and North-Eastern Namibia, closely linked to the respective traditional authority by providing the respective traditional authorities with possibilities to influence the process of decision making in the conservancies.[42]

The constitutions of conservancies are a very relevant source of the customary law of the various traditional communities. The constitutions of conservancies are striking examples for the potential of customary law to adopt statutory stipulations and to develop them in a creative manner. While the Nature Conservation Amendment Act provides for conservancies with respect to wildlife, many constitutions of conservancies go beyond wildlife and take note of other natural resources in their areas. Wildlife management, indeed, requires a comprehensive planning that includes the use of grass, water, forests etc. It is in this sense that for instance Section 5.6 of the Wildlife Strategy included in the Constitution of the Nyae Nyae Farmers' Co-operative Conservancy[43] says:

> The community agrees that a land-use plan needs to be developed as part of the Wildlife Management Plan. Areas for livestock, wildlife, and joint use will need to be identified. Furthermore, the community agrees that the number of livestock should be limited to allow for an increase of wildlife.

The conservancy concept reflected in provisions of this nature is a product of the living customary law. It is an alternative to the concept of the Nature Conservation Amendment Act.

The need to draft constitutions for conservancies also contributed to what was termed elsewhere as challenging to open the collective memory and to develop social visions:

In the preparatory stage of the above-mentioned Nyae Nyae conservancy constitution, people were asked to rate the importance of animals in their area. The ranking criteria were: healing, meat, household items, photographic safaris, professional hunting and national biodiversity. Seven species of animals were selectable: roan, elephant, buffalo, giraffe, gemsbok, leopard, and wild dog. 25 points could be allocated to those species separately and with one rank. Leaving aside interests only indirectly linked to the community (safaris, professional hunting and national biodiversity), the results show an interesting concentration on some animals.[44] Eland and giraffe scored 22 marks, gemsbok 15 and roan 9. Eland and giraffe had 8 respectively 7 marks for healing. The same animals do not rate as well in terms of the indirect benefits for the community, i.e. through photographic safaris and professional hunting.[45] Roan gained the highest number of marks (10) while eland and giraffe received 4 and gemsbok

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42 Cf. here again the findings produced in Hinz (2003:88ff.)

43 Nyae Nyae Constitution (1996) – The text of the Nyae Nyae Conservancy Constitution can be found in Hinz / Ruppel (2008a:249ff.).

44 Nyae Nyae Constitution (1996:15).

45 Ibid.

2each. An explanation given in the conservancy constitution for the criteria of healing refers to the spirits of animals, which are "used to provide guidance to traditional healer".[46]

Social visions were developed and implemented in the Nyae Nyae constitution in the benefit distribution scheme of the conservancy. In view of the sub-divisions of the area into districts and localities (*n!oresi*)[47] possible income from various sources were allocated in percentages to the whole of the conservancy, the district and the holder of a *n!ore*. 100 per cent of the proceeds from subsistence hunting goes to the *n!ore*, while income from the sale of live game and concessions for trophy hunting goes to the whole community. Fees for the use of resources and the use of tourist camps are shared between the three levels.[48] This scheme of income distribution reflects the vicinity principle as it is known on customary law.[49] Those closest to the income-generating activity are given the bigger share of it or may even have the right to the whole.

It can be assumed that a more comprehensive analysis of the conservancy constitutions would add to what has been said so far.

5 BIOTA Research on Customary Law and the Environment[50]

The self-stated customary laws which many traditional communities in Namibia have completed or are in the process of completing[51] contain, as noted above, only parts of the customary laws in operation in the various traditional communities. There is still unwritten customary law; there is customary law in development, there are changes to the law inherited from previous times. It is, therefore, of special importance to look into the reality of the application of customary law. Trends in the development of customary law can only be established by looking into what is going on in the communities; and policy options can only be modelled and successfully implemented, if these are based on empirical research that includes the perceptions in the researched communities.

The customary law research within the BIOTA project covered a broad range of topics. The list of field notes compiled by the contributors shows the societal scope from which information was retrieved.[52]The research addressed questions to traditional and modern stakeholders, ordinary villagers and people who spend only part of their time in the village, younger and

46 Ibid.

47 Ju/'hoan for a "block of land that surrounds each water hole and provides the resources on which the people of the water hole depend"; Lee (1979:334).

48 Ibid:12.

49 Cf. Hinz (1998:201).

50 Cf. for the following Hinz (2006:211ff.).

51 Cf. Hinz (2010a) and the expected second volume of the ascertained customary law of the communities of central and southern Namibia (to be published towards the end of 2011).

52 Cf. Hinz / Ruppel (2008a:227ff.).

older people, people with different degrees of formal education, women and men were interviewed. A gender balance was not always achieved although it was part of the overall instruction to the researchers that women's voices were to be given prominence, as the majority of households in the northern and central part of the country are led by women.[53] In their capacity as heads of households, women are in many instances closer to nature than men. However, in some cases, it proved impossible to get women's views because the allocation of land and the granting of grazing rights were seen to be the business of men. Had the researcher who experienced this been a woman, or had he had the chance to stay in the field for a longer period, perhaps answers would have been different.

All researchers went out with questionnaires. For the first few days they tested whether the questions they had drafted at home were suited to the task. In many cases, the questions had to be changed, shortened or simplified. Of course, it helped that the majority of the researchers were able to communicate in the respective vernacular. This language competency was particularly important with respect to the use of terms for which no easy interpretation was available. At the end, the questionnaires were not more than guides that had to be adapted as the situation demanded, as some of the researchers explained. Adaptations occurred in focus group discussions in particular.

Here follow short summaries of the research:

Tulimeke Koita[54] showed that there was an awareness of the need to protect the soil against overexploitation. However, it was also clear that not much had been translated into legal mechanisms. The main reason for this was that the relationship between human beings and the land is, in the dominant perception of the people, a matter of nature and God. God and nature have provided land and secured its availability since time immemorial. It will therefore be up to nature and God to secure the sustainability of land. In other words, there is a tension between inherited knowledge and knowledge that has entered the domain of knowledge more recently; and, as a consequence of the increased need for land, that tension needs further elaboration and educational input.

Julia Mushimba's research findings[55] can to some extent be placed within the context opened up by Koita's findings. While the causes of the land dispute between Ukwangali and Owambo farmers can be traced back to a time when Ukwangali and Oukwanyama entered into an agreement that benefited Owambo cattle farmers. This changed after independence as various factors, amongst which is the creeping commercialisation of communal land in the Oshiwambo-speaking communities (i.e. through fencing of land against customary law principles) led to an increased pressure on communal land in the Kavango Region, changed the conditions underlying the agreement between the two communities. The right and guarantee to free

53 Werner (2008:6ff.).
54 (2008:65ff.)
55 (2008:75ff.)

movement, enshrined in the Namibian constitution, created the misperception of granting unrestricted access to communal land.[56]. This in turn changed the concept of communal land. In fact, the constitutionally accepted concept of communal land[57] is rendered irrelevant if it is seen to be freely available for settlement. Tensions between those who adhere to this misinterpretation and those who insist on their inherited traditional rights to safeguard communal land and its tenure in accordance with customary law are, therefore, unavoidable.

Mavetja Rukoro and **Philanda Blockstein**[58] investigated the allocation of customary land and grazing rights under customary law in two different communities. The specific purpose of these case studies was to establish whether – and if so, to what extent – issues related to the sustainable use of land and grazing facilities would be part of the allocation decisions. A very particular problem in both case studies was that neither the traditional authority in Ovitoto, nor the one at Berseba enjoys recognition under the Traditional Authorities Act. In both cases it was found that an awareness of the problems (the limited availability of, and increasing demand for pasture) existed, but a reluctance to attend to them more directly in view of the pressure of livestock breeders prevailed. Of course, the low degree of commitment in respect of applying measures to support sustainability can, to some extent, be blamed on the lack of formal recognition of the respective traditional authority. Yet, this would be too simple. The Ovitoto case shows that there are rules in place when it comes to farmers who want to use land for grazing for limited periods only. It appears that these rules work and thus contribute to the sustainability of grass. Not much, however, is done about people residing in Ovitoto permanently. This is an interesting point, as it shows the limits of customary law with respect to the sustainable use of natural resources. Despite an awareness of the need to regulate the use of the grazing resources, by e.g. limiting the size of livestock held by a farmer who belongs to a given community is beyond the possibility – one may even say factual political jurisdiction – of traditional authorities.

Mbushandje Ntinda's research[59] was privileged insofar as the researcher could observe court cases against people charged for the illegal cutting of immature grass. The law of Uukwambi defines the illegal cutting of grass as a punishable offence. Cutting immature grass is forbidden because it prevents the grass from seeding, and thus from laying the foundation for the grass to grow the following year. The wider context of this specific Uukwambi law shows that the Uukwambi Traditional Authority has a well-developed understanding of the need to protect natural resources in its territory, and to provide for a framework for their sustainable use.

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56 The right to move freely (Article 21(1)(g) of the Constitution) is guaranteed subject to the law of Namibia; cf. also Article 22(2) of the Constitution.

57 Article 102(5) of the Constitution describes the main function of the Council of Traditional Leaders as being to "advise the President on the control and utilization of communal land". This reference to "communal" land is an implicit recognition of communal land and the customary law that governs this part of the land.

58 (2008:101ff.) and (2008:115ff.).

59 (2008:91ff.)

Without going into the details of the cases observed, their adjudication as well as the final decisions taken show that the law on grass is a working and, therefore, valuable instrument in the implementation of an overall policy to protect biodiversity.

The unwritten rule, according to which grass suitable for thatching may not be used for animal consumption should lead to follow-up research on the indigenous knowledge about the different qualities and properties of different grasses Is the grass suitable for thatching the only type of grass that requires special treatment? Where do grasses of specific properties grow? Are the legal mechanisms in place appropriate for the protection of these special types of grasses?

Victory Gabriel's case study[60] is on the protection of medicinal plants, amongst them devil's claw, which used to be found in the southern part of the territory of the Uukwambi Traditional Authority in abundance. The researcher was confronted with complaints by the traditional authority that this important natural resource had been subjected to exploitation by people from outside who had come to Uukwambi to search for it without permission, contrary to the long-standing requirement to do so under Uukwambi law. Moreover, the researcher found that the Chief's reports on the harvesting of devil's claw by outsiders were true with respect to other medicinal plants as well. When the researcher explored, why there was not a more active customary response to the exploitation of medicinal plants, the explanation was quite challenging: he was told that the use of medicinal plants was a pagan practice and therefore not really acceptable within the framework of Christianity. This explanation is challenging in view of the understanding of traditional knowledge as methodologically outlined above. The post-independence right to culture that was to open for the liberation of the socio-political climate in Namibia by restoring the space for and place of traditional governance and customary law, obviously has difficulty in reaching into the basis of traditional knowledge: there is as yet no harmonisation between inherited ancestral knowledge on the one hand, and certain elements of knowledge imported during the era of colonialism on the other.

Tomas Nekongo's study[61] looked at the manner in which customary law controls fishing activities in the seasonally flooded plains that stretch from southern Angola to the pans of the EtoshaNational Park. The research, again conducted in the Uukwambi area, showed that customary law exists this resource. The rules are more strictly applied in the populated areas and less in the southern parts of the Uukwambi territory, which are mainly used for grazing. The respondents explained to the researcher that the existing traditional system of individual custodianship for certain *iishana* was no longer in place.[62] The researcher was able to record court cases where people found fishing before the date set by the traditional authority for such activities were taken to the traditional court. The perpetrators were fined, their fishing gear was confiscated, and the confiscated gear was auctioned for the benefit of the community fund.

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60 (2008:129ff.).

61 (2008:139ff.).

62 Iishana (sing. Oshana) means water-flooded pans in Oshiwambo.

A feedback workshop attended by representatives from all Oshiwambo-speaking communities and held at the headquarters of the *Uukwaluudhi Traditional Authority*[63] revealed that observations made by the researcher in Uukwambi coincided with the situation in the other Oshiwambo-speaking communities. The workshop also emphasised that the main good protected by customary law regulating fishing was water, as the source of life, and it included fish living in that water.

Clever Mapaure's research[64] added to that done by Nekongo from a historical perspective. It explored the socio-culturally deeply rooted traditional drive to protect fish resources in a community, which at one point had been forced to give up fishing. The most important result of Mapaure's research is that the traditional mechanisms geared towards the sustainable use of the fishery resources remained a firm part of the traditional knowledge of the Topnaar community. The Topnaar were also able to transform their fish-oriented policy to a new commodity, the one that then became their natural symbol of identity – the *!nara* plant.

Ainna Kaundu's research, along with that conducted by Vetu Uanivi,[65] on customary law regulating the use of wood can, to some extent, be compared to the studies by Rukoro and Blockstein. Like grass for grazing, wood is a resource under pressure in circumstances that are very difficult to control. Wood for carving and building is in high demand, as it is for making fire to cook food. Both studies showed that customary law was able to differentiate between different species of trees. Both studies also showed the limits of implementing customary law in view of the community members' obvious need to exploit forest resources. However, an additional element comes into the picture, namely the interface between the application of customary law and statutory law. This interface appears to be problematic. Hence, the competencies between traditional and state authorities require clarification. Such clarification would certainly contribute to the better protection of this very important natural resource.

Mwendekwa Muhongo's studied[66] a recently established community forest. This project can be seen to be a case of successful cooperation between a traditional authority and the state's administration bodies with respect to managing forest resources although, as in the studies by Kaundu and Uanivi, the regulation of community forests requires some further clarification. In addition, the reported success of the community forest concept will lead to new questions with respect to managing forestry resources outside community forests, which so far cover only a limited part of the country's total forest resources.[67]

The overall picture emerging from the research shows that customary law has mechanisms to protect biodiversity and natural resources, albeit with certain limitations. The same limitations also determine the extent to which these mechanisms are implemented. Traditional

63 February 2008, King Taapopi's palace, Tsandi.
64 (2008:151ff.).
65 (2008:185ff)and (2008:177ff.).
66 (2008:197ff.).
67 See Daniels (1996:11ff.).

communities have knowledge about the value of biodiversity and the need to protect it against non-sustainable external and internal exploitation. Although this knowledge is very often bound by social and economic constraints, it indeed has the potential to be transformed into societally efficient norms.

The law applied in traditional communities certainly has more impact on the sustainable protection of biodiversity than the concurrent norms of the state. Under customary law, traditional communities enjoy more or less full responsibility for the administration of natural resources. However, the examples of difficulties caused by the complex interface between statutory law and customary law need further exploration.

Where traditional communities are reluctant to employ mechanisms of customary law or to develop them further although, even if environmental awareness should suggest such a development, there is need for political intervention. The administration of the allocation of land and grazing rights is a case in point, as is the regulating of the forest resources. Balancing economic interests against those of environmentally sustainable use, the examples explored show that decisions are more likely to surrender to economic interest than to take a stand for biodiversity and sustainability.

The case of the plants with medicinal properties provides an interesting insight into the workings of traditional knowledge. Established traditional knowledge appears to be stigmatised by Christian doctrines in the retained interpretation of Christianity by missionaries – or, in a broader sense, to what is propagated as the modern. Nevertheless, this strife for so-called modernity has obviously not fully eradicated traditional (pagan) knowledge or practices, although many of these practices are admittedly not practised openly.

The environmental discourse in general and the discourse in anthropology in particular have for years been occupied with interpreting traditional ecological and environmental approaches. Traditional conservationism is a topic that has filled countless pages in anthropological publications.[68] It is therefore worthwhile to place the results in a broader legal and political anthropological framework. A short summary of what is understood by traditional conservationism or by relating biodiversity to the ancestors will be helpful in preparing the skeleton of this framework.

Environmental and anthropology-based environmental literature allows for the identification of two extreme views about traditional concepts of nature conservation:[69] The one denies their existence or ignores them as irrelevant in view of the modern mainstreams which prevail in environmental approaches. The other view overemphasises traditional conservationism. Traditional communities and their environmentalist approaches are said to reflect positions of

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68 Cf. Ingold (2000); the collection of articles in Grim (2001); but also Hinz (2003:19ff.); Falk (2008) and Proepper (2009).

69 The following relies on Hinz (2003:19ff.).

the so-called Indian[70] eco-saint who always knew what to take from nature and never went as far as modern societies did – in their exploitation of nature to the point of irreparable destruction.

Ecological anthropology has undergone important theoretical changes. One of its last transformations no longer believes in the Indian 'eco-saint', the 'noble savage' and other myths that were the products of European escapists. The American anthropologist Headland can be quoted here: his views led to a far-reaching debate amongst scholars in this field.[71] Headland is a moderate revisionist, searching for a middle road which he defines as "history-grounded" and of "good anthropology".[72] He argues that "all ecosystems have been greatly modified by humans for thousands of years".[73]

Radical revisionism, on the other hand, rejects the view, held by many that "tribal peoples lived generally in great harmony, health, and happiness and in balance with their stable environment."[74] "Primitive polluters" is the title of a publication by the anthropologist Rambo.[75] Its message is to demonstrate "the essential functional similarity of the environmental interactions of primitive and civilised societies."[76]

In a brief, but empirically founded response to the debate on Headland's revisionism,[77] the hypothesis was submitted that people in traditional societies do conserve, but do so only in respect of natural resources whose "depletion they can envisage".[78] The author of the hypothesis, Dye, adds that such societies must "rely on very limited data to ascertain whether a particular resource is being seriously depleted."[79] In his research among a group of rain forest people in Papua New Guinea, Dye saw how crocodiles that had gathered in a small lake – the only bit of water available in an extraordinary dry season – were harvested to extinction. This occurred alongside the community's refusal to use long gill-nets for fishing in the lake, because they "would fish out the lake".[80]

Why is there a lack of conservationism in the case of the crocodiles, but conservationism in the case of the fish? Dye answers this by referring to the fact that the community had already experienced having wiped out fish when they had used their traditional way of fishing, i.e. by poisoning fish in pools in small streams. Dye discussed this with the villagers, who numbered

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70 Indian from the Americas, i.e. Native Americans.

71 Headland's (1997) article was published in *Current Anthropology*. Ten scholars reviewed his article, with Headland responding. See also Vol. 101 of *The American Anthropologist*.

72 Headland (1997:609).

73 Ibid:605.

74 Edgerton (1992), quoted by Headland (1997:607).

75 Rambo (1985).

76 Ibid:2.

77 Dye (1998:352f.).

78 Ibid:353.

79 Ibid.

80 Ibid.

only 125, saying that they would never be able to fish out a lake measuring five square miles, but they were resolute in their defence: "What does he know, with only 10 years here? And anyway, he doesn't even fish."[81]

Dye's explanation that the lack of conservationism resulted from the lack of capacity to assess probabilities and the lack of traditionalised experience is certainly helpful to place conservationist concerns within the respective societal context. The efficiency of mechanisms of balancing short-term societal interests in using and consuming natural resources against long-term interests in sustaining those same resources depends on all sorts of factors; and these factors determine the actual situation of the given society or community and the environmental framework they live in. It is not only the knowledge of the consequences of certain behaviour, however: such knowledge must also – as the villagers' answer to Dye shows – have become part of the collective memory, thus influencing the behaviour of the villagers.

Dye's arguments did not reach out to this last point. Reaching out to it would have meant delving into the very difficult legal sociological and anthropological question of how knowledge becomes societally accepted, and how such knowledge is transformed into, again societally accepted, normative principles.

Bodley, an anthropologist whom revisionists criticise as a supporter of the 'noble savage' argument, warns against the exaggeration of revisionism with its focus on myths, which are easy to target, but, at the same time, "miss the point of the cultural ecological realities".[82] Contrary to what revisionists hold against him, Bodley quotes from his own writing where he does, in fact, employ a balanced view.[83] While he stresses, on the one hand, that man has always been a significant force for environmental modification and that primitive cultures have sometimes seriously disturbed their local environment, he says on the other hand that "primitive cultures achieved a far more stable environmental adaptation than presently assumed by industrial civilisation".[84]

Anthropological records are full of reports on rites that have formed part of traditional approaches to natural resources.[85] What Mapaure retrieved from earlier research and what was confirmed by members of the Topnaar community[86] is just one example to which many others can be added.[87] Traditional interventions into nature, such as fishing or hunting, had to be counterbalanced by acts of restoration and re-harmonisation. However, the interventions were not undertaken from a position of strength and superiority of humans over nature,[88] but

81 Ibid.
82 Bodley (1997:612).
83 Bodley (1976).
84 Ibid:47.
85 Cf. for Namibia e.g. Fisch (1994).
86 Cf. Mapaure (2008).
87 Hinz (2003:16ff)refers to some Namibian records.
88 Cf. Hinz (1974:69ff.).

from a position of caution. From a modern perspective, one may ask whether traditional rites were performed to secure the necessary supremacy over the animals the hunter wanted to hunt, or rather to prepare for a situation of disturbed forces which would arise with the killing of the animal and, thus, prompting efforts to bring the situation back to equilibrium.

If the first were the prevailing function of the rites, then it would be very easy to understand why they became redundant: not only because of diverging ideological and religious influences, but also because of the increasingly available modern weapons that secured superiority and rendered the inherited practices superfluous. If the second were the function, an element of true and genuine traditional conservationism could be assumed. Whether this alternative approach would entail more than achieving the same goal through different avenues, or a goal that was grounded more securely, is difficult to ascertain. But even if only the first possibility were true, it would be worthwhile to pursue. To those whose way of life is more closely aligned to traditional concepts than to modern ones, a conservationism based on the traditional avenue would be more convincing than one based on modern approaches.[89]

In other words, and as it apparently gains increasing prominence in the interpretation of what is called traditional, instead of juxtaposing the so-called 'traditional' to the so-called 'modern', one should rather emphasise that the so-called 'traditional' of today is but one manifestation of several possibilities of modernity, or an alternative modernity. Such an interpretation will, indeed, open an unbiased approach to assess environmental perceptions and practices to the benefit of the protection of the environment and natural resources.

6 The Protection of Traditional Knowledge on the International and National Agenda[90]

Brown writes in the preface to a book with the title *Who owns native culture?*[91]

> In the late 1980s, ownership of knowledge and artistic creations traceable to the world's indigenous societies emerged, seemingly out of nowhere, as a major social issue. Before then, museum curators, archivists, and anthropologists had rarely worried about whether the information they collected should be treated as someone else's property. Today the situation is radically different. Scarcely a month passes without a conference examining the ethical and economic questions raised by the worldwide circulation of indigenous art, music, and biological knowledge.

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89 The Constitutional Court of South Africa held that it would be more convincing for certain parts of the South African population to argue against the death penalty by referring to *ubuntu* than to international and national human rights discourses. Cf. *S v Makwanyane* 1995 (6) BCLR 665 (CC).

90 Cf. for the following the comment on the *Swakomund Protocol on Traditional Knowledge and Expressions of Folklore* by the author of this article in the forthcoming Vol 3,1 of the Namibia Law Journal.

91 Brown (2003:IX).

Legal examinations have added their questions to the debate. While a few countries enacted statutes to protect traditional knowledge,[92] to be more precise: access to biodiversity and genetic resources, the main focus of the debate lies in international and regional fora. The aim here is to establish, a consensus on legal mechanisms suitable to the protection of traditional knowledge.[93] When in 1997 WIPO, the World Intellectual Property Organisation, established its Global Intellectual Property *Issues Division*, it provided space to so far neglected voices in its first programme. The aim for this was

> to identify and explore the intellectual property needs and expectations of new beneficiaries, including holders of indigenous knowledge and innovations, in order to promote the contributions of the IP system to their social, cultural and economic development.[94]

WIPO conducted a worldwide fact-finding mission in 1998 and 1999, which, inter alia, took note of existing customary rules and practices employed in many communities as instruments to protect cultural assets against misuse and unwanted exploitation.[95] WIPO's fact-finding report is up to today the most comprehensive collection of legal anthropological data relevant for the still on-going effort to develop legal answers to the challenge posed by the demands to protect traditional knowledge. The Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore of WIPO meets regularly and is currently busy drafting Articles on the Protection of Traditional Cultural Expressions / Expressions of Folklore.[96]

At the regional level, the Harare-based African Regional Intellectual Property Organisation (ARIPO) has added to the debate by adopting the Legal Instrument for the Protection of Traditional Knowledge and Expressions of Folklore adopted in Lesotho in 2007 and, in pursuance of this, the Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folkloreon 9 August 2010. 17 African countries are members of ARIPO,[97] of which nine have signed the protocol, amongst them Namibia.[98] In accordance with its Section 27(3) of the Protocol, it will come into force three months after six ARIPO members have deposited their instruments of ratification or accession.

In order to understand where the Swakopmund Protocol stands in the debate about the protection of traditional knowledge, the question about what traditional knowledge is and why it is relevant to protect it will be discussed. Thereafter, it will be inquired what approacheshave

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92 Cf. WIPO (2010).

93 Cf. the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights of 1995 and its Art 27 2, which accepts the possibility of *sui generis* regimes for certain intellectual property rights, albeit within certain limits set by the agreement in general terms.

94 Main Program 11, Program and Budget 1998-1999, quoted from WIPO (2001:16).

95 Cf. WIPO (2001:57ff.and 207ff.).

96 Cf. document WIPO/GRTKF/IWG/1/3 of July 2010.

97 The 17 countries are: Botswana, Gambia, Ghana, Kenya, Lesotho, Liberia, Malawi, Mozambique, Namibia, Sierra Leone; Somalia, Sudan, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe.

98 Cf. Saez (2010).

been explored to provide legal protection of traditional knowledge. An overview over the most important Sections of the Swakopmund Protocol will follow and lead to some preliminary concluding remarks.

What is traditional knowledge and why is it relevant to protect?

There is not one generally accepted definition of traditional knowledge.[99] The fact-finding report of WIPO lists examples for what is commonly understood to be traditional knowledge, and illustrates the nature of such traditional knowledge:[100]

> Traditional knowledge is not limited to any specific field of technology or the arts. Traditional knowledge systems in the fields of medicine and healing, biodiversity conservation, the environment and food and agriculture are well known. Other key components of traditional knowledge are the music, dance, and "artisanat" (i.e. designs, textiles, plastic arts, crafts, etc.) Although there are creations which may be done purely to satisfy the aesthetic will of artisans, many such creations are symbolic of a deeper order or belief system. When a traditional singer performs a song, the cadence, melody, and form all follow rules maintained for generations. Thus, a song's performance entertains and educates the current audience, but also unites the current population with the past.

Modern art and modern science are predominantly products of individual accomplishments. Traditional knowledge represents the cooperative efforts of communities. Plants used in accordance with traditional knowledge do very often carry symbolic values. When certain traditional sculptures are crafted, the process of crafting may be informed by inherited practices and with performing rituals in order to generate religious potential to be activated when need arises.[101] In the words of the fact finding report:[102]

> Traditional knowledge is a multifaceted concept than encompasses several components. Traditional knowledge is, generally, produced in accordance with the individual or collective creator's responses to and interaction with their cultural environment. This may apply to all forms of knowledge, however, whether "traditional" or "modern". In addition, traditional knowledge, as representative of cultural values, is generally held collectively. This results from the fact that what can sometimes be perceived as an isolated piece of literature (a poem, for example) or an isolated invention (the use of a plant resource to heal wounds, for instance) is actually an element that integrates a vast and mostly coherent complex of beliefs of knowledge, control of which may not vest in the hands of individuals who use isolated pieces of knowledge, but be vested in the community or collective.

The reference to 'traditional' in traditional knowledge is not to mean that the knowledge so characterised is ancient and static. Traditional knowledge is traditional only in so far as the

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99 Reflection of the difficulty to determine the concept of traditional knowledge is also that local knowledge is sometimes used instead of traditional knowledge. See Hinz (2002:4f.). Cf. also Wekesa (2009:267).

100 Ibid:211.

101 Ibid:212.

102 Ibid.

knowledge referred to is part of the – often - only orally transmitted cultural tradition of a given community.[103]

While the fact-finding mission of WIPO still follows a very broad understanding of traditional knowledge, other discussions (including discussions in WIPO) distinguish between traditional knowledge and expressions of folklore.[104] One can assume that the reason behind this distinction can be found in the different practical relevance of traditional knowledge in the narrower understanding and the expressions of folklore.[105] Traditional knowledge about plants, in particular their medicinal facilities, holds extreme societal values and is, above this, in high demand by manufacturers of industrially produced pharmaceuticals. More than half of the world population relies on traditional medicine. In some countries, more than 70% of the people depend on traditional medicine. More than 80% of the medicines used worldwide are of plant origin. ARIPO maintains that "a significant part of the global economy is based on the appropriation of traditional knowledge".[106] However, the same statement concludes that in spite of the important role traditional knowledge plays in sustainable development, it continues to be largely disregarded in development planning. It currently plays only a marginal role in biodiversity management and its contribution to the society in general is neglected. Furthermore, traditional knowledge is being lost under the impact of modernisation and of on-going globalisation processes.[107]

How to provide legal protection to traditional knowledge?At the very beginning of the debate about the protection of traditional knowledge (understood to include expressions of folklore) is the statement that intellectual property law, as it stands in international treaties, domestic legislation and decided cases, is unable to protect traditional knowledge. As a rule, intellectual property law aims at unknown knowledge generated by an individual.[108] Hence, the main purpose of such law is to protect the knowledge of the mentioned individual against the unauthorised trading of this knowledge. The need to create so-called *sui generis* protection for traditional knowledge was, therefore, seen to be a logical consequence.[109]

Yet, this approach turned out to be too simple. Although the just-quoted statement about conventional intellectual property law holds truth, it could not exclude the possibility of developing intellectual property law further so that it would also offer at least some protection of traditional knowledge. An example for this is the extension of copyright law to protect the performance of a traditional song, which would as such not qualify for protection under copy

103 Ibid.
104 So also the Swakopmund Protocol.
105 Cf. Wekesa (2009:269f)and LeBeau (2003:26ff.).
106 ARIPO (2006).
107 Ibid.
108 Cf. on this Matsushita et al. (2006:695f.) and also Oguanaman (2006).
109 The meaning of such a *sui generis* protection will be explained below.

right law, against the free recording (fixation) of the performance.[110]South Africa, where matters relating to traditional knowledge have been discussed extensively since the change to democracy,[111] suggested a far-reaching Intellectual Property Laws Amendment Bill in 2007,[112] the intention of which is to provide for amendments to a wide range of intellectual property statutes so that the scope of these would also cover aspects of traditional knowledge. The Bill has met with different comments: While the Congress of Traditional Leaders of South Africa (CONTRALESA) welcomed the Bill in principle as it intended to protect "indigenous knowledge systems in the same way as western systems of knowledge",[113] others have criticised the Bill for being "ill-conceived" and to be replaced with a law "dedicated to the protection of indigenous knowledge as a separate and distinct species of intellectual property".[114]

In other words: the manifestation of *sui generis*-approaches are called upon for the more appropriate protection of traditional knowledge. When looking at what was developed as *sui generis*-approaches, one notes attempts to provide protection to traditional knowledge by placing it into the wider framework that seeks the recognition of rights of indigenous communities in terms of relevant parts of international law that distinguishes indigenous communities from other traditional communities.[115] The Mataatua Declaration on Cultural and Intellectual Property Rights of Indigenous Peoples of 1993 illustrates this in a very significant manner.[116] The preamble of the declaration refers to the much debated right to self-determination of indigenous peoples[117] and has as its first recommendation to indigenous communities that a definition of their own intellectual and cultural property be formulated.[118] Thomas Cottier relates demands of this nature to claims "for new human rights, especially protecting the habitat and lifestyles of traditional indigenous and local communities and their intellectual property rights".[119] Accordingly, so Cottier, the "holistic concept of Traditional Resource Rights" emerged, grounded on very ("largely unclear") principles and rights.

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110 See the WIPO Performances and Phonograms Treaty (WPPT) of 20 December 1996. (www.wipo.int/treaties; last accessed on 13 November 2010).

111 Cf. e.g. Normann et al.(1996).

112 Government Gazette of 5 May 2008.

113 Contralesa on RSA's Traditional Knowledge Bill.In afro-ip of 2 September 2010. afro-ip.blogspot.com/2010/09/contralesa-on-rsas-traditional.html; accessed on 17 October 2010.

114 Business Day of 20 May 2010. Allafrica.com/stories/201005200070/html; accessed on 17 October 2010.

115 Cf. here UN (2009).

116 Reproduced in Hinz (2002:90ff.).

117 Cf. the debate about the Declaration on the Rights of Indigenous Peoples of 13 September 2007 (UNGA Res 61/295), which was eventually adopted by the majority of the members of the General Assembly of the United Nations after consensus could be reached on the Namibia-promoted reservation clause of Article 46.

118 See Point 1.1 of the Declaration.

119 Cottier (1999:1828ff.).

The Earth Summit of 1992 and its overarching policy instrument - Agenda 21 – is still the most prominent and internationally agreed upon document, laying the groundwork for the *sui generis* treatment of all matters related to traditional knowledge. It recognises that traditional rule and customary law are grounded in their specific local knowledge and wisdom. Local wisdom governs practice in many instances. Taking note of the potential of traditional governance and customary law and the need to acknowledge this in development strategies, the way forward demands specific attention to what Chapter 26 of Agenda 21 states in its first paragraph:

> Indigenous people and their communities have an historical relationship with their lands …. In the context of this chapter the term lands is understood to include the environment of the areas which the people concerned traditionally occupy. … They have developed over many generations a holistic traditional scientific knowledge of their lands, natural resources and environment.[120]

The Convention on Biological Diversity of 1992, in force since 4 June 1993, translated important parts of the Agenda 21 into a binding international treaty. The Convention contains a variety of obligations for actions by its members to protect biological diversity found in the member countries. Particularly noteworthy is that the Convention refers repeatedly to traditional knowledge. Article 8(j) of the Convention is a kind of constitutional *Grundnorm* with respect to traditional knowledge. The Article expects that the members of the Convention

> respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilisation of such knowledge, innovations and practices;

Article 10(c) of the Convention demands from the members of the Convention to:

> [p]rotect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements;

Article 17(2) of the Convention includes in the needed exchange of information "specialised knowledge and traditional knowledge".

Article 15 of the Convention contains in dealing with access to genetic resources two principles, which have been acknowledged also beyond the field of genetic resources: the need to prior informed consent between the members of the Convention (Article 15(5)) and the need to have measures in place which will allow for the sharing of "benefits arising from the commercial and other utilisation of genetic resources with the Contracting Parties providing such resources (Article 15(7)).

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120 Retrieved from www.un.org/esa/dsd/agenda21; last accessed on 20 November 2010.

Both principles are closely related to the above-stated *Grundnorm* on traditional knowledge of the Convention although their translation into practice has remained controversial.[121]

The preamble of the Swakopmund Protocol acknowledges the value of traditional knowledge systems and their contribution to local and traditional communities as well as "all humanity". It further expresses the need

> to recognise and reward the contributions made by such communities to the conservation of the environment, to food security and sustainable agriculture, to the improvement in the health of the populations, to the progress of science and technology, to the safeguarding of cultural heritage, to the development of artistic skills, and to enhancing a diversity of cultural contents and artistic expressions...

The Preamble also underscores the need to respect the continuing

> customary use, development, exchange and transmission of traditional knowledge and expressions of folklore by traditional and local communities, as well as the customary custodianship of traditional knowledge and expressions of folklore...

Meeting the needs of the holders and custodians of traditional knowledge and expressions of folklore is an important aim of the Protocol. The empowerment of the holders of traditional knowledge and expressions of folklore is contained in this aim, to be able to exercise "due control over their knowledge and expressions".

The Preamble further emphasises that the protection of traditional knowledge and expressions of folklore must be "tailored" to the specific characteristics of both.

According to Section 1 of the Protocol, it is its purpose to protect the holders of traditional knowledge against infringements of their rights and to protect expressions of folklore against misappropriation, misuse and "unlawful exploitation beyond their traditional context". Section 3 of the Protocol provides for the establishment of a National Competent Authority, the task of which will be the implementation of the Protocol. Education, advice and the settlement of disputes are amongst the duties of National Competent Authorities and also the office of ARIPO.[122]

The definition Section of the Protocol, Section 2, has definitions of expressions of folklore and traditional knowledge. Expressions of folklore are

> any forms, whether tangible or intangible, in which traditional culture and knowledge are expressed, appear or are manifested, and comprise the following forms of expressions or combinations thereof:
>
> i. verbal expressions, such as but not limited to stories, epics, legends, poetry, riddles and other narratives; words, signs, names, and symbols;

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121 Cf. here various contributions in Kamau /Winter (2009).

122 Cf. Section 14 in the part on traditional knowledge; Section 22 in the part on expressions of folklore; and Section 24 on Regional Protection in the final part of the Protocol.

> ii. musical expressions, such as but not limited to songs and instrumental music;
>
> iii. expressions by movement, such as but not limited to dances, plays, rituals and other performances; whether or not reduced to a material form; and
>
> iv. tangible expressions, such as productions of art, in particular, drawings, designs, paintings (including body-painting), carvings, sculptures, pottery, terracotta, mosaic, woodwork, metal ware, jewellery, basketry, needlework, textiles, glassware, carpets, costumes; handicrafts; musical instruments; and architectural forms.

Traditional knowledge

> shall refer to any knowledge originating from a local or traditional community that is the result of intellectual activity and insight in a traditional context, including know-how, skills, innovations, practices and learning, where the knowledge is embodied in the traditional lifestyle of a community, or contained in the codified knowledge systems passed on from one generation to another. The term shall not be limited to a specific technical field, and may include agricultural, environmental or medical knowledge, and knowledge associated with genetic resources.

Both parts of the Protocol specify traditional knowledge and expressions of folklore in the two opening Sections of Part II on traditional knowledge and Part III on expressions of folklore, which are both titled Protection criteria. Section 4 reads:

> Protection shall be extended to traditional knowledge that is:
>
> (i) generated, preserved and transmitted in a traditional and intergenerational context;
>
> (ii) distinctively associated with a local or traditional community; and
>
> (iii) integral to the cultural identity of a local or traditional community that is recognised as holding the knowledge through a form of custodianship, guardianship or collective and cultural ownership or responsibility. Such a relationship may be established formally or informally by customary practices, laws or protocols.

Section 16 says:

> Protection shall be extended to expressions of folklore, whatever the mode or form of their expression, which are:
>
> (a) the products of creative and cumulative intellectual activity, such as collective creativity or individual creativity where the identity of the individual is unknown; and(b) characteristic of a community's cultural identity and traditional heritage and maintained, used or developed by such community in accordance with the customary laws and practices of that community.

The protection of traditional knowledge is not bound to any formality (Section 5(1)). The beneficiaries of traditional knowledge are the holders of that knowledge, i.e. the local and traditional communities, but also recognised individuals within the communities who are involved in the creation, preservation and transmission of traditional knowledge (Section 6). The right to authorise the exploitation of rights to traditional knowledge vests in the "owners" of the rights. Owners shall also have the right to prevent anyone from the exploitation of their rights (Section 7(1) and (2)). The owners of traditional knowledge have the right to assign the

right to somebody else and also to conclude licensing agreements. However, traditional knowledge belonging to a local or traditional community may not be assigned (Section 8). Compulsory licences are possible in case that traditional knowledge is not sufficiently exploited by the rights holders and there is an interest of public security or public health (Section 12).

The fair and equitable sharing of benefits generated by the commercial or industrial use of the knowledge is to be part of the mutual agreement between the parties (Section 9). The use of traditional knowledge "beyond its traditional context" shall be acknowledged to the holders (Section 10).

A special rule protects genetic resources: Section 15 clarifies that authorised access to traditional knowledge associated with genetic resources does not imply the right to access genetic resources (Section 15).

Part III of the Protocol, devoted to expressions of folklore follows basically the structure of Part II. The protection of expressions of folklore is also not bound to formalities (Section 16).

Beneficiaries of expressions of folklore are the

> owners of the rights in expressions of folklore shall be the local and traditional communities:
>
> (a) to whom the custody and protection of the expressions of folklore are entrusted in accordance with the customary laws and practices of those communities; and
>
> (b) who maintain and use the expressions of folklore as a characteristic of their traditional cultural heritage.

Section 19 of the Protocol contains a detailed obligation for the members to the Protocol to develop the necessary legal instruments that will ensure that – as it is said in Section 19(2) of the Protocol "the relevant community can prevent ... acts from taking place without its free and fair consent".

Section 20 regulates exceptions and limitations applicable to the protection of expressions of folklore. Section 20 reads:

> Measures for the protection of expressions of folklore shall:
>
> (a) be such as not to restrict or hinder the normal use, development, exchange, dissemination and transmission of expressions of folklore within the traditional or customary context by members of the community concerned, as determined by customary laws and practices;
>
> (b) extend only to uses of expressions of folklore taking place outside their traditional or customary context, whether or not for commercial gain;
>
> (c) be subject to exceptions in order to address the needs of non-commercial use, such as teaching and research, personal or private use, criticism or review, reporting of current events, use in the course of legal proceedings, the making of recordings and reproductions of expressions of folklore for inclusion in an archive or inventory exclusively for the purposes of safeguarding cultural heritage, and incidental uses,

> provided that in each case, such uses are compatible with fair practice, the relevant community is acknowledged as the source of the expressions of folklore where practicable and possible, and such uses would not be offensive to the relevant community.

This part is concluded by some preliminary comments on the Protocol:

First: Looking back to the development of the debate on the protection of traditional knowledge, the *Swakopmund Protocol* is an important step forward to conceptualise the much demanded *sui generis* protection of traditional knowledge (and expression of folklore for that matter).

Secondly: The Protocol gives the Namibian constitutional recognition and confirmation of customary law[123] an additional international blessing. It relies in its orientation to acknowledge and protect traditional knowledge on the respective existing customary law. In other words, it binds existing customary law into its international framework and acknowledges by this that all efforts to protect traditional knowledge will only work when they provide space for the law that is closest to traditional knowledge: customary law.

Thirdly: The Protocol follows the established trend to link the use of traditional knowledge to the two principles that became prominent in the Convention of Biological Diversity, viz. the principle of prior informed consent and the principle of sharing benefits.

Fourthly: The Protocol offers an approach to the determination of holders of traditional knowledge and expressions of folklore, which will certainly influence the on-going debate about the need to concretise traditional knowledge rights, but also to balance the realm of legally protected interests and public interests in intercultural communication.

Fifthly: The tasks assigned to the National Competent Authority and the references therein to customary law are not only a clear indication that education and the creation of awareness will be paramount to the success of the Protocol, but also the active engagement of traditional authorities which, inter alia, have the task to ascertain and even develop their customary law – a task, which is a special challenge when it comes to traditional knowledge!

7 Concluding Remarks

The concluding remarks will take as their point of departure these remarks on traditional conservationism. They will do so by recalling the already quoted Section 3(2)(c) of the Traditional Authorities Act, according to which traditional leaders have the duty to ensure that the members of their communities use the natural resources in a manner that conserves the environment and maintains the ecosystem for the benefit of all persons in Namibia.

Is the duty expressed in the quoted provision from the Traditional AuthoritiesActa new duty that the legislators found necessary to add to the inherited list of tasks of traditional authorities?

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123 See Article 66(1) of the Constitution of Namibia.

Was the wording done in reference to the list of government policy principles spelled out in Article 95 (l) of the Constitution of Namibia, or is the quoted task a mere confirmation of what was in any event traditionally part of the duties of a traditional leader?

Furthermore, why did the lawmakers find it necessary to translate the environmental requirement of the Constitution into the Traditional Authorities Act and not, for example, into the Local Authorities and Regional Councils Acts?[124] Would this not have been much more important – since traditional communities, by virtue of their direct social and economic dependence on their environments, have a genuine interest in the sustainable management of their natural resources and, therefore, would not need to be called upon to be environmentally sensitive? What is the explanation of the quoted sub-Section in the Traditional Authorities Act referring to the "benefit of all persons" in Namibia and not simply to all persons, irrespective of domicile? Is this limitation intended to mean that the use of water from the OkavangoRiver, for example, which may have negative implications for the people in Angola, should be of no concern to the traditional authority that has the say on the Namibian side of the river?[125]

The problems reflected in these many and difficult questions have their reasons, at least to some extent, in the uncertainty of modern law and policymakers to give traditional governance its place in society in general and in the structure of government, or – in the sense of the remarks on traditional conservationism – in the uncertainty associated with assessing the dimensions of what was called alternative modernities. The legislative orientation of traditional environmental responsibility to persons in Namibia was most probably not meant as an attempt to prevent environmental responsibility from becoming supranational, i.e. beyond national borders, but rather to secure the extension of traditional responsibility beyond 'tribal' borders.

With the chosen wording, however, the lawmakers unfortunately lost the chance to link local interests to global ones, although the Earth Summit of 1992 and Agenda 21 devoted considerable effort to do just that. Chapter 28 of Agenda 21 emphasises the beginning of successful movements worldwide to engage local authorities in the global process to achieve sustainability as the basic ingredient of societal policies and interventions. The already quoted Chapter 26 of Agenda 21 complements Chapter 28 and the role of local authorities, by referring to indigenous peoples as being as equally relevant as other societal entities and actors in the process towards sustainability.[126] Therefore, it would have set a strong political

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124 Local Authorities Act No. 23 of 1992, as amended, and Regional Councils Act No. 22 of 1992, as amended.

125 Questions of this nature will be addressed in a project that will follow the completed BIOTA project, titled: The future of the Kavango project and which will start in 2011.

126 The mention of "indigenous peoples" in Chapter 26 of Agenda 21 is primarily a reference to indigenous peoples in the sense defined in the ILO Conventions and the UN Declaration on the Rights of Indigenous Peoples quoted in the Introduction to this publication. The use of this definition is motivated by the fact that paragraph 26.2 of Agenda 21 takes explicit note of the said international instruments. However, the introductory words of paragraph 26.2 read as follows: "Some of the goals inherent in the objectives and activities of this programme … ." This could be understood to mean that the programme

signal to refer leaders of traditional communities to the fact that problems that appear on the surface to be local, as indeed relevant to humankind as a whole. The lost chance in linking the traditional with the international, i.e. transforming a globally supported international policy into an important legal domestic framework, is in all probability the reason for not including the call for sustainability in either the Local Authorities Actor theRegional Councils Act.

The reasons for the second omission are easier to trace. The reluctance to write Agenda 21 implications into either the Local Authorities Act or the Regional Councils Act can be understood in view of the fact that what we see today in the movements of local authorities to join the universal battle for sustainability and protection of the environment is the result of a development that did not fall from heaven with the Rio Conference.[127] This is true not only for Europe and the United States of America, where local authorities have achieved a consolidated position throughout the countries concerned, but more so in other parts of the world, including Africa, where many local authorities are still struggling for financial and political survival.

Reference was already made to the uncertainty of the lawmakers to locate traditional governance appropriately in the overall societal and state system. Are traditional leaders – and, for that matter, African customary laws – things that should be left to the past and replaced by modern law? Will traditional governance and customary law be able to respond appropriately to modern needs? Can traditional governance and customary law be brought in line with the requirements of the principles of democracy and human rights?

As shown elsewhere,[128]Namibia and many other African countries have found answers to these questions. On the one hand, governments recognise the existence of traditional governance and customary law as being relevant to their societies; but on the other, both inherited structures have instilled a great quantum of scepticism into the debate about the scope of recognition. The scepticism is partly nourished by the above-quoted questions, influenced in particular by ignorance of the potential of traditional authorities and customary law – a potential that contributes effectively to peace and welfare in the communities to which they apply, and beyond. Indeed, the research assembled in *Biodiversity and the ancestors*[129] underlines the potential of traditional authority and customary law. The research has shown that traditional rule and customary law are grounded in local knowledge and wisdom. Local wisdom governs practice in many instances; in others where this is not the case, it could be made available if desired.

Taking note of what has been said about the potential of traditional governance and customary law needing to be acknowledged in development strategies, the way forward has to pay specific attention to an element that has been underestimated thus far in respect of the inherited land

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envisaged by Agenda 21 has a wider range, and that what is found in the quoted instruments are just examples of that with which the Agenda is concerned.

127 Cf. here Hilliges / Nitschke (2007:14ff.).

128 Cf. Hinz (2006a).

129 Cf.Hinz / Ruppel (2008a).

tenure systems one finds in most traditional communities. Describing the basis for action, Chapter 26 of Agenda 21 states the following in its first paragraph:

> Indigenous people and their communities have an historical relationship with their lands ….. In the context of this chapter the term lands is understood to include the environment of the areas which the people concerned traditionally occupy. … They have developed over many generations a holistic traditional scientific knowledge of their lands, natural resources and environment.

Whatever the concept of indigenous peoples is for the Agenda,[130] the quoted statement is also relevant for traditional communities in the broader sense. The anthropological fact that many traditional communities see land as an encompassing entity that includes what is underneath and above the soil; includes what moves on the soil and in water; and includes, in a wider sense the living and the dead, has not been fully explored yet in legal terms. Who owns trees? Who owns wildlife? Who owns water? Who owns mineral resources? Who owns knowledge? How can all these resources be managed and administered in a way that supports sustainability for the benefit not only of local owners, but also of those beyond the boundaries of the village, in a national and even global sense, now and in the future?[131] Approaches to these questions can only be found in research that takes on very concrete fields in which problems related to the questions have emerged.

Consultations with stakeholders about the research within the BIOTA project have shown that there is substantial concern about the relationship between conservancies in terms of the Nature Conservation Amendment Act, on the one hand, and community forests in terms of the Forest Act, on the other. This was said in a meeting with traditional leaders of Oshiwambo-speaking communities about the Uukwaluudhi conservation projects, but also in a meeting with traditional leaders from the Caprivi Region. More research is needed to delve into this problematic relationship more deeply. However, common sense already reveals that conservancies and community forests deal, from a traditional point of view, with different aspects of the same holistically defined *land*, but falling under two different ministries, will obviously lead to administrative problems. Furthermore, as indicated above there is a need to consider what can be called alternative or comprehensive conservancies: conservation areas that give traditional communities responsibility and authority over all the natural resources in their area of jurisdiction, and not just over one that has been artificially separated from the rest, such as wildlife or forests.[132]

There are several challenges of which the work ahead needs to take note:

The first is to strengthen attempts to offer feedback to the researched communities on research results. It is only with feedback exercises that allow people to speak openly and freely

130 See the remarks on this above.

131 Some of these questions will be taken up in the contributions for the publication that will follow Hinz / Ruppel (2008a).

132 Hinz (2003:97ff.).

about how to improve customary law that it will actually develop. Consultations on the basis of feedback to the communities are also able to stimulate and strengthen dormant or suppressed caches of traditional knowledge.

The second challenge is one that is inherent in the approach to traditional knowledge. The customary law case studies done in the BIOTA project have shown that, in many cases, members of local communities were not aware that traditional knowledge was a valuable asset: one that general law envisaged as an asset under the umbrella of intellectual property rights. The apparent international trend in transforming – or, rather, dissecting – culturally determined social and, in terms of the quote from Chapter 26 of Agenda 21, holistic entities into marketable commodities will have to be reviewed, as will the consequences of such marketing.[133]

Whether the work ahead will match the indicated challenges, remains to be seen. However, international and even national policies to protect natural resources and biodiversity will fail if the power of local responsibility is marginalised and the input of local communities is not given broader space in the implementation of protection policies.

[133] There is already important literature that has to be explored further, amongst which are Bennett (1985); Kirk (1999:9ff.).

Chapter 7

WESTERN INTELLECTUAL PROPERTY RIGHTS REGIMES AND TRADITIONAL KNOWLEDGE PROTECTION SYSTEMS IN AFRICA

Eliamani Laltaika

1 Introduction

Indigenous and traditional communities in Africa and elsewhere depend on the natural environment for their livelihood. Traditional Knowledge (TK) related to medicine, agriculture, fisheries and food preservation, among others, is an important tool for their survival. Due to, among other reasons, advancement in biotechnology, the value of TK and associated genetic resources has increased tremendously in the past few years. Such increase in value calls for concerted legal efforts for protection. Mindful of this, the international community is working on possible modalities for protecting TK. Organisations involved in TK protection include the World Intellectual Property Organisation (WIPO), the Convention on Biological Diversity (CBD), the Council for the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) of the World Trade Organisation (WTO) and the World Bank. The African Regional Intellectual Property Organisation (ARIPO) has, likewise, recently adopted a protocol for the protection of TK and expressions of folklore, the Swakopmund Protocol, named after the Namibian town where it was adopted.

These organisations by and large use the conventional or western intellectual property system as their point of departure for devising methods of protecting TK. However, the inherent differences between western intellectual property systems and traditional communities' perceptions still pose challenges to an effective protection of TK with the aim of benefitting their communities of origin. This Chapter underscores some of these challenges and offers perspectives for a holistic approach that puts environmental protection and community welfare at the centre of the equilibrium as opposed to proprietary rights whether collective or individual.

2 Defining Traditional Knowledge and Associated Genetic Resources

The World Intellectual Property Organisation describes Traditional Knowledge (TK) as

> tradition-based literary, artistic or scientific works, performances, inventions, scientific discoveries, designs, marks, names and symbols; undisclosed information, and all other tradition-based innovations and creations resulting from intellectual activity in the industrial, scientific, literary or artistic fields.[1]

TK is the totality of knowledge of local and indigenous communities that enable them to live in harmony with the environment while supporting their livelihood. It is traditional not because it is old but because it is "created, preserved, and disseminated in the cultural traditions of particular communities."[2] TK is time-tested, as it has enabled local and indigenous communities to interact with nature for centuries.

Genetic resources (GR) or materials, on the other hand, are "any material of plant origin, including reproductive and vegetative propagating material, containing functional units of heredity".[3]The CBD puts genetic resources in a larger box of "biological resources" which includes "genetic resources, organisms or parts thereof, populations or any other biotic component of ecosystems with actual or potential use or value for humanity".[4] The phrase "with actual or potential value" signifies the fact that some genetic resources may not be of known economic value at the time of collection.

Joseph Straus observes that GR have a double legal nature due to the fact that

> as*phenotypes* i.e. individual plants and animals, they traditionally constitute private (tangible) goods; as *genotypes*, i.e. information embodied in the genetic constitution of micro-organism, plant or plant species, they *a priori* conform to the definition of public good.[5]

Although the practice has been to discuss TK and GR as one and the same, opinions differ on the matter. Some commentators are of the opinion that TK is not necessarily manifested in GRs and that not all GR embody TK of local and indigenous communities.[6] Another school of

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1 WIPO (2008:5).

2 Singhal (2008:732).

3 CBD 1992: Article 2.

4 CBD 1992: Article 1.

5 Straus (2000:144); emphasis original.

6 According to this view, the CBD's use of the term "potential value" of GRs signifies that the importance of some GR is yet to be discovered by conventional scientists and is also unknown to local and indigenous communities.

thought holds that TK and GR are inseparable, and that any legal instrument for protection must appreciate their inseparable nature.[7]

Not only are the above differing views on the nexus between TK and GRs difficult to reconcile, but also widened by a lack of recognition of local and indigenous communities as true holders of TK and GR.[8] Moreover, conventional intellectual property rights, particularly patents, have been used as a tool to misappropriate TK, much to the detriment of local and indigenous communities".[9] The Ayahuasca[10], *Neem*[11] *and Hoodia*[12]speak loud and clear on *biopiracy* as will be explained in the next Section.

3 Biopiracy

There is no commonly agreed definition of biopiracy. According to Dutfield

> biopiracy has emerged as a term to describe the ways that corporations from the developed world claim ownership of, free ride on, or otherwise take unfair advantage of, the genetic resources and traditional knowledge and technologies of developing countries.[13]

Biopiracy can be described as illegal and unethical *bioprospecting*. In the context used here, bioprospecting is the "search for useful biological materials in micro-organisms, plants, fungi, animals and humans".[14]As with other tangible properties, unauthorised access to genetic

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7 This view is preferred by local and indigenous peoples whose philosophy of life evolves around a holistic world and interconnected life to them is a continuous journey of exploration.

8 As will be explained later, customary laws and protocols of local and indigenous communities can provide useful guidance on ownership of TK and GR.

9 It is submitted that intellectual property law regime should rather do the opposite that is offer innovative ways of protection. It is with this legitimate expectation that local and indigenous communities look up to WIPO for intervention and assistance against, among other things, biopiracy.

10 The *Banisteriopsis caapi*is a medicinal plant that has been used by Ayahuasca in Latin America for centuries. In early 1980's an American researcher 'discovered' its usefulness and was issued with US Patent No 5751 issues in June 1986. As a result of collective efforts by civil societies and individuals, this patent was revoked in 1999 but later upheld.

11 The Neem tree *Azadirachta indica* is native to India and has been used by local and indigenous Indian communities for a long time. It has medicinal, spiritual and economic value. As with the Ayahuasca, the knowledge of the usefulness of the tree was used to 'work on' a discovery that led to an invention and subsequent grant of a patent by the European Patent Office EPO in 1994. This patent was however revoked in 2000 for lack of novelty.

12 For many years, the indigenous San of Southern Africa used Hoodia as a hunger suppressant. This traditional use was noted by a Dutch anthropologist in 1937. In 1995 the South African Council for Scientific and Industrial Research (CSIR) obtained a patent for Hoodia's appetite suppressing element Based on this knowledge, a team of researchers patented this knowledge in the United Kingdom and later licensed it to Pfizer, an American pharmaceutical company.

13 Dutfield (2004:1).

14 Polski (2005:543).

resources for the purposes of prospecting passes the test of misappropriation or theft. This is the crux of concerns of developing countries.

An act that can be labelled biopiracy therefore involves any or a combination of the following:

- Unauthorised acquisition of biological resources;
- the unauthorised use of TK associated with genetic resources for profit;
- obtaining intellectual property rights, especially patents for an "invention" based on traditional knowledge.

The following cases, documented by the African Centre for Biosafety are illustrative:[15]

> Swiss researchers are staking claims to drugs from *Cussonia zimmermannii*, a tree found in Tanzania, Kenya, Uganda, Mozambique, and other countries in East and Southern Africa. According to the European research group, the *Cussonia zimmermannii* extracts are active on the human central nervous system's GABA(A) receptor and therefore may be of use in treating a variety of diseases, including epilepsy and mental disorders such as anxiety. The claim that *Cussonia zimmermannii* can be used to treat nervous system disorders will come as no surprise to Africans familiar with the tree's medicinal uses. In fact, even the Swiss 'inventors' concede that Kenyan researchers noted in 1986 that the plant is traditionally used to treat mental illness and that in 1964 an article on ethnobotany noted its traditional use in treating epilepsy. In addition, parts of the tree are used to treat other conditions including fever and post-partum bleeding. On what basis then, do the Swiss institutions claim their candidate drug is novel and inventive? Judging by the patent application, they seem to believe that by isolating and describing a chemical found in *Cussonia zimmermannii,* they have made an invention!
> *Source: African Centre for Biosafety (ACB) Pirating African heritage: A Brief Note by the African Centre for Biosafety (2009).*

> Agriculture and healthcare giant multinational Bayer, based in Germany, has staked a claim to the use of any extract from any plant of the *Vernonia* genus in Madagascar for "improving the skin status". In addition to claiming all *Vernonia* from Madagascar, Bayer's patent application makes specific claim to eight Vernonia species. The patent claim further focuses on the shrub species *Vernonia appendiculata*, commonly known as "ambiaty", a plant which is endemic to the island. There are ample citations that document important traditional uses of the Ambiaty plant in Madagascar. Directly related to the alleged novelty of Bayer's patent claims is Ambiaty's documented traditional use in wound healing and in herbal steam baths – in both cases, traditional uses that obviously relate to skin care and health. It has also been used traditionally in products such as dyes. Yet Bayer's patent application makes no reference to these and other traditional uses of Ambiaty.
> *Source: African Centre for Biosafety (ACB) Pirating African heritage: A Brief Note by the African Centre for Biosafety (2009).*

15 The African Centre for Biosafety (ACB) is a non-profit organisation, based in Johannesburg, South Africa. According to its website "It provides authoritative, credible, relevant and current information, research and policy analysis in issues pertaining to genetic engineering, biosafety and biopiracy in Africa." See http://www.biosafetyafrica.net/index.html/; last accessed 21 November 2010.

Biopiracy appears to be on the increase, fuelled by new developments in biotechnology and the desire by pharmaceutical companies to be at the cutting edge as far as Research and Development (R&D) is concerned. It appears also, that many of the organisations involved in, or suspected of conducting biopiracy, are aware of their obligations in international law including abiding to ethical research and obtaining necessary permits from concerned government functionaries. This knowledge notwithstanding, both big and small companies do not seem to care about these obligations while operating in developing countries. This calls for concerted efforts at the international level, not only in enacting laws, but also in cooperation and capacity-building programmes. At the moment only a few cases of 'foul play' by pharmaceutical companies are discovered and subsequently made public. There are many cases which go undiscovered, and the concerned companies reap where they have not sown. Could it be that the problem lies in the current international legal regime for Intellectual Property Rights (IPR) governance? The next Section aims to explore this.

4 Western Intellectual Property Regime *versus* Community Rights

The main challenge hampering protection of TK, both at the national and international level, is the concept of *communal* as opposed to *individual* property rights, entrenched in western IP law.[16] This line of reasoning puts TK into public domain and therefore as free for the taking. This pitfall has been strongly criticised as being against social justice. Davis illustrates this, using two hypothetical cases:

> It happens that the chemical compound that constitutes Thermo's cold cure actually occurs naturally in the leaf of a tree which is indigenous to India. The leaf has been used in India for many centuries as a cold cure. Aware of this fact, Thermo has analysed the chemical make-up of the leaf and reconstituted it in its laboratories. Susan visits Chile and overhears a "folk song" which is widely sung in the villages, although no one is sure of its origins. Susan returns to England, translates and arranges the song, which becomes a best seller…. an intellectual property regime which rewards Thermo and Susan, with patent and copyright respectively, but provides no mechanism for rewarding the villagers of India and Chile.[17]

The second difficulty lies in the way indigenous and traditional communities look at life as a connected whole. According to former UN-Special Rapporteur for Indigenous Affairs, Irene Daes, subdividing the heritage of indigenous people into legal categories such as "cultural", "artistic" or "intellectual" would be inappropriate.[18] As indicated earlier, the international community has been working hard - for over two decades by now - to find better ways of

16 An exception to this general rule is Geographical Indications (GIs). See Blakeney (2001).

17 Davis (2003:8).

18 Daes (1993); Gupta(2005).

protecting cultural resources of indigenous people.[19] So far, the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC) of the World Intellectual Property Organisation (WIPO) has generated a number of useful documents, state-of-the-art-research, and conference reports on various aspects of Traditional Knowledge (TK).[20] According to the new mandate passed by member states in 2009, the committee should come up with a legal instrument (or instruments) for protecting TK and Traditional Cultural Expressions (TCEs).[21] In the meanwhile, the secretariat of the Convention on Biological Diversity and the United Nations Food and Agriculture Organization (FAO) continues to deliberate on improving ways of protecting TK and GR.[22] The two have, at different times, come up with the concepts of Access and Benefit Sharing (ABS) and Farmers Rights respectively. Both of these attempt to recognise rights of communities to their TK and associated GR as will be explained in the next two Sections.

5 The Convention on Biological Diversity: A New Era for GR Governance?

> [M]ost of us in developing countries find it difficult to accept the notion that biodiversity should [flow freely to industrialised countries] while the flow of biological products from the industrial countries is patented, expensive and considered the private property of the firms that produce them. This asymmetry [...] is unjust.[23]

The Convention on Biological Diversity (CBD)[24] was adopted under the auspices of the United Nations Environment Programme (UNEP) and opened for signatures in Rio-De Janeiro, Brazil in 1992.[25] The aim of this convention is

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19 In 1981, for example, the *World Intellectual property Organization* (WIPO) and the *United Nations Educational, Scientific and Cultural Organization* (UNESCO) adopted a model law on folklore. For a detailed historical account cf. O' Connor (2000:677).

20 Some documents are available at http://www.wipo.int/meetings/en/doc; last accessed on 25 October 2010.

21 The mandate reads in part "(a) The committee will, during the next budgetary biennium (2010/2011), and without prejudice to the work pursued in other fora, continue its work and undertake text-based negotiations with the objective of reaching agreement on a text of an international legal instrument (or instruments) which will ensure the effective protection of GRs, TK and TCEs"; available at http://www.ip-watch.org/weblog/wp-content/uploads/2009/10/wipo-ga-decision-on-tk-1-october-2009.pdf; last accessed on 13 November 2010.

22 Ibid.

23 Ally Hassan Mwinyi, Former President of the United Republic of Tanzania; UN Doc. A/CONF. 151/26/Rev.

24 CBD (1992).

25 As of November 2010, 188 states had ratified this agreement. See *Secretariat of the Convention on Biological Diversity, Parties to the Convention on Biological Diversity*, available at http://www.biodiv.org/world/parties.asp; last accessed on 13 November 2010.

> to promote the conservation of biodiversity, the sustainable use of its component and the fair and equitable sharing of benefits arising from the use of such resources, including appropriate resources and transfer of relevant technologies.[26]

The most relevant articles for the purposes of this Chapterare: Article 8(j) on Protection of TK and Article 15 on Access and Benefit Sharing ABS.[27] These articles sum up the main IPR related work of the CBD, namely protecting the traditional knowledge of indigenous communities and advocating for disclosure of origin (Disclosure of Origin of Genetic Resources and Traditional Knowledge / DOO) by applicants of intellectual property rights.[28] According to Article 8(j) each contracting party shall, as far as possible and appropriate and

> …subject to its national legislation, respect, preserve, and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant to the conservation and sustainable use of biological diversity. They should also promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilisation of such knowledge, innovations and practices.[29]

It should be noted, however, that although the CBD contains general provisions, as opposed to specific, normative terms, the above article has been criticised for lack of incentive for implementation. The article, it has been argued, "does not talk of protection of knowledge but merely calls upon parties to respect preserve and maintain that knowledge".[30] The phrase is especially problematic in countries still embracing "fortress conservation" where local communities' presence in protected areas is seen as a nuisance rather than an opportunity to foster and protect TK.[31]

On GR, the Convention seeks to "facilitate deal making" between technologically rich countries in the north and technologically-poor but biodiversity-rich countries in the south. Ideally, this deal would allow "industrialised countries to support the transfer of proprietary technologies to developing states as a *quid pro quo* for access".[32] Achieving this goal, however, has never been easy, due to among other reasons, the defensive nature of developing countries when it comes to intellectual property related issues[33]. The concept of *Access and Benefit*

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26 See Article 2.

27 These and related articles point to the Conventions' third objective namely "The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources."

28 Helfer (2004:29).

29 See Article 8j.

30 Mugabe (1998:9).

31 As will be seen later in this chapter delinking human-nature interaction is sometimes detrimental to the ecosystems aimed to be protected.

32 Helfer (2004:28).

33 The fact that GR were free for the taking for many years may help explain such resistance by industrialised countries as will be explained in part three below.

Sharing(ABS) was born out of these attempts[34]. ABS is a complex resource utilisation issue, requiring an interdisciplinary approach not only in the legislation, but also the implementation process. According to Young

> […]ABS is in some ways 'unique', particularly in its merger of very new concepts of commercial law and science with the goals of conservation, sustainable use and equity. New legal concepts and tools are needed, as well as new uses of existing tools. Legal innovation, however, is not an easy process.[35]

According to the CBD, Access and Benefit-Sharing Agreements must be based on Prior Informed Consent (PIC) and equitable sharing of benefits. To facilitate this exercise, the Sixth Conference of Parties (COP) to the CBD[36] adopted the Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising Out of their Utilisation (Bonn Guidelines).[37] As mentioned before, the aim of bioprospecting is to obtain useful bio-chemicals in genetic resources in particular or biological materials in general. For inventions based on GR obtained in developing countries, the Bonn Guidelines invite states to encourage the disclosure of the country of origin of genetic resources in applications for intellectual property rights, in order to prevent issuance of "bad patents" on "pseudo-inventions" or biopiracy.[38] Due to the fact that the Bonn Guidelines are not binding legal rules, cases of biopiracy and unregulated access to genetic resources have been on the increase. By the time of writing this paper, members to the 10th COP to the CBD had adopted the Nagoya Protocol on ABS whose provisions, unlike those of the Bonn Guidelines, will be binding to all members after they have been signed into force.[39] While it can be said that commendable efforts have been reached internationally under the CBD regime concerning ABS, many issues remain unsolved on TK and genetic resources for food and agriculture.

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34 ABS is just one of several initiatives that seek to implement the third mandate of the CBD namely "equitable sharing of benefit arising out of the utilisation of genetic resources".

35 Young (2004:2).

36 Meeting in The Hague 7-19 April 2002.

37 CBD (2002).

38 With regards to preventing patents based on TK, India has established a digital database of traditional knowledge searchable in several languages that has been approved by both the *European Patent Office* (EPO) and the *United States Patent and Trademark Office* (USPTO).

39 According to the *Wildlife Trade Monitoring Network* TRAFFIC "For the first time, the new ABS regime will provide an internationally binding framework, applying for example to private sector enterprises actively bio-prospecting for pharmaceutical, medicinal, biochemical, aromatic and food resources;" available at http://www.traffic.org/home/2010/10/29/a-ray-of-light-from-the-land-of-the-rising-sun.html; last accessed on 13 November 2010.

6 Intellectual Property in Plant Genetic Resources for Food and Agriculture and TK

Plant Genetic Resources for Food and Agriculture (PGRFA) refers to "the genetic resources or material of actual or potential value for human and agriculture that are contained in plants".[40] PGRFA have been described as "building blocks" for breeders and traditional farmers alike "in improving crops and introducing new traits into those crops such as drought or pest resistance".[41]The use of such building blocks to improve productivity and maintain useful characteristics of crops is not a new phenomenon. Since mankind moved from hunting and gathering to agriculture, the quest for better and improved crops is a constant. Quoting from Genesis, Tritton argues that the practice is evident from biblical times, although "the methodology described therein reveals a more Lamarckian (i.e. teleological), than Darwinian, approach to the introduction of certain desired traits".[42] For many years, PGRFA were freely exchanged between and among farmers and communities in different regions. This exchange reached a climax during the 19th century's Columbian Exchange. This term refers to the exchange of biological resources between Europe, Africa and the Americas since the so-called discovery of the New World by Christopher Columbus.[43]

There is no doubt that developed countries benefitted immensely from these free-for-all; hence their desire of a continuation of this *status quo.* This "wish list", however, is difficult if not impossible to achieve because western countries want stronger IPRs for "elite parental lines" and little or no IPR protection at all to cultivars or landraces. This approach fails to appreciate traditional knowledge of indigenous and local farmers throughout the world, whose hard work has produced and protected PGRFAs. Linking the historical plunder with the on-going expansive nature of IPRs, many commentators think, that IPRs in living things are a new form of colonialism and way of looting natural resources from developing countries. The following newspaper extract from Kenya summarises this feeling:

> Slavery, colonialism, plunder, cheap labour, brain drain… and now bio-piracy. Nothing has changed much in Africa-Europe ties for centuries. Africa continues to oil the wheels of industry in the West. The latest example is the ongoing debate over the kikoi, a name (kikoy) that a British firm wants to patent in the UK. Other cases have involved the kiondo and an enzyme used to give jeans a faded look. In 1992, American company Genencor International discovered commercially useful organisms in several lakes in the Rift Valley. The organisms are now being used to manufacture enzymes, which, among other properties, give jeans clothe a faded look. The company has reportedly made huge profits yet the Kenyan Government says it has not benefited from the venture.[44]

40 Moore / Tymowski (2005:2).
41 Ibid.
42 Tritton (2002:420).
43 Tyler (1996).
44 Gatonye (2007:13).

6.1 The International Undertaking on Plant Genetic Resources

The first attempt to regulate the exchange of PGRFA at the international level led to the adoption of the International Undertaking on Plant Genetic Resources (hereafter "undertaking") by the FAO Conference in November 1983 under Resolution 8/83.[45] The undertaking was based on the then universally accepted principle, that plant genetic resources were "a heritage of mankind and consequently should be available without restriction".[46] Apparently, many developing countries were unhappy with the underlying idea that PGRA should be available unreservedly. In 1989 the undertaking was revised to provide for "Farmers Rights" defined as the rights arising from the past, present and future contributions of farmers in conserving, improving and making available plant genetic resources, particularly in their centres of origin/diversity. These rights are vested in the international community as trustee for present and future generations of farmers, for the purpose of "ensuring full benefits to farmers, and supporting the continuation, as well as attainment of the overall purpose of international undertaking".[47]The interpretation of the revised undertaking required that farmers from developing countries be sufficiently rewarded for the use of PGRFA by developed countries, and that an International Gene Fund be established for this purpose.

Although the international undertaking was not meant to be a binding instrument of international law, the definition above has influenced subsequent international, regional and national laws with the bearing of farmers' rights. In many cases, justification for the right is both historical and futuristic. Historical as it recognises past contribution and futuristic as it recognises even those contributions yet to be made.

6.2 The TRIPS Agreement and UPOV

The coming into force of the World Trade Organisation (WTO) Agreement on Trade Related Aspects of Intellectual Property (TRIPS) on 1st January 1995 took IPR in plants to a higher level. According to this agreement, member states to the WTO "shall provide protection of plant varieties either by patents or an effective sui generis system or a combination thereof".[48]Although the agreement neither defines *sui generis* nor lays down criteria for an effective one, the International Union for the Protection of New Varieties of Plants (UPOV) is widely regarded as a *sui generis* system. UPOV was adopted in 1961 by a group of western European countries because of pressure from the private sector, which argued that the lack of intellectual property rights in this field threatened their development. It is noteworthy, however,

45 FAO (1983).
46 FAO (1983), see Article 2.
47 FAO (1983).
48 TRIPS Article 27.3(b).

that although UPOV is taken to be a lesser-evil-approach by countries that are not comfortable with patenting life forms.[49]

6.3 Historical Backdrop

Although IPR in plants now form part and parcel of not only international IP law but also international trade, the road to this acceptance was never an easy one. It is in the USA and in Europe, where these rights are more grounded and from whose inspiration (and influence) developing countries enact their laws on plant variety protection.[50] In the 19th century, it was widely accepted that natural powers and the forces of nature could not be patented. In 1852, the US Supreme Court in the case of *Le Roy v Tatham*[51] held that

> a principle in the abstract, is a fundamental truth; an original cause, a motive; these can not be patented; and no one could claim in either of them an exclusive right. Nor can an elusive right exist to a new power, should one be discovered to those already known.[52]

As this judicial reasoning presupposes, the objection raised against intellectual property rights in plants was mainly that plants are a product of nature.[53] As a result of developments in plant genetic engineering and plant breeding, the US-Congress in 1930 enacted the Plants Patents Act.[54] This Act provided patent protection only to asexually reproduced plants, i.e. those plants produced by propagating or grafting. In 1970, the Plant Variety Protection Act was enacted, widening the horizon of patentable plants to include asexually reproduced varieties. Another often-cited historical event leading to the consolidation of intellectual property rights in plants in general and patents in particular, is the US Supreme Court's ruling in the case of *Diamond v Chakrabaty* that "anything under the sun made by man is patentable".[55] The USA currently grants patents for plants and any other living thing, provided it involves human ingenuity.

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49 See generally Laltaika (2007).

50 Ibid.

51 *Le Roy v Tatham* 55 US (14 How) 156 (1852).

52 Ibid: 175.

53 Note that this reasoning was challenged in 1939 in the famous case of *Dennis vPitner* 106 F. 2d 142, 7th Circ 1939. In this case, a patent was sought for the discovery of an effective insecticide from the root of a plant found in South America. The court observed inter alia that "[i]t is true that an old substance with newly discovered qualities possessed those qualities before the discovery was made. But it is a refinement of distinction both illogical and unjustifiable, and destructive of a laudable object of the statute to award a patent to one who puts an ingredient A with old ingredients B and produces a cure for ailment C; and deny patent protection to one who discovers that a simple and unadulterated or unmodified root herb or a chemical has ingredients or health-giving qualities, hitherto unknown and unforeseen."

54 Plants Patents Act of 1930. The purpose of this Act was to "afford agriculture, so far as practicable, the same opportunity to participate in the benefits of the patents system as has been given industry".

55 *Diamond v Chakrabaty* 447 US 303, at 309, 100 S. Ct 2207 at 2207, 206 USPQ 193 (1980).

In Europe, earliest (first generation) patent laws excluded all forms of life. However, this position was not always accepted. According to Greer:

> Although continental legislators clearly had in mind only inventions in the field of inanimate techniques (in German: *tote Technik*) when drafting first generation Acts, the majority of the Belgian, German and Dutch legal doctrines dismissed the objection that inventions relating to living materials are not patentable.56

This indirect opposition to the general position of the law continued, albeit with little progress. A major development was achieved in 1961, when western European countries, notably France, Belgium and Germany established a Union for the Convention of New Plant varieties through what came to be known as the Convention on the Protection of New Varieties of Plants, better known by its French acronym UPOV.

6.4 The Pinch of IPR to Farmers

The pinch of these "intruding rights" is not only felt in developing countries but also in industrialised and other developed countries. The Canadian case of *Monsanto v Percy Schmeise* provides a good illustration.[57] In this case, the court issued an injunction restraining a traditional farmer from planting seed retained from the plaintiff's canola crops. The prohibition extended to

> any seed saved from plants which are known or ought to be known to be Roundup tolerant, and from selling or otherwise depriving the plaintiffs of their exclusive right to use plants which the defendants know or ought to know are Roundup tolerant, or using the seeds from such plants.[58]

As if legal barriers are not enough, the conflict of interests totally unprecedented by farmers has led to the development of the "terminator technology". This technology prevents farmers from harvesting seeds from crops they have grown using genetically engineered seeds, thereby forcing them to buy more of the original seed each planting season. According to Kieff

> [t]erminator technology can also be thought of as the agricultural equivalent of copy protection technology in the software industry. Such terminator and copy protection technologies are each a form of self-help that can be used as an alternative to legal protection in a way that is likely to be more costly than legal protection.[59]

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56 Overwalle (1999:143).

57 *Monsanto v Percy Schmeise* [2001] F.C. 256; available at http://decisions.fct-Cf.gc.ca/fct/2001/2001fct256.html; last accessed 15 November 2010.

58 Ibid.

59 Kieff (2002:317).

In a world, where many people - especially in developing countries - are starving, it is imperative to rethink IPR regimes, which on the face of it do more harm than good to the poor farmers and the environment.[60]

7 African Approach

Although many African countries retain colonial elements in their laws, making them almost wholly western, the concept of community rights is not alien to the African legal regime. In 1980, an African anthropologist and human rights activist, Asmaron Legesse, deliberated on how the Universal Declaration of Human Rights (UDHR) would have looked like, if drafted by Africans.[61] According to Legesse:

> If Africans were the sole authors of the Universal Declaration of Human Rights, they might have ranked the rights of communities above those of individuals, and they might have used a cultural idiom fundamentally different from the language in which the ideas are now formulated.[62]

Two years later, this contention is proved by the AfricanCharter on Human and Peoples Rights (Banjul Charter) which fully recognises group rights.[63] Indeed not all human rights scholars are fully content with the approach adopted by the Banjul Charter, and its formal recognition of group or community rights. It is imperative to note that group rights are not a one-size-fits-all-concept. To understand the parameters of group rights, McCamant advises that the concept

> works best where there exist clearly defined ethnic communities who carry on life separate from the wider society. These groups exist most prominently in areas where large scale production and trade have not yet brought about economic integration.[64]

We now turn to specific agreements that seek to protect TK of communities in Africa.

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60 Surely, genetic resources should not be put on the same scale as computer software. Even though we may romanticise the magic of biotechnology, the truth still remains that mankind cannot make genes. Our ingenuity is limited to the level of using DNA methods to "improve" characteristics.

61 As we know, the UDHR was negotiated and adopted while the entire African continent was under colonial domination.

62 Legesse (1980:52).

63 Howard (1986).

64 McCamant (1981:542).

7.1 The OAU Model Legislation on the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources

The Organisation of African Unity (OAU) Model Legislation on the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources (OAU model law), was endorsed by Heads of States of the Organisation of African Unity-OAU (now African Union / AU) in July 1998.[65]The law underscores the value of traditional knowledge for biodiversity conservation and food security on the continent and the potential effects of IPRs in agriculture. Article 9 of this law provides explicitly that

> (1) Patents over life forms and biological processes are not recognised and cannot be applied for. (2) The collector (of GRs) shall, therefore, not apply for patents over life forms and biological processes under this legislation or under any other legislation relevant to the regulation of access and use of a biological resource, community innovation, practice, knowledge and technology, and the protection of rights therein.[66]

While scholars continue to debate whether or not such prohibition is in conformity with the TRIPS Agreement, it is submitted that the issue here should be to try to relieve farmers of the burden created by IPR which by and large steal from their reserve without any compensation. The African Model law may seem "too radical" and against biotechnological inventions but still there should be ways to strike a balance. When it comes to PGRFA, the human right to food should precede "recouping R&D expenses" as it is often times contended. It is proposed that the concept of farmers' rights be taken seriously for the benefit of not only farmers but also as a stimulant for protection of landraces.

7.2 The Swakopmund Protocol on the Protection of Traditional Knowledge and Expressions of Folklore

It was a commendable initiative to protect TK in Africa by a diplomatic conference, convened in the Namibian town of Swakopmund, with the Protocol on the Protection of Traditional Knowledge and Expressions of Folklore within the Framework of the African Regional Intellectual Property Organization (ARIPO).[67]

The Protocol recognises

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65 OAU/AU (1998).

66 Ibid: see Article 9.

67 ARIPO (2010).

> the intrinsic value of traditional knowledge, traditional cultures and folklore, including their social, cultural, spiritual, economic, intellectual, scientific, ecological, agricultural, medical, technological, commercial and educational value.[68]

It defines traditional knowledge as

> any knowledge originating from a local or traditional community that is the result of intellectual activity and insight in a traditional context, including know-how, skills, innovations, practices and learning, where the knowledge is embodied in the traditional lifestyle of a community, or contained in the codified knowledge systems passed on from one generation to another.[69]

While the protocol recognises the holistic approach to life as perceived by indigenous and local communities as discussed above[70] and considers communities as holders of TK, it commits a great mistake by entitling individuals within such communities with "ownership" of TK. Section 6 provides:

> The owners of the rights shall be the holders of traditional knowledge, namely the local and traditional communities, and recognised individuals within such communities, who create, preserve and transmit knowledge in a traditional and intergenerational context in accordance with the provisions of Section 4.[71]

Debates are raging on the incompatibility of individual rights among local and indigenous communities. In Australia, an Aborigine artist is reported to have told a court of law

> As an artist, while I may own copyright under western law, under Aboriginal law, I must not use an image or story in such a way as to undermine the rights of all the other Yolngu.[72]

There are many instances, however, where western-oriented laws introduce individual rights in indigenous communities in order to 'modernise' them and the aftermath has more often than not, been catastrophic, demonstrated for instance by the results of the introduction of individual land rights in pastoralist lands in Kenya.[73] It is advised therefore that this particular aspect of TK protection be taken seriously to avoid importing problems which were the reason for the long way to look for alternative methods of protection in the first place.

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68 Ibid: see preamble.

69 Ibid: see Article 2.1 (ix).

70 Article 1.2 provides "This Protocol shall not be interpreted as limiting or tending to define the very diverse holistic conceptions of: (a) traditional knowledge; or (b) cultural and artistic expressions, in the traditional context".

71 Ibid.

72 *Milpurrurru and Others v Indofurn Pty Ltd and Others* [1996] AUIndigLawRpr 20. For a commentary on the case see Blakeney (1995).

73 Rutten (1992).

8 The Need for a Paradigm Shift

For Africa to effectively protect TK, it must not only put local and indigenous communities at the centre, but also tap into their knowhow to enhance conservation. However, most African legal regimes for conservation of natural resources lack this essential component for modern conservation. The origin of these laws and policies, which exclude people from nature in the context of conservation, can be traced back to colonial times.[74] Due to this 'colonial hangover effect', many if not most policy makers in Africa and other developing countries take the conservation of biological resources to be synonymous with the eviction of local communities from such lands. Although it is undeniable that human activities contribute greatly to the destruction of the environment and ecosystems, not all human activities are incompatible with conservation. Sometimes, de-linking the human-nature interaction is detrimental to ecosystems and the environment at large.[75] Many are the times also that those entrusted with the task of conservation turn out to be the reason for inefficiency much to the dismay of local communities. A Maasai elder, evicted by the government of Tanzania from the Ngorongoro crater, summarises such dismay:

> I was born in Engitati in Ngorongoro Crater where I spent my youth. I remember the rhino. They were so many. They outnumbered the buffalo. They were everywhere. We rarely killed the rhino and when we did it was because they threatened us in some way. We have lived in the Crater together with wild animals, listening to the lions roar. Then we were moved to where we are now. When I look at the Crater I feel a dead sadness. Once control of the Crater was given to someone else, the rhinos started to disappear. Now they have almost gone. Is this what they call conservation?[76]

When it comes to farmers, eviction is less common but there are no deliberate efforts to support their inventiveness as already discussed above. Our intellectual property laws reward inventors, breeders and other entrepreneurs, while punishing the local peasant with frequent change of policies and skyrocketing prices of agricultural merchandise.

A paradigm shift is necessary among policy makers in Africa to understand the important attachment that local communities have to their lands as well as the value of traditional knowledge in agriculture and associated genetic resources including landraces. The argument that was advanced here is that governmental authorities should avoid implementing policies which destroy communal structures onto which their cultural and spiritual values are kept and administered.

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74 Kameri-Mbote (2004).

75 Sharma (2000:32).

76 Majamba (2006:8).

9 Concluding Remarks

Law is more than just rules written on a piece of paper, debated by legislative authorities, parliaments or international organisations. Using aspects of customary law to protect TK/TCEs will make such laws more meaningful to indigenous and local communities. Customary law is an aggregate of culture, history and spirituality of the local and indigenous communities. Without such recognition, it is doubtful if current initiatives to protect TK/TCEs will ever be successful. An old adage *the magic of ownership turns sand into gold* is especially true if applied to communal ownership of traditional knowledge and associated genetic resources in Africa.

Chapter8

HUMAN RIGHTS AND THE ENVIRONMENT

Oliver C Ruppel

1 Introduction

Modern human rights law is commonly considered to have its roots in the 1945 Charter of the United Nations (UN), whereas environmental concerns started to move to the centre of international activities with the UN Conference on the Human Environment held in Stockholm in 1972.[1] More than 30 African countries[2] participated at this conference and committed themselves – at least to some extent – to the recognition and promotion of environmental concerns on the international level.[3] At the conference, the then Indian Prime Minister Indira Gandhi stated this:

> We do not want to impoverish the environment any further, but we cannot forget the grim of poverty of large numbers of people. When they themselves feel deprived how can we urge the preservation of animals? How can we speak to those who live [...] in slums about keeping our oceans, rivers and the air clean when their own lives are contaminated at the source? Environment cannot be improved in conditions of poverty.[4]

Colonialism, apartheid and the unequal distribution of resources have curbed human rights and challenged progress in Namibia for a long time. Today, 20 years after Independence[5] and the promulgation of the Constitution of the Republic of Namibia,[6] the country still faces challenges that impede, inter alia, the explicit recognition of environmental (human) rights. The adoption of a human rights framework and culture in terms of the Namibian Constitution of 1990 has, without doubt, been a positive attribute of the country since it gained independence. The Constitution serves as the fundamental and supreme law, and the Namibian Government is

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1 The following passages were largely taken from Ruppel (2010i).

2 Some 113 states were invited, in accordance with UN General Assembly Resolution 2850 (XXVI). The following African states took part in the Conference: Algeria, Botswana, Burundi, Cameroon, Central African Republic, Chad, Congo, Egypt, Ethiopia, Gabon, Ghana, Guinea, Ivory Coast, Kenya, Lesotho, Liberia, LibyanArabRepublic, Madagascar, Malawi, Mauritania, Mauritius, Morocco, Niger, Nigeria, Senegal, South Africa, Sudan, Swaziland, Togo, Tunisia, Uganda, United Republic of Tanzania, Zaire, and Zambia.

3 It should be noted that the Stockholm Declaration is legally only a non-mandatory document.

4 Quoted in Anand (1980:10).

5 Namibia became independent on 21 March 1990.

6 No. 1 of 1990.

subordinate to it.[7] The Constitution also established a new regime relating to natural resources in the country.[8] Regardless of the aforementioned, the legal milieu in support of environmental human rights is still far from perfect.

In its first part, this Chapter examines the categorisation and concept of human rights in general, and then views the Namibian constitutional dispensation in the light of environmental concerns. The Chapter intends to establish whether, and to what extent, environmental human rights are explicitly or implicitly recognised in Namibia. At the same time this Chapter wants to show how human rights and the environment are interrelated and actually indivisible.

2 Human Rights Categories

The categorisation of human rights into generations has not been without criticism;[9] and it must be admitted that the attempt to relegate human rights into categories, be it into generations or other classifications, always bears the risk of not being capable of determining exactly which rights belong to which category. This is inherent in the very nature of human rights in general, as human rights are universal, inalienable, indivisible, interrelated and interdependent.[10]

The categorisation of human rights into three generations goes back to the first Secretary-General of the International Institute for Human Rights in Strasbourg, the Czech-French lawyer Karel Vasak. As early as 1977, he divided human rights into three generations. *First-generation* human rights refer to traditional civil and political liberties that are considered important in Western liberal democracies, such as freedom of speech, of religion, and of the press, as well as a right of the individual to bodily inviolability, i.e. an obligation of non-interference against individuals by the state.[11] These rights are the classical human rights, as contained in Chapter 3 of the Namibian Constitution. For many years, the dominant position was that only these were genuine human rights.[12]

Second-generation rights are economic, social and cultural rights. These have generally been considered as requiring affirmative government action for their realisation. Second-generation rights are often seen to be group rights or collective rights, as they pertain to the well-being of

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7 Naldi (1995:15–19).

8 Carpenter (1991:56–57).

9 Scheinin (2009:25).

10 These important characteristics of human rights were formulated and reaffirmed by the World Conference on Human Rights held in Vienna in 1993, and are laid down in Section I(5) of the Vienna Declaration and Programme of Action. See http://www.unhchr.ch/huridocda/huridoca.nsf/(symbol)/A.CONF.157.23.En?OpenDocument; last accessed 25 November 2009.

11 Vasak (1977).

12 Steiner et al. (2008).

groups, social formations, even whole societies. They contrast with first-generation rights - perceived as individual entitlements or prerogatives of individuals - as they refer to rights held, ascribed to and exercised by people collectively or by specific subgroups. Examples of second-generation rights include the right to education, work, social security, food, self-determination, and an adequate standard of living. These rights are codified in the International Covenant on Economic, Social and Cultural Rights (ICESCR),[13] and also in Articles 23–29 of the Universal Declaration of Human Rights.[14] Writers reluctant to recognise second-generation rights as human rights have often based their argument on the assumption that courts are unable to enforce affirmative duties on states and that, therefore, such rights are merely aspirational. Similarly, critics have opined that, regardless of the political system or level of economic development, all states are able to comply with civil and political rights, but not all states have the means to provide the financial and technical resources for the realisation of affirmative obligations such as education and an adequate standard of living.[15]

Third-generation[16] or *solidarity rights* are the most recently recognised category of human rights.[17] This group has been distinguished from the other two categories of human rights as their realisation is predicated not only upon both the affirmative and negative duties of the state, but also upon the behaviour of each individual. Rights in this category include self-determination as well as a host of normative expressions; their status as human rights is still controversial. Third-generation rights include the right to development, the right to peace, and so-called environmental human rights.[18] Actually, and strictly speaking, environmental human rights do not really fit into any one particular category or generation of human rights. More generally, third generation rights can be viewed from different angles, somehow touching on all of the above-mentioned generations of rights. One could argue, for instance, that it should be possible to give individuals and groups access to environmental information, judicial remedies, and political participation through existing civil and political rights.[19] In this context, environmental rights should be seen as empowerment rights that grant participation in environmental decision-making, compelling governments to meet minimum standards of

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13 1966 United Nations International Covenant on Economic, Social and Cultural Rights; see www.unhchr.ch/html/menu3/b/a_cescr.htm; last accessed 29 December 2009.

14 1948 United Nations Universal Declaration of Human Rights; see http://www.unhchr.ch/udhr/lang/eng.htm; last accessed 29 December 2009.

15 On the classification of human rights, see Parker (2002).

16 See Ruppel (2008a:101ff.).

17 Recent reference has been made to so-called fourth-generation human rights or *communication rights*, which are concerned with human rights in the information society.

18 Vasak (1977).

19 1966 United Nations International Covenant on Civil and Political Rights; see http://untreaty.un.org/cod/avl/ha/iccpr/iccpr.html; last accessed 29 December 2009.

protecting life and property from environmental hazards. This anthropocentric approach[20] focuses on harmful environmental effects on individuals rather than on the environment, thus leading to a 'greening' of human rights law. Another possibility of dealing with environmental human rights would be to treat an intact and healthy environment as an economic, social or cultural right, comparable to those codified in the ICESCR. This approach values the environment as a good in its own right, one that is vulnerable and at the same time linked to development. Like (other) economic, social and cultural rights, environmental rights are still largely of an aspirational nature and in many cases enforceable only through the relatively weak international supervisory mechanisms.

The fact that environmental human rights are usually not expressly recognised by the 1966 Conventions[21] means that their status and content is often still seen to be contentious.[22] Environmental human rights – for the purpose of this Chapter and, more importantly, for their improved recognition and application in Namibia – should not be seen in isolation from other human rights. They are Janus-faced, embracing simultaneously morality and the law. They are constructions rather than moral truths to be discovered and, as such, have an inherently juridical character, which entails an orientation towards a positive conceptualisation.[23]

3 Constitutionality of Environmental Human Rights?

Many national constitutions cover environmental protection and establish it as a constitutional objective, an individual right, or both. These include Brazil, Ecuador, Kenya, Peru, the Philippines, South Africa, and South Korea. Among Council of Europe member countries, the constitutions of Belgium, Hungary, Norway, Poland, Portugal, Slovakia, Slovenia, Spain and Turkey acknowledge a fundamental individual right to environmental protection, while those of Austria, Finland, France, Germany, Greece, the Netherlands, Sweden and Switzerland enshrine environmental protection as a constitutional objective. In southern Africa, it can be observed that, during the past few decades, states have placed a strong emphasis on including environmental provisions in their respective legal frameworks. While some constitutions explicitly recognise the existence of such right within their respective Bills of Rights,[24] others

20 Also a human-centred approach, as opposed to an ecocentric approach that is focused on the environment, or a theocultural approach that is focused on religion, philosophy and culture. See Theron (1997:23–44).

21 Both the International Covenant on Civil and Political Rights (ICCPR) and the International Covenant on Economic, Social and Cultural Rights (ICESCR) were adopted by the United Nations General Assembly on 16 December 1966.

22 Scheinin (2009:25).

23 Mushkat (2009:119ff.).

24 One example of a human right to environment codified on the national level is Article 24 of the 1996 Constitution of the Republic of South Africa.

include environmental concerns in the principles of state policy[25] rather than formulating a human right to environment as a fundamental human right.

When the Namibian Constitution came into force, it was lauded as a model for Africa because of its drafting process and content. The Constitution as adopted by the Constituent Assembly came into force on the date of Independence, namely 21 March 1990.[26] The Constitution can be considered to be among the most liberal and democratic in the world. It enjoys hierarchical primacy amongst the sources of law by virtue of its Article 1(6). It is thematically organised into 21 Chapters that contain 148 Articles relating to the Chapter title. Together, they organise the state and outline the rights and freedoms of the Namibian people.[27]

The Namibian Constitution is special in several ways. Firstly, it was developed largely under the eyes and with the assistance of the international community. This is closely related to the fact thatNamibia's decolonisation process was strongly supported by the implementation of UN Resolution 435. Secondly, the Namibian Constitution was certainly an experiment in southern Africa in putting an end to racial discrimination and apartheid.[28]Namibia has not totally relinquished its South African legal legacy and Article 140 provides for legal continuity, stating that all existing laws prior to Independence are to remain in force until repealed by Parliament. This does not only mean that Roman–Dutch law continues to be the ordinary law of the land, but also that Namibia has a considerable amount of pre-Independence legislation, of which some certainly needs renewal.

The constitutional rights relevant to environmental human rights will be analysed in several steps. Since the Namibian Constitution does not provide explicitly for entrenched and enforceable environmental human rights, it has to be determined whether (and to what extent) these rights are covered by the Constitution's fundamental rights and freedoms, or whether the respective rights form part of it in other Sections, e.g. as principles of state policy. Arguable, the fundamental rights and freedoms - to life, human dignity and equality - reinforce claims that people may have to an environment of a certain quality, even if positive obligations on the part of the state are not imposed per se. International aspects of environmental human rights applicable in Namibia, e.g. via Article 144 of the Constitution, will also be outlined below.

3.1 The Preamble

The preamble of a constitution is an important tool for the interpretation of such document, because it reflects the general spirit of the drafters.[29] The Namibian Constitution makes no

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25 Such as Article 95 of the Namibian Constitution on the promotion of the welfare of the people in the Chapter entitled "Principles of State Policy".

26 Article 130.

27 Bukurura (2002:57).

28 Watz (2004:21).

29 Ibid. He further quotes Hartmut Ruppel, Namibia's first Attorney-General after Independence, and the Chairman of the Standing Committee on the issue that the content of the Preamble was critically

clear reference to the environment in its Preamble. However, it explicitly recognises that "the inherent dignity" and "the equal and inalienable rights of all members of the human family is indispensable for freedom, justice and peace". The reference to *inalienable rights* leads immediately to Chapter 3 and Article 5 therein. It states that

> [t]he fundamental rights and freedoms enshrined in this Chapter shall be respected and upheld by the Executive, Legislature and Judiciary and all organs of the Government and its agencies and, where applicable to them, by all natural and legal persons in Namibia, and shall be enforceable by the Courts in the manner hereinafter prescribed.

The 1996 South African Constitution aims to "… establish a society based on democratic values, social justice and fundamental human rights..."[30].

Here, the reference to "fundamental human rights" also opens the way for Chapter 2 of the 1996 South African Constitution, namely the Bill of Rights, and therein to Section 24.[31] The 1996 South African Constitution makes it very clear from the outset that not only the Bill of Rights but also the environmental rights in Section 24 thereof apply to all laws in the country, and is obligatory for all the organs of the state. However, Section 24 jurisprudence in South Africa has not always been applauded when it comes to understanding the nature of such right and how it operates vis-à-vis other rights.[32] In the case of *HTF Developers (Pty) Ltd v Minister of Environmental Affairs and Tourism and Others*,[33] for example, the court held that Section 24(b) was akin to a directive principle and was "aspirational in form". The aforementioned view of the court is, however, incorrect.[34] Firstly, the rights in the Bill of Rights are justiciable rights, which can be distinguished from directive principles in two ways:

> While fundamental rights may either prohibit the state from doing something or may place a positive obligation on the state, directive principles are simply affirmative instructions to the state.
>
> While fundamental principles are legally binding, directive principles are not.

Secondly, Section 24(b) is clearly not aspirational in nature. The mandate stemming from Section 24(b) "falls within the realm of real expectations".[35]

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debated at the time. Some members raised the question whether the Preamble had been influenced predominantly by Western values.

30 Preamble of the 1996 South African Constitution.

31 Section 24 reads as follows: "Everyone has right (a) to an environment that is not harmful to their health or well-being: and (b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development."

32 Ferris (2009:132).

33 2006 (5) SA 512 (T).

34 This is in accordance with Ferris (2009:132).

35 Ibid.

3.2 Fundamental Rights and Freedoms

Chapter 3 of the Namibian Constitution outlines 16 fundamental rights and freedoms, reflecting the carpet values and spirit of the independent Namibian nation. The Constitution excels in being that guarantees human rights by comprehensive coverage, and provisions set out in clear language. Human rights are justiciable as their protection can be secured through the courts.[36] This gives citizens the right to take executive agencies to court, and the judiciary reigns as the authority to adjudicate such matters. The set of enforceable fundamental human rights and freedoms are to be respected and upheld by the Executive, the Legislative and the Judiciary, all organs of government, its agencies, and, where applicable, by all natural and legal persons in Namibia.[37] Apart from the right to culture (Article 19) and the right to education (Article 20), Chapter 3 does not contain any typical socio-economic rights – such as rights to housing, water or access to health services.[38] Instead, such socio-economic considerations are addressed elsewhere in the Constitution, especially in the Principles of State Policy.[39]

Chapter 11 contains Principles of State Policy that cannot be categorised as constitutional rights in the strictest sense.[40] Article 95(l) compels state organs to be directed by the environmental principle of state policy.[41] Article 95 stipulates that

> [t]he State shall actively promote and maintain the welfare of the people by adopting, inter alia, policies aimed at the following:
>
> (l) maintenance of eco

Article 101 states that the Principles of State Policy are not legally enforceable, but merely serve as societal goals in making and applying laws to give effect to the fundamental objectives of the different principles. The principles must also be employed in the interpretation of Namibian law and guide the state in its decision-making processes.[42] Constitutional Principles of State Policy serve as a stimulus for new initiatives or endeavours – especially where existing policy, law or programmes seem inadequate to attain the principles' objectives.[43] The principles must similarly be employed as direction indicators in setting government priorities. Also, the judiciary should apply the Principles of State Policy in constitutional interpretation and use them to fill gaps in the legislative framework when and where necessary. These generic features of constitutional principles of state policy arguably also apply to the environmental principle of state policy in the Constitution of Namibia. The language used in Article 95 indicates that the fulfilment of the Principles of State Policy requires positive action on the part

36 Bukurura (2002:21).
37 Article 5.
38 See Erasmus (1991:13).
39 Watz (2004:75).
40 Naldi (1995:99).
41 Hinz (2001:77).
42 Watz (2004:186).
43 Du Plessis (2008:177–179).

of government, i.e. "[t]he State *shall* … promote and maintain" [emphasis added]. At first sight, this creates the impression that such state principles create enforceable obligations that must be fulfilled.[44] Although this is not the case in Namibia, the state is expected to promote and maintain the welfare of the people by adopting policies aimed at maintenance.[45]

The following Section deals with those Articles in the Namibian Constitution that in one way or another are related to promoting the protection of environmental human rights and justice.

3.3 Article 6: The Right to Life

Article 6 regulates, amongst others, that "[t]he right to life shall be respected and protected."

It is clear that human life depends strongly on the state of the environment, including water, air, natural resources, plant and animal life. Environmental degradation threatens people's lives and livelihoods. The right to life is the most basic human right: a person can exercise no other right unless this most primary of rights is adequately protected. As such, the right to life is one that should be interpreted narrowly and this arguably requires the state to adopt positive measures. Presenting compelling facts, however, is critical for an individual to successfully present a case. Obviously, the most compelling cases involve environmental harm that is likely to cause death in the short term.[46]

3.4 Article 8: Respect for Human Dignity

Article 8 of the Namibian Constitution states that:

(1)		The dignity of all person
(2)	(a)	In any judi
	(b)	No person

Dignity has to be read in conjunction with other fundamental rights set out in the Constitution, such as the right to equality and to non-discrimination (Article 10). The dignity of a person is inseparably linked to environmental human rights, as a person's health, well-being and respect-worthiness are subject to environmental human rights, as e.g. access to clean and sufficient water, sanitation services, and waste disposal are aspects relevant to human dignity.[47] In 2002, the UN Committee on Economic, Social and Cultural Rights concluded that there was a human right to water embedded in Article 11 of the ICESCR, which defined the right

44 Ibid.
45 Ibid.
46 Herz (2008:173–281).
47 WHO (2003:18ff.).

to livelihood as including adequate food, clothing and housing. The General Comment on the right to water was adopted by this Committee in 2002, so the 145 countries that ratified the Covenant agree that the human right to water entitles everyone to sufficient, affordable, physically accessible, safe water acceptable for personal and domestic use, and that they are required to develop mechanisms to ensure that this goal is realised.[48] The Committee recognised that —[49]

> … the right to water clearly falls within the category of guarantees essential for securing an adequate standard of living, particularly since it is one of the most fundamental conditions for survival.

The 1979 Convention on the Elimination of all Forms of Discrimination against Women[50] and the 1989 Convention on the Rights of the Child[51] have already identified access to water as a human right. By becoming party to these agreements, the Republic of Namibia has committed itself to protect and realise the rights of women and children to water. Namibia thus agreed to hold itself accountable before the international community for the fulfilment of its obligations in the framework of the aforementioned conventions. A right to water as an individual prerogative for all (not only for women and children), was recently adopted in the Sixty-fourth UN General Assembly Plenary held on 28 July 2010.[52] The UN adopted by a vote of 122 in favour to none against, with 41 abstentions, a resolution calling on states and international organisations to provide financial resources, build capacity and transfer technology, particularly to developing countries, in scaling up efforts to provide safe, clean, accessible and affordable drinking water and sanitation for all. By a text on the human right to water and sanitation, the Assembly expressed deep concern that some 884 million people were without access to safe drinking water and more than 2.6 billion lacked access to basic sanitation. Bearing in mind the commitment to fully achieve the Millennium Development Goals,[53] it expressed alarm that 1.5 million children under five years old died each year as a result of water- and sanitation-related diseases, acknowledging that safe, clean drinking water and sanitation were integral to the realisation of all human rights.[54]

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48 See http://www2.ohchr.org/english/issues/water/docs/CESCR_GC_15.pdf; last accessed 8 January 2010.

49 Ibid.

50 GA Res. 34/180, 18 December 1979, Article 14(2)h.

51 GA Res. 44/25, 20 November 1989, Article 24(2)c.

52 GA 10967.

53 In September 2000, building upon a decade of major United Nations conferences and summits, world leaders came together at United Nations Headquarters in New York to adopt the United Nations Millennium Declaration, committing their nations to a new global partnership to reduce extreme poverty and setting out a series of time-bound targets - with a deadline of 2015 - that have become known as the Millennium Development Goals; Cf. http://www.un.org/millenniumgoals/bkgd.shtml; last accessed 19 December 2010.

54 http://www.un.org/News/Press/docs/2010/ga10967.doc.htm; last accessed 12 November 2010.

In the recent 2011 judgement of *Matsipane Mosetlhanyane and Others v the Attorney General of Botswana*[55] the Botswana Court of Appeal overturned a decision of the High Court that prohibited the Kalahari Bushman from sinking boreholes in the Central Kalahari Game Reserve necessary to sustain their livelihood. The ruling interestingly draws a balance between the interests of nature conservation with those of indigenous people's water rights. The court in its judgement *inter alia* made reference "to the United Nations Committee on Economic, Social and Cultural Rights, which on 20 January 2003 submitted a report on what it termed Substantive Issues Arising In The Implementation Of The International Covenant On Economic, Social and Cultural Rights. In its introduction it stated the following:-

> 1. Water is a limited natura

In paragraph 16 (d) of its report the Committee said the following:-

> 16. Whereas the right to wa
> States Parties should take steps to ensure that:
>
> (d) Indigenous people's acc

In the 2009 South African case of *Lindiwe Mazibuko and Others v City of Johannesburg and Others*,[57] the Constitutional Court had to decide over an alleged violation of the right to have access to sufficient water under Section 27 of that country's Constitution. Section27 stipulates that

> (1) Everyone has the right to have access to-
> *(a)* health care services, including reproductive health care;
>
> *(b)* sufficient food and water; and
>
> *(c)* social security, including, if they are unable to support themselves and their dependents, appropriate social assistance.
>
> (2) The state must take reasonable legislative and other measures, within its available
>
> resources, to achieve the progressive realisation of each of these rights.

Lindiwe Mazibuko and Others v City of Johannesburg and Others was the first case in which the Constitutional Court had considered the obligations imposed by the right to access sufficient water, as set out in Section 27(2) of the South African Constitution.

Under the Namibian Constitution, the right to water is not explicitly included in the fundamental rights, but is an implicit component of existing fundamental human rights. Therefore, water must be available and accessible in sufficient quality and quantity for personal and domestic consumption.[58] The protection of the right to water is an essential prerequisite to the fulfilment

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55 Case No. CACLB-074-10, unreported judgment of the Appeal Court of Botswana dated 27 January 2011.

56 Ibid.

57 *Lindiwe Mazibuko and Others v City of Johannesburg and Others* Case CCT 39/09 [2009] ZACC 28.

58 See Mapaure (2010a).

of many other human rights.[59] Without guaranteeing access to a sufficient quantity of safe water, respect for human dignity and other human rights may be jeopardised. Formal recognition of the right to water means acknowledging the environmental dimension of existing human rights.[60]

In 2002, Namibia adopted a National Water Policy that states that all Namibians have a right to access sufficient safe water for a healthy and productive life. Moreover, Sections 2 and 3 of the Water Resources Management Act[61] state that the state has an obligation to ensure that water resources are managed in ways consistent with fundamental principles to warrant equitable access to water by every citizen. Although Parliament approved the Water Resources Management Act, the rather out-dated Water Act[62] remains in force until the new Water Resources Management Act is promulgated.[63] The relationship between water quality regulation and human rights jurisprudence is very significant.[64]

3.5 Article 10: Equality and Freedom from Discrimination

As part of the Bill of Rights under Chapter 3 of the Constitution, Article 10 provides for the following:

> (1)All persons shall be equal before the law.
>
> (2)No persons may be discriminated against on the grounds of sex, race, colour, ethnic origin, religion, creed or social or economic status.

The equality clause can be interpreted to strongly support the notion of environmental human rights, thus putting the state under the obligation to protect its people equally and to ensure that benefits are distributed fairly that is to the greatest possible extent.[65] Human vulnerability also exacerbated by means of global warming and climate change is felt most acutely by those segments of the population who are already in vulnerable situations due to factors such as poverty, gender, age, minority status, and disability.[66]Vulnerability and impact assessments in the context of climate change largely focus on the economic sector, and tend to not take into account the former factors.[67]

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59 Ruppel (2008a:107).

60 Mapaure (2010a).Through a rights-based approach, victims of water pollution and people deprived of essential water to meet their basic needs are provided with access to remedies.

61 No. 24 of 2004.

62 No. 54 of 1956.

63 The Water Act was still applied by the High Court in Windhoek in the recent case concerning the use of groundwater by the Valencia Uranium Mine; see Hinz / Ruppel (2008b:48) with further references.

64 Koonan / Khan (2010:294).

65 Bilchitz (2003:1–26).

66 Ruppel (2010a,b,d).

67 Ruppel (2008g).

Since independence, the Government of Namibia has made various efforts in terms of strengthening women's and children's rights, first of all by according gender equality the status of a constitutionally guaranteed fundamental right and by subsequently passing progressive gender-based laws. Moreover, a Ministry of Gender Equality and Child Welfare was established in 2000 with the objective of ensuring the empowerment of women, men and children, and the equality between men and women as prerequisites for full participation in political, legal, social, cultural and economic development.[68]

3.6 Article 15: Children's Rights

A recently conducted study on children's rights has shown that Namibia can be lauded for initiating law reform for the improvement of such rights.[69] This reflects Namibia's remarkable commitment to protecting children's rights by, amongst other things, incorporating a broad variety of international legal instruments into the domestic system. Namibia is a State Party to the most relevant legal instruments on the protection of children's rights on global, regional and sub-regional level. Thus, the Convention on the Rights of the Child(CRC) explicitly states that the child has a right to "clean drinking water, taking into consideration the dangers and risks of environmental pollution".[70]Of course, effective implementation and the entire reporting system, which are imperative for enhancing the situation of children, can only work if States Parties collaborate to improve the situation of children.[71] In this context there can be no doubt, that the recognition of environmental human rights is not only supportive to, but in all means in the best interest of the child. Although the Namibian Constitution does not seem to envisage the concept of the *best interest of the child* to be of paramount consideration,[72] international human rights standards must be applied accordingly.[73]

3.7 Articles 18 and 5: Administrative Justice

The Constitution deals with administrative justice in two of its Articles: 18 and 5. Article 18 requires that administrative bodies act fairly and reasonably, and that they comply with the requirements stipulated in common law and relevant legislation. This article obviously plays an eminent role in the proper implementation of administrative measures, being a means of achieving compliance with environmental laws and, thus promoting environmental human rights in Namibia. Article 5 contains the fundamental obligation enshrined in modern constitutionalism

68 Ruppel (2008b,g; 2009a; 2010b,c,d).
69 Ruppel (2009e,f.).
70 Article 24(2)(c)CRC.
71 Ruppel (2009e:2–3).
72 Naldi (1995:79).
73 Ruppel (2009f.).

according to which the three organs of the state – including the executive – are obliged to uphold and respect the fundamental rights and freedoms set out in Chapter 3 of the Constitution. Thus, Article 5 reaches beyond Article 18: the yardsticks of Article 5 are the fundamental rights and freedoms. Article 5 requires substantial compliance by confronting administrative actions and the law authorising such actions with the comprehensive catalogue of human rights. The placement of Article 5, as an integral part of Chapter 3's fundamental freedoms, expresses – in line with what follows later, namely in Article 21(1) and Article 22 – that the fundamental rights and freedoms are invested with real constitutional and legal weight.[74]

3.8 Article 19: The Right to Culture

With Article 19 the right to culture is guaranteed under the Bill of Rights in the Constitution, as well as in Article 15(1)(a) of the International Covenant on Economic, Social and Cultural Rights (ICESCR). In terms of these two legal obligations, the government is required to take legislative and administrative action to ensure the fulfilment of these rights. Although Chapter 3 is not primarily aimed at protecting economic, cultural and social rights (such as those of Article 19), it is important to remember that Article 5 makes those listed within Chapter 3 legally enforceable. From this arose the right to profess, maintain and promote a language in the case of *Government of the Republic of Namibia v Cultura 2000.*[75] Cultural diversity is also closely linked to ecological biodiversity.[76] The collective knowledge of biodiversity, its use and its management rests in *cultural diversity*, and can, therefore, also be regarded as an (indigenous) environmental human right.[77]

The right to tradition also falls under Article 19, which seeks to ensure that the traditions and way of life of the different indigenous groups[78] comprising Namibia's society are protected. Article 19 is in line with Article 17(3) of the Banjul Charter, which proclaims that the state has the duty to protect traditional values.[79] Traditional knowledge, without doubt, is such a value. So far, Namibian courts have been reluctant to consider the right to culture as a means of protecting traditional knowledge. In a case decided by a Magistrate's Court,[80] the harvesting of almost 400 kg of hoodia was at issue. *Hoodia gordonii*, a cactus-like plant native to the Namib

74 Hinz (2009:81–89).

75 1994 (1) SA 407 (NmS).

76 See in detail Hinz / Ruppel (2008b).

77 Ibid:57.

78 Indigenous groups can be defined as "originating in and characteristic of a particular region or country; native; (…) *e.g.* the indigenous peoples of southern Africa."Seehttp://dictionary.reference.com/browse/indigenous; last accessed 19 December 2010.

79 Naldi (1995:97).

80 The case was decided at the end of 2007 by the Mariental Magistrates' Court; cf.Allgemeine Zeitung, 8 January 2008.

Desert, is widely believed to be an appetite suppressant, used by some traditional (indigenous)communities.[81] All hoodia species are protected under the Convention on the Illegal Trade of Endangered Species (CITES), to which Namibia is a signatory. Accordingly, it is listed as a protected plant under Schedule 9 of the Namibian Nature Conservation Ordinance,[82] as amended after Independence by the Nature Conservation Amendment Act.[83] Thus, according to Section 73(1) of the Ordinance, no person other than the lawful holder of a permit granted by the Executive Committee is permitted at any time to pick or transport any protected plant. The Magistrate's Court, however, discharged two alleged thieves of almost 400 kg of hoodia. In its ruling, the court held that it could not be proved that the confiscated plants were of the specific *Hoodia gordonii* species. Taking into consideration that Schedule 9 of the Ordinance lists all *Hoodia* species as protected plants, the reasoning for the ruling in this case is hardly traceable.[84] The Ordinancedeals with *in situ* and *ex situ* conservation by providing for the declaration of protected habitats as national parks and reserves, also for the protection of scheduled species. It regulates hunting and harvesting, possession of and trade in listed species for the propagation, protection, study and preservation of wild animal life, wild plant life, and objects of geological, ethnological, archaeological, historical and other scientific interest, and for the benefit and enjoyment of the inhabitants of Namibia and other persons.

Traditional knowledge is an important part of cultural identity. CITES has links to traditional knowledge (e.g. traditional medicine) and culture (folklore, artefacts), with the essential purpose and operation of the Convention noting that Appendix III provides a practical mechanism for States Parties to list specific species for specific purposes, e.g. the protection of intellectual property rights. Notwithstanding the question whether the protection of traditional knowledge actually lies within the logic of the intellectual property system or the human rights system, intellectual property law uses the language of economic incentive to justify intellectual

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81 Members of the San community used this plant for centuries when hunting. As hunting usually took several days, they used to eat the hoodia to still their hunger. The San name for the hoodia is *!khoba*. The events related to the hoodia plant are one of the cases dealing with bioprospecting (also described as *biopiracy*), describing the appropriation, generally by means of patents, of legal rights over indigenous biomedical knowledge without compensation to the indigenous groups who originally developed such knowledge. However, hoodia is registered in the name of the South African Council for Scientific and Industrial Research (CSIR). In 2003, after years of disputes with the CSIR, the latter concluded an agreement with the San, granting them 6% of the royalties paid to the CSIR by Phytopharm, in addition to 8% of the 'milestone income' paid by Phytopharm in case the development of the product made substantial progress. This agreement was the first of its kind, granting participation in profits to indigenous people resulting from traditional knowledge. Nonetheless, the CSIR, despite having signed the agreement with the San for good reasons, at a later stage alleged within proceedings before the European Patent Office that it was doubtful whether the San really did have knowledge about the effect of hoodia. See also Hoering (2004).

82 No. 4 of 1975.

83 No. 5 of 1996.

84 This corresponds with the view of Ben Beytell of the Ministry of Environment and Tourism; see article in the Allgemeine Zeitung, 8 January 2008.

property protection. Apart from the economic value of protecting traditional knowledge, it must be protected for cultural reasons as well, as stated in Article 19 of the Constitution.

3.9 Article 25: Enforcement of Fundamental Rights and Freedoms

Article 25(2) of the Constitution provides that –

> [a]ggrieved persons who claim that a fundamental right or freedom guaranteed by this Constitution has been infringed or threatened shall be entitled to approach a competent Court to enforce or protect such a right or freedom, and may approach the Ombudsman to provide them with such legal assistance or advice as they require, and the Ombudsman shall have the discretion in response thereto to provide such legal or other assistance as he or she may consider expedient.

Article 25(2) plays an important role in the constitutional framework, as it makes clear reference to the Ombudsman. Chapter 10 of the Constitution deals with the Ombudsman in more detail. In Namibia, ombudsmanship was already introduced in 1986 by the enactment of the Ombudsman of South West Africa Act.[85] After Independence in 1990, the Office of the Ombudsman was established as a constitutional Office. The legal foundations of this institution are to be found in Articles 89–94 of the Constitution. In addition to the constitutional provisions, the Ombudsman Act[86] defines and prescribes the powers, duties and functions of the Ombudsman, and provides for matters incidental thereto. The Office of the Ombudsman is intended to ensure that citizens have an avenue open to them, free of red tape, and free of political interference.[87] The Ombudsman has a relatively broad mandate and corresponding powers. According to Article 91 of the Namibian Constitution, the mandate of the Ombudsman mainly relates to four broad categories: human rights, administrative practices, corruption,[88] and the environment.[89] The Ombudsman's human rights and environmental mandates are crucial for an effective protection and realisation of environmental human rights in Namibia. For

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85 No. 26 of 1986, as amended by the Ombudsman of South West Africa Amendment Act, 1988 (No. 11 of 1988).

86 No. 7 of 1990.

87 Tjitendero (1996:10).

88 With the Namibian Constitution Second Amendment Bill, corruption is removed from the list of the functions of the Ombudsman; see http://www.parliament.gov.na/bills_documents/36_namibian_constitution_second_amendment_bill.pdf last accessed 10 January 2010. The intention behind this amendment is to avoid concurrent overlapping competences between the Office of the Ombudsman and the Anti-Corruption Commission, and to divert all corruption-related complaints to the Commission. The latter was established by the Anti-Corruption Act, 2003 (No. 8 of 2003), and inaugurated in early 2006.

89 Ruppel-Schlichting (2008).

this purpose the Office, however, needs to become much more proactive, especially in view of its role as a national human rights institution.[90]

Article 25(3) obliges the state inter alia to make all necessary and appropriate orders to respect and uphold fundamental rights and freedoms, including by interdict and injunction. Namibian courts have stated in the past that the Constitution requires a generous interpretation, avoiding the austerity of tabulated legalism, in order to give individuals the full measure of their rights. However, Namibian courts also adhere to the presumption of constitutionality, meaning that the onus is on the applicant to prove that a fundamental right or freedom has been infringed upon and that he/she has *locus standi* as an aggrieved person under Article 25(2). Generally speaking, the common law test for *locus standi* is that the person applying for standing either has a private right or is able to demonstrate that s/he has a special interest in the subject matter of the action before the relevant court.[91] The special interest does not need to involve a legal or pecuniary right, but can also be of an intellectual or emotional concern.[92]

3.10 Article 144: International Law

Namibia is party to various international human rights[93] and environmental covenants, treaties, conventions and protocols and is, therefore, obliged to conform to their objectives and obligations. As to the application of international law, a new approach was formulated after Independence, as embodied in the Namibian Constitution. Article 144 therein provides that –

> [u]nless otherwise provided by this Constitution or Act of Parliament, the general rules of public international law and international agreements binding upon Namibia under this Constitution shall form part of the law of Namibia.

Thus, the Constitution explicitly incorporates international law and makes it part of the law of the land. *Ab initio*, public international law is part of the law of Namibia.[94] No transformation or subsequent legislative act is needed.[95] A treaty will become binding upon Namibia in terms of

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90 Currently, the Ombudsman's Office is heavily understaffed and underequipped in terms of financial resources, leading to a state where it barely becomes responsive to its aforementioned constitutional mandates. On the Ombudsman and the environment, see chapter 13.

91 Fisher / Kirk (1997:372).

92 In this respect, the Namibian legal set-up is quite different from many others. The 1996 South African Constitution, for example, contains a rather generous allocation of legal standing. People seeking protection for their environmental right need not prove a direct interest in proceedings in order to have *locus standi*; see Du Plessis (2008:261) with further references.

93 As far as can be established, Namibia has formally recognised the African Charter in accordance with Article 143 read with Article 63(2)(d) of the Constitution. Thus, the provisions of the Charter have become binding on Namibia, and form part of Namibian law in accordance with Articles 143 and 144 of the Constitution. See also Viljoen (2007:549f.).

94 See Tshosa (2001:79ff.).

95 Erasmus (1991:94).

Article 144 of the Constitution if the relevant international and constitutional requirements have been met.

The 1981 African (Banjul) Charter on Human and Peoples' Rights[96] is a human rights treaty that proclaims environmental rights in broadly qualitative terms. It protects the right of peoples both to the "best attainable state of physical and mental health" (Article 16) and to a "general satisfactory environment favourable to their development" (Article 24). Article 24 of the African Charter establishes a binding human-rights-based approach to environmental protection, linking the right to environment to the right to development.[97]

In the *Ogoni* case, for example, the African Commission on Human and Peoples' Rights held, inter alia, that Article 24 of the African Charter imposed an obligation on the state to take reasonable measures to "prevent pollution and ecological degradation, to promote conservation, and to secure ecologically sustainable development and use of natural resources".[98] The *Ogoni* case decided by the African Commission on Human and Peoples' Rights in 2001 and communicated to the parties in 2002 is considered to be a landmark decision with regard to the effective protection of economic, social and cultural rights in Africa, particularly the protection of the right of peoples to a satisfactory environment.

Article 24 of the African Charter should also be viewed together with the Bamako Convention and the first Organisation of African Unity (OAU) treaty on the environment, the Convention on the Conservation of Nature and Natural Resources, which predates the African Charter.[99] It has to be noted that Namibia is not a signatory to the original Convention. However, Namibia has signed the Revised African Convention on the Conservation of Nature and Natural Resources. The latter was adopted by the Second Ordinary Session of the African Union (AU) Assembly of Heads of State and Government in Maputo, Mozambique, in July 2003. It has, however, not yet come into force. The Bamako Convention, which was adopted after the African Charter, was drafted in reaction to the human suffering caused by the dumping of petrochemical waste. It bans the import of waste to the continent.

The Southern African Development Community (SADC) was established in Windhoek in 1992 as the successor to the Southern African Development Coordination Conference (SADCC), which was founded in 1980. SADC's objectives include the achievement of development and economic growth; the alleviation of poverty; the enhancement of the standard and quality of life; support of the socially disadvantaged through regional integration; the evolution of common political values, systems and institutions; the promotion and defence of peace and

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96 Hereafter *African Charter*.

97 Van der Linde / Louw (2003:169).

98 See Communication 155/96 available at http://www.cesr.org/ESCR/africancommission.htm; last accessed 13 April 2010. For further details see *The Social andEconomicRightsActionCenter and the Center for Economic and Social Rights v Nigeria*(27 October 2000); Coomans (2003:749–760); Ebeku (2003:149–166).

99 Viljoen (2007:287ff.).

security; and achieving the sustainable utilisation of natural resources and effective protection of the environment.[100]

It might appear that the promotion and protection of human rights is not SADC's top priority as an organisation - one that furthers socio-economic cooperation and integration as well as political and security cooperation among its 15 member states. However, the protection of human rights plays an essential role in economic development as it has an impact on the investment climate, which in turn contributes to growth, productivity and employment creation. Other SADC objectives such as the maintenance of democracy, peace, security and stability refer to human rights, as do the sustainable utilisation of natural resources and the effective protection of the environment. With the 2003 Declaration on Agriculture and Food Security, the SADC community has ascribed substantial importance to some specific objectives laid down in Article 5 of the SADC Treaty.[101] The Declaration is of specific importance for the human right to food, and covers a broad range of human-rights-relevant issues. The SADC Tribunal is the judicial institution within SADC.[102]

The African Charter, and AU and SADC law automatically form part of Namibian law in so far as the relevant legal instruments have been adopted by the country.[103] Despite the absence of a justiciable environmental human right in the Namibian Constitution, government incurs environmental-rights-based duties in terms of Article 24 of the African Charter.[104] Thus, Namibian courts are under the obligation to take judicial notice of the aforementioned international instruments as a source of national law.[105] In this context, Article 144 is an important constitutional mechanism.[106]

4 Concluding Remarks

Environmental human rights cannot be seen in isolation from other human rights. They are not only protected under various international conventions, but interlinked with many fundamental rights and freedoms in the Namibian Constitution. They are not only relevant under the constitutional principles of state policy but beyond. Human rights must be justiciable and their

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100 These are some of the SADC objectives laid down in Article 5 of the SADC Treaty.

101 Namely the promotion of sustainable and equitable economic growth and socio-economic development to ensure poverty alleviation with the ultimate objective of its eradication; the achievement of sustainable utilisation of natural resources and effective protection of the environment; and mainstreaming of gender perspectives in the process of community- and nation-building.

102 For a more detailed review of the SADC Tribunal, see Ruppel (2009a,b,c); Ruppel / Bangamwabo (2008).

103 Ruppel (2008a:101ff.).

104 Du Plessis (2008:193).

105 Ibid with further references.

106 Ruppel (2008a:108–111).

protection must be secured through the courts.[107] This gives citizens the right to take executive agencies to court, and the judiciary reigns as the authority to adjudicate such matters. The judiciary is most essential in the protection and promotion of environmental human rights. It leads the way in interpreting relevant legislation and settles disputes arising between citizens and/or between citizens and the state. While the inclusion of environmental concerns into human rights jurisdiction is still in its infancy in African jurisprudence, relevant rulings from other courts in the world such as the European Court of Human Rights[108] and the Indian Supreme Court[109] may be taken as examples when it comes to the link between human rights and environmental concerns and the recognition and judicial enforcement of a human right to environment.

107 Bukurura (2002:21).

108 *TATAR v Romania* (Application No. 67021/01) Judgment 27.1.2009; *Okyay and Others* (Application No. 36220/97) Judgment 12.07.2005.*Fadeyeva v Russia* (Application No. 55723/00) Judgment 9.06.2005; *Oneryildiz v Turkey* (Application No. 48939/99) Judgment 30.11.2004; *Moreno Gómez v Spain* (Application No. 143/02) Judgment 16.11.2004; *Taskin and others v Turkey* (Application No. 46117/99) Judgment 10.11.2004; *Hatton and Others v United Kingdom* (Application No. 36022/97) Judgment 02.10.2001, see Heselhaus / Marauhn (2005:549); *Athanassoglou and Others v Switzerland* (Application No. 27644/95) Judgment 06.04.2000; *Guerra and Others v Italy* (Application No. 14967/89) Judgment 19.02.1998; *Balmer-Schafroth and Others v Switzerland* (Application No. 22110/93) Judgment 26.08.1997, Reports 1997–IV; *Lòpez Ostra v Spain* (Application No. 6798/90) Judgment 09.12.1994; *Powell and Rayner v United Kingdom* (Application No. 9310/81) Judgment 21.02.1990.

109 One prominent example of Indian jurisdiction on environmental concerns and fundamental rights is the Delhi vehicular pollution case of *MC Mehta v Union ofIndia*(No. 13029/1985) Judgment 28.07.1998. For further details see Rosencranz / Jackson (2003:228).

Chapter 9

TRADE, ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

Oliver CRuppel

1 The Trade Environment in Namibia[1]

Namibia is a lower middle-income country, with a per capita income of about US$3,455 in 2007. In recent years, real GDP growth has been quite strong, averaging 6.0% between 2003 and 2008. In addition, several human development indicators show that Namibia has made considerable progress since independence in 1990. Unemployment (estimated at 36.7% of the labour force in 2004)[2], poverty (56% of the population live on less than US$2 a day), the HIV/AIDS pandemic[3], and household food insecurity are among the main problems facing Namibia.[4]

Namibia has been a WTO Member from its inception, hence its trade policy is heavily influenced by this membership, to which its government attaches great importance. Namibia is committed to a liberal trade regime.[5] It is a Member of the Southern African Development Community (SADC), and the African Union/African Economic Community, of which all SACU countries are also Members.[6]Namibia was previously a Member of the Common Market for Eastern and Southern Africa (COMESA), from which it withdrew on 31 May 2004.

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1 The following passages – including footnotes 2-39 are based on the WTO document WT/TPR/S/222/NAM, available at www.wto.org/english/tratop_e/tpr_e/s222-03_e.doc; last accessed 14 November 2010.

2 National Planning Commission (2008).

3 HIV prevalence in the adult population was reduced from 22% in 2003 to 19.9% in 2006 largely due to the National Awareness Campaign jointly run by the government, private sector and international agencies. The programme of public provision of antiretroviral (ART) drugs, launched in 2003, currently covers about 40,000 patients, i.e. 70% of those who could benefit from ART treatment. In addition, the tuberculosis and malaria prevalence in Namibia are (still) among the highest rates in the world.

4 According to the World Food Programme, Namibia is expected to lose about 26% of its agricultural labour force through AIDS during 1985-20 (WFP online information. Available at http://www.wfp.org/food_aid/doc/HIV_Food_Security.pdf.).

5 WTO document G/AG/NG/W/143; last accessed 23 March 2001.

6 Namibia adopted the SADC Protocol on Trade on 7 August 2000 (ratified on 22 December 1998) and ratified the SADC Amendment Protocol on 4 July 2001 (signed 4 April 2001).

Namibia has a stable economy, good infrastructure, plentiful mineral resources, and several well developed economic sectors, but, for the majority of its people, it remains a largely agrarian economy as nearly two thirds of the population depend on farming.
Namibia's trade policy instruments are mostly set at the regional level within the context of the Southern African Customs Union (SACU). On the domestic front, in areas not covered by the SACU Agreement, the Ministry of Trade and Industry has primary responsibility for formulating and implementing trade policies. Within the Ministry, foreign trade policy, including multilateral, regional, and bilateral trade relations, is the responsibility of the Directorate of International Trade.[7]Other institutions of importance are the Ministries of Finance (budget, expenditure/revenue measures, including tariff and macroeconomic policies); Mines and Energy; Fisheries and Marine Resources; Agriculture, Water, and Forestry; Environment and Tourism; Works and Transport; Foreign Affairs; and Information and Communication Technology; as well as the National Planning Commission in the Office of the President (development plans); Namibia Financial Institutions Supervisory Authority (NAMFISA); and the Bank of Namibia.
There is significant consultation and interaction between the public and private sectors on trade policy formulation and implementation. Private-sector representatives are also usually Members of committees for coordinating government activities. In this regard, the main bodies representing the private sector's views to Government are the Namibia Trade Forum and its committees, the Non-Agricultural Market Access Committee (NAMA), the Agriculture Committee, the Trade in Services Committee, the Aid-For-Trade Committee, and the Fisheries and Aquaculture Committee. The NAMA group membership include the Namibia Chamber Commerce and Industry (NCCI), the Namibia Manufacturing Association (NMA), and the Indigenous People Business Forum (IPBF); the Agriculture Trade Committee is anchored on the Agriculture Trade Forum (AFT); and the Fisheries and Aquaculture Committee covers various fishery companies and associations (...).

1.1 Trade-related Legislation (also relevant to the Environment)

Overall, the Namibian Government aims to create an appropriate and enabling business environment to facilitate meaningful private-sector development. To this end, Namibia has been gradually removing entry barriers, and regulatory and administrative requirements (e.g. licences, permits, and registration procedures) have been gradually simplified. Several programmes administered by the Ministry of Trade and Industry provide financial and institutional support. Furthermore, various trade-related laws have been enacted, revised or amended since 2000[8]:

7 See WTO (2003), Annex 3, p. 162, for details on the Directorate.
8 Source: The WTO Secretariat; information provided by the Namibian authorities.

Subject	Legislation
Agriculture	Agronomic Industry Act, 1992; Meat Industry Amendment Act, 1992; Karakul Pelts and Wool Act, 1982; Agricultural (Commercial) Land Reform Amendment Act, 2003; Stock Brands Act, 1995; Meat Corporation Act, 2001
Competition	Trade Practices Act, 1976; Merchandise Act, 1941; Competition Act (No 2), 2003; Companies Act (No 61), 1973
Economic zones	Export Processing Zones Act, 1995
Exports and imports	Customs and Excise Act, 1998; Value-Added Tax Amendment Act, 2002; Imports and Exports Control Act, 1994
Fisheries	Marine Resources Act, 2000; Regulations Relating to the Exploitation of Marine Resources, 2001
Foreign investment	Foreign Investment Act, 1990 and 1993 amendments
Government procurement	Tender Board of Namibia Act, 1996
Intellectual property rights	Copyright and Neighbouring Rights Protection Act, 1994; Patents and Design Act, 1952; Patents Act, 1978; Proclamation No. 17, 1923; Trade Marks in South West Africa Act, 1973
Mining	Minerals (Process and Mining) Act, 1990; Diamond Act, 1999; Petroleum Products and Energy Act, 1990; Petroleum Exploration and Production Act, 1991
Price control	Petroleum Products and Energy Act, 1999
Services	
General	Electricity Act (No. 2), 2000; Electricity Regulations: Administrative Electricity Act, 2000; Air Services Act, 1949 and 1998 amendments; Aviation Act, 1962 and 1998 amendments; Telecommunications Policy and Regulatory Framework for Namibia, 1999; Namibian Communications Commission Act (No. 4), 1992, as amended; Post and telecommunications Act (No. 19) 1992, as amended; Namibia Broadcasting Act, 1991; Road Traffic and Transport Act,1999; Road Traffic and Transport Regulations, 2001; Road Fund Administration Act, 1999; Namibia Ports Authority Act, 1994, as amended; Airports Company Act, 1998; National Transport Services Holding Company Act, 1998; Supervisory Authority Act (No. 3), 2001; Building Societies Act, 1986 (No. 2), 1986; Accommodation Establishments and Tourism Ordinance Act (No. 20), 1973; Casinos and Gambling Houses Act, 1994; Liquor Act (No.6), 1998 (as far as it apply to accommodation establishments); National Housing Enterprise Act (No. 5), 1993; Pension Funds Act (No. 24), 1956; Electricity Act (No. 2), 2000

Subject	Legislation
Financial	Currency and Exchanges Act, 1933; Prevention of Counterfeiting and Currency Act, 1965; Bank of Namibia Act, 1997; Agriculture Bank of Namibia Act (No.13), 1994; Banking Institutions Act, 1998; Payment Systems Management Act, 2003; Financial Intelligence Act, 2007; Long-Term Insurance Act (No. 5), 1998; Public Accountants and Auditors Act (No. 51), 1951; Stock Exchanges Control Amendment Act (No. 26), 1992
Standardization	Standards Act (No. 18), 2005

1.2 Import Practices

All imports, including agricultural commodities, must be licensed by the Ministry of Trade and Industry. In general, the licences are for statistical purposes (automatic licences). However, non-automatic licensing applies to imports of medicines; chemicals; frozen or chilled fish and meat; live animals and genetic materials; controlled petroleum products; firearms and explosives; diamonds, gold, and other minerals; and all second-hand goods, such as clothing and motor vehicles. The issuance of a non-automatic licence is generally subject to a permit from the relevant ministry, for example, the Health Ministry for medicines, the Ministry of Mines and Energy for minerals, the Ministry of Agriculture, Water and Forestry for agriculture and related products, the Ministry of Fisheries for live marine organisms, the Ministry of Environment and Tourism for endangered species covered by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), etc.

The Namibian Agronomic Board controls the trade (import and export) of controlled products (Agronomic Industry Act (No. 20 of 1992), and its regulations through permits.[9] Whole-grain (white) maize, wheat, pearl millet (*mahangu*) and their milled products are controlled crops in Namibia and subject to seasonal import restrictions under which no import licences are issued until all domestic production has been sold. For example, in 2006 no imports of white maize were permitted between 1 May and 16 October.[10] Normally, the import of wheat flour into Namibia is prohibited although imports may be permitted depending on market conditions. The restriction is aimed at promoting the domestic processing industry. Yellow maize meal for animal feed may be imported into Namibia without restrictions. The export from the BLNS (Botswana, Lesotho, Namibia and Swaziland) into the SACU market of wheat flour and products processed from rebated grain is prohibited.

Prices for controlled commodities are determined by the industry, through negotiations between producers and processors, based on the South African Futures Exchange (SAFEX) and adjusted to import parity prices, mainly from South Africa. The Agronomic Board monitors

9 Namibian Agronomic Board online information, "Grain: Controlled Crops". Available at http://www.nab.com.na/controlled_crops.htm; last accessed February 2009.

10 Namibian Agronomic Board (2007).

these prices for statistical purposes but is not involved in the process of setting them or for their enforcement.

To meet European Community (EC) food safety requirements for beef exports, including tracing of animals, re-exports of meat are banned. Imports of animals and animal products from outside Namibia must have veterinary import permits as required by the Animal Diseases and Parasites Act (No. 13 of 1956). Veterinary permits, usually for one importation only, are available from the Directorate of Veterinary Services in Windhoek on delivery of the completed application form and payment of an N$50 fee. The veterinary permit includes a health certificate, which must be completed and signed by an authorised veterinary official in the exporting country. Meat Board Permits are also required for the import of livestock and meat products. The permits are free of charge but an import levy is payable. Imports from South Africa and Botswana of pets (dogs and cats only) and animal products for personal use are subject to a special arrangement that allows the pets and limited quantities of some animal products to be imported without a Namibian veterinary import permit. In many cases, however, such an import would still require an authorised veterinary certificate from the country of origin.[11]

The Ministry of Agriculture, Water, and Forestry is also responsible for issuing import authorisations for fresh fruit and vegetable. An Import Authorisation is usually valid for one year and lists the products that may be imported. It also lists the pests the imports must be certified as being free from. An import permit from the Namibian Agronomic Board is also required; this is valid for three months and is reissued for an import quantity based on the performance of the previous three months. Imports must be accompanied by a phytosanitary certificate from the public authorities of the country of origin, and a phytosanitary import permit from the Namibian authorities for N$200. Importers are also required to pay a levy of 1.2% in addition to the standard-rate VAT of 15% on the landed cost of the consignment.[12] In addition, under the Horticulture Development Initiative, importers are obliged to make monthly returns to the Agronomic Board showing that they satisfy the Market Share Promotion scheme, which requires them to purchase a specific percentage of their supply from the domestic market.[13] The domestic purchase requirement under the Market Share Promotion scheme was recently increased from 25% to 30%. There is some flexibility in implementing the scheme and lower proportions of domestically sourced products may be accepted if it can be demonstrated that not enough domestically sourced products are available.[14]

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11 Ministry of Agriculture, Water, and Forestry (2004); and WTO document G/LIC/N/3/NAM/3, 6 April 2000.

12 Namibian Agronomic Board (2007).

13 Horticulture online information, "FAQ".Available at: http://www.horticulture.nab.com.na/faq.php#3; last accessed February 2009.

14 Namibian Agronomic Board online information, "Horticulture Import Permit".Available at http://www.horticulture.nab.com.na/forms_documents.php;accessed June 2009; and information provided by the Namibian authorities.

Non-automatic licences apply to imported second-hand goods, such as clothing, leather products, and motor vehicles. In practice, only registered welfare agencies can import used clothing and leather products. Import permits are required for commercial imports of used cars. Permits are limited to right-hand drive cars of five years or less, that meet road worthiness standards.

SACU tariff quotas apply to imports into the BLNS of wheat, cheese, butter, and skimmed and whole milk powder. Namibia's quotas are 50,000 tonnes for wheat, 300 tonnes for cheese, 400 tonnes for butter, 700 tonnes for skimmed milk powder, and 400 tonnes for whole milk powder. The in-quota tariff is 0% for all these products. The tariff quota administration method is first-come, first-served. Each August, the Ministry of Agriculture, Water, and Forestry invites applications from interested companies; applications, in writing, indicate the quantities the applicants wish to import. Tariff rebate permits for each consignment are issued by the MAWF to the companies for submission to the customs authorities at the port of entry.[15] Re-export to other SACU Members of goods imported under these tariff quotas is prohibited.

Import prohibitions also apply to obscene materials and environmentally hazardous products, including toxic or radio-active waste, to protect health, safety, and morality. Namibia is a signatory to the Montreal Convention on the Emission of Ozone Depleting Substances, and the Vienna Convention and the London Amendment; the International Atomic Energy Agency; the Basel Convention on Trade in Toxic or Hazardous Waste; the Convention on International Trade in Endangered Species of Wild Fauna and Flora; and the Cartagena Protocol on Biosafety.

1.3 Export Practices

Exports, except to SACU Members, of nearly all products are subject to automatic licensing. The exceptions, which require a non-automatic permit, include: medicines; live animals and genetic materials; all ostrich-breeding materials; meat and game products; protected species under CITES; plants and plant products; firearms and explosives; minerals, including diamonds and gold; coins and bank notes; certain works of art and archaeological findings; and oysters.

Export permits from the Meat Board of Namibia are required for exports of livestock (slaughter cattle, non-slaughter cattle, breeding cattle, weaner cattle, sheep, and goats). Export permits for maize, wheat, and *mahangu* are required from the Namibian Agronomic Board at a cost of N$50.00. At the request of the exporter, and to meet the requirements of the importing country, the Directorate of Veterinary Services in the Ministry for Agriculture, Water, and Forestry can provide certification to show exports of meat, livestock or game are free of pests and diseases. Restrictions on the export of sheep require that six sheep must be slaughtered locally for each sheep exported live.

The Namibia Diamond Trading Company, a 50:50 joint venture between De Beers and the Government and operated by De Beers, markets all Namibia's diamonds. Through the Namdeb

15 Ministry of Agriculture, Water, and Forestry (undated).

Diamond Corporation (also a 50:50 joint venture between Namibia and De Beers) some diamond production is made available for sorting and sale in Namibia and 15% of production of cuttable diamonds are sold for local processing. Namibia also applies the Kimberley Process Certification Scheme through the Diamond Board of the Ministry of Mines and Energy, to certify that Namibia's rough diamonds are from areas free of conflict.[16] Trade measures necessary to implement the Kimberley Process are covered by a WTO waiver.[17]

1.4 Agriculture

The Namibian Government continues to put strong emphasis on agriculture policy but is also encouraging diversification through the manufacturing and services (particularly tourism) sectors (...). Land reform is a high government priority.[18]While land reform is a major objective it is not a simple matter as many related issues need to be addressed. While pursuing the objective of land reform, government policy is based on the principle of "willing-buyer, willing-seller".

There are about 8,600 commercial farms, which contribute almost 70% of agricultural GDP and take up 34 million ha of freehold title deed land, i.e. 41% of Namibia's total land area.[19] The number of commercial farms can be misleading, because it does not take account of the numbers of people working on the farms or those in the transport, processing, and agriculture inputs sectors that depend on commercial farms. However, even allowing for these factors, many more people depend on subsistence farming than on the commercial sector. About 65% of Namibia's population live in subsistence farming areas, which is responsible for about 30% of agriculture's total GDP. Most households practice subsistence agripastoralism on communal land, which is state-owned and constitutes approximately 41% of the total land area.[20] In general, scarce productive land and fragile soils coupled with limited water resources and an erratic rainfall are the principal challenge for Namibia's agriculture.[21]

Namibia is a net exporter of red meat but it imports about half of its cereal requirements, especially maize and wheat. Cereals provide about 50% of the total calorie intake of

16 The Kimberley Process Certification Scheme was established in 2003 on the basis of United Nations Resolution 55/56 to certify that consignments of rough diamonds came from areas free of conflict. The 2009 chair of the KPCS is Namibia. For more information, see Kimberly Process online information. Available at http://www.kimberleyprocess.com.

17 WTO document WT/L/676, 19 December 2006.

18 Since independence, the Government has purchased around 4 million ha of land in the freehold subsector for nearly 1,000 communal farmers.

19 During 2001-06, the annual average growth rate of commercial agriculture was 2.6% (4.4% over 1995-00) (Ministry of Agriculture, Water, and Forestry, 2007).

20 During 2001-06, the annual average growth rate of subsistence agriculture was 0.7% (7.7% over 1995-00) (Namibia Chamber of Commerce and Industry, 2008). The Communal Land Reform Act, passed in August 2002 (Act No. 5), provides for the allocation of communal land rights by Chiefs and Traditional Authorities, under the control of Communal Land Boards.

21 Namibia's arable land accounts for only 1% of total land.

Namibians. Pearl millet (*mahangu*), the staple food, is the major cereal grown in the communal areas. Small quantities of sorghum are also grown by subsistence farmers in these areas. Only some 10% to 15% of millet production is traded in the formal sector; also, a certain quantity is informally traded between Namibia and Angola for household consumption of communities living along the border. South Africa is an important trading partner in terms of the import and export of food.

Crop production has increased in importance over the past decade. In 1995 it accounted for 8% of this agriculture's total output; by 2006 it had increased to 17% of total output. Communal farming produces 30% of grain consumption requirements, and consists of rain-fed crops, notably millet, sorghum, and maize. Commercial crop farming focuses mainly on maize and wheat. Horticulture crops are mainly grapes, followed by tomatoes, cabbages, onions, and potatoes.

Livestock production accounted for 59% of total agriculture output in 2006 (down from 70% in 1995). Communal farming produces some 60% of Namibia's cattle. More than 50% of Namibia's cattle are found in the Northern Communal Areas. In addition, about 40% of small livestock are kept in communal areas.Commercial livestock farming focuses on meat and meat products for international markets.

Namibia had a forest area of around 7.7 million ha in 2005 (down from 8 million ha in 2000), i.e. 9.3% of its total land area; it has about 8.5 million ha of other wooded land (8.7 million ha in 2000). Namibia is home to at least 3,174 species of vascular plants, of which 21.6% are endemic.[22] The two main problems in the subsector are forest fires and uncontrolled cutting of trees (a common source of energy).[23] In addition, lower and more erratic rainfall, conversion of forest land to other uses, and overgrazing by livestock, particularly in the communal farming areas, have contributed to the decline in forests and wooded land. Namibia imports almost all sawn wood and other industrial forest products and there are no significant exports of forest products.

Moreover, the Namibian Government has approved the Green Scheme programme for the enhancement of agricultural production under irrigation, and the Horticulture Infrastructure Development programme to ensure marketability of agricultural products. Implementation of the Green Scheme Programme is to be in the form of joint public-private partnerships to encourage private-sector investment in remote and underdeveloped areas. The Programme is designed to attract commercial irrigation-farming enterprises to establish entities in communal farming areas suited for intensive agricultural development. The Green Scheme Programme provides for various public-private partnership models, with different obligations to the investor, including a model that imposes two social development obligations on the participating commercial farms: (i) to facilitate capacity building and skills transfer to small-

22 Mongabay online information, "Namibia"; available at: http://rainforests.mongabay.com/deforestation/2000/Namibia.htm#8-protected.

23 Some 4 million ha of forests are burned each year, mostly due to fires started deliberately to improve grazing and to clean hunting grounds; Namibia Nature Foundation (2004).

scale irrigation farmers occupying an adjacent area of land equal in size to the arable land of the commercial enterprise; and (ii) to provide certain agricultural support services to those farmers on a cost-recovery basis. The Green Scheme is expected to increase the contribution of agriculture to GDP to nearly 15%, and to meet 33% of domestic consumption of horticultural products by 2022. To improve efficiency of water use across users, the Government still needs to implement the new legislation to replace the Water Act (No. 54 of 1956). The new legislation will provide for the formation and periodic review of a National Water Master Plan. The Namibia Water Corporation Act (No. 12 of 1997) created the parastatal company NamWater to handle bulk water supplies. NamWater has legislative authority to set tariffs on a full cost-recovery basis. As a result, usage tariffs are being raised to phase out water subsidies. Water shortages have limited irrigation to about 8,600 ha of land. Considering water accessibility and soil suitability, it is estimated that a maximum of 43,500 ha hold potential for future irrigation.

1.5 Fisheries

Fisheries remain an important though declining contributor to Namibia's economy. Exports of fish and fish products are worth about US$410 million, making revenue from fisheries the second most important earner of foreign exchange in Namibia, after mining.Namibia's main export markets for fish are the EC and South Africa for hake, monk fish, and tuna, and D.R. Congo, Mozambique, Zambia, and Zimbabwe for horse mackerel. Fisheries legislation includes: TerritorialSea and Exclusive Economic Zone of Namibia Act (No. 3 of 1990); Marine Resources Act (No. 27) of 2000 and the Regulations Relating to the Exploitation of Marine Resources (No. 241) of 2001; Inland Fisheries Resources Act (No. 1) of 2003; Aquaculture Act (No. 18) of 2002; and the Aquaculture Licensing Regulations. The Ministry is in the process of reviewing and updating the Marine Resources Act and its Regulations. Namibia is a Member of various regional fisheries management organisations (RFMOs) such as the South East Atlantic Fisheries Organisation (SEAFO), the International Commission for the Conservation and Atlantic Tunas (ICCAT), and the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) as well as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

1.6 Mining

Namibia is endowed with abundant mineral resources, and the full potential of the sector is largely untapped in a landmass that requires more extensive exploration. Mining accounts for around 45% of foreign-exchange earnings, between 30% and 50% of government revenue, and about one third of fixed capital formation. Historically, diamonds have been Namibia's main export earner, contributing more than half of the total value of mineral exports. However, base and precious metals and uranium have made important contributions recently. Namibia produces significant quantities of uranium, gold, silver, copper, lead, and zinc. The Ministry of

Mines and Energy (MME), as the custodian of Namibia's mineral and energy resources, is responsible for the overall running of the sector. Namibia's minerals policy, launched in 2003, aims, *inter alia*, to attract investment and enable the private sector to take the lead in exploration, mining, mineral beneficiation, and marketing, while ensuring the responsible development and sustainable utilisation of mineral resources.[24] All mineral rights are vested in the state and are regulated under the Minerals (Prospecting and Mining) Act (No. 33 of 1992), which provides for the reconnaissance, prospecting, mining, disposal, and exercise of control over minerals in Namibia. Licences and permits are authorised by the Minister. Namibia's mining industry is also regulated by the Minerals Development Fund of Namibia Act (No. 19 of 1996); and the Diamond Act (No. 13 of 1999). In addition, Mine Health and Safety Regulations are in draft form to be finalised soon.

Under the Constitution and the Minerals Act, 1992, mineral rights are vested in the state, and the Minister of Mines and Energy has the mandate to allocate the different rights to companies or individuals. All applicants must be Namibian citizens or companies registered in Namibia (...).

The Mineral Rights and Resources Development Division in the Directorate of Mines of the MME handles applications for, and allocation of mineral rights in Namibia. Several types of mining and prospecting licences are required depending on the activity being undertaken: (i) Non-Exclusive Prospecting License (NEPL), valid for 12 months, permits non-exclusive prospecting in open ground not restricted by other mineral rights. Prospectors must furnish details to the Mining Commissioner on all samples removed from the NEPL area; (ii) Reconnaissance License (RL) allows regional remote sensing techniques, is valid for six months (renewable under special circumstances), and may be made exclusive in some instances. A geological evaluation and work plan must be submitted to the Mining Commissioner; (iii) Exclusive Prospecting License (EPL) can cover an area not exceeding 1,000 km^2, and is valid for three years, with two renewals of two years each. Two or more EPLs can be issued for more than one mineral in the same area. A geological evaluation and work plan (including estimated expenditure commitments) are required prior to issuing of the licence; (iv) Mineral Deposit Retention License (MDRL) allows prospectors to retain rights to mineral deposits that are uneconomical to exploit immediately. An MDRL is valid for up to five years and can be renewed subject to limited work and expenditure obligations; and (v) Mining License (ML) may be granted to a Namibian citizen or a company registered in Namibia. An ML is valid for the life of mine or an initial 25 years, renewable for up to 15 years at a time. Applicants must have the financial and technical resources to mine effectively and safely.[25]

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24 Ministry of Mines and Energy (undated).

25 Before licences are issued (except the NEPL and RL), all applicants must complete an environmental contract with the Ministry of Environment and Tourism. Environmental impact assessments must be made with respect to air pollution, dust generation, water supply, drainage/waste water disposal, land disturbance, and protection of fauna and flora. See also MBendi Information Services, "Mining in Namibia: Overview"; available at http://www.mbendi.com/indy/ming/af/na/p0005.htm; last accessed June 2009.

Exploration of uranium in Namibia has increased significantly over the last few years, and accounts for a major share of FDI inflows into the mining sector. Currently, uranium output comes mainly from the Rössing mine, 69% owned by Rio Tinto and 3% by the state.[26]The Langer Heinrich uranium mine opened in 2007, and others are expected to be in operation in the next few years. An expansion programme to increase annual production at the Langer Heinrich mine to 2.6 million pounds of uranium oxide (U_3O_8) was completed in 2008. Uranium mining licences for Trekkopje (Uramin Namibia),[27] and Valencia Uranium (Forsys Metals) were approved for the development of the two deposits. At full capacity, these two deposits make Namibia the third-largest uranium producer in the world after Australia and Canada.

1.7 Energy

Namibia has reserves of natural gas; oil has not yet been discovered. About three quarters of Namibia's total energy consumption in 2005 was from imported energy (electricity and oil).[28] In rural areas, the main energy source is fire wood used for cooking. The 1998 White Paper on Energy Policy by the Ministry of Mines and Energy, tabled in Parliament in 2002, remains the main statement outlining energy policy. The Ministry of Mines and Energy's Directorate of Energy has a broad range of responsibilities, including issuing licences for exploration, safety in the energy sector, setting maximum fuel prices, rural electrification, etc. Electricity, coal, and oil imports are duty free. All oil and gas exploration is done by the private sector, with licences from the Ministry of Mines and Energy. Exploration licences may be applied for at any time. Namcor, the state-owned oil and gas firm, normally restricts its activities to promotion, gathering data, and providing technical management. Tullow Oil, with its minority partner Namcor, continues to explore possibilities for developing the offshore Kudu gas field. The Kudu Power Project includes piping natural gas to a power plant to be constructed at Oranjemund.

1.8 Electricity

Nampower, the state-owned utility company, has a monopoly on generation, transmission, and import and export of electricity. Namibia relies on imports for much of its electricity needs as

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26 Rio Tinto owns the majority of shares (69%) in Rössing Uranium Limited. The Namibian Government has a 3% shareholding, but it has the majority (51%) of voting rights. The Iranian Foreign Investment Company owns 15%, acquired during the set-up of the company in the early 1970s. The Industrial Development Corporation (IDC) of South Africa owns 10%, and local individual shareholders own a combined 3%. The shareholders have no uranium product off-take rights. Rössing Uranium Ltd. online information, "Rössing's business at a glance 2008"; available at http://www.rossing.com/rossingmine.htm; last accessed July 2009.

27 The Trekkopje project, 100% owned by UraMin, is on track to become Namibia's third uranium mine by the end of 2008. It is expected to become one of the world's ten largest uranium mines when it achieves full production. Namibia Chamber of Commerce and Industry(2008).

28 U.S. Energy Information Administration, "Namibia Energy Profile"; available at http://tonto.eia.doe.gov/country/country_energy_data.Cf.m?fips=WA.

peak demand is about 350 MW while total domestic production capacity is only slightly more. Domestic production is highly seasonal because most of it comes from the Ruacana hydroelectric station on the river Cunene. Eskom of South Africa supplies most of the electricity imported into Namibia via two lines of a total capacity of 700 MW. In addition, in January 2008, the first 40 MW from the Hwange thermal plant in Zimbabwe were delivered as part of a US$40 million power-purchase arrangement in April 2007 between Nampower and the Zimbabwe Electricity Supply Authority.[29]

Demand for electricity among consumers is heavily weighted to a few large users. Households make up 91% of consumers and 45% of consumption while mines and industry make up 1% of consumers and 26% of consumption (the balance going to other commercial users). This pattern of consumption is likely to become further skewed in the future as electricity consumption is projected to triple to 1,400 MW by 2030 due to new mines and related developments.[30] At the same time, the Rural Electricity Distribution Master Plan of 2000 is seeking to increase the provision of electricity to rural areas so that 25% of rural households have access to electricity by 2012 (from 10% in 2000 and 17% in 2008).[31] In addition to the Ruacana hydroelectric station[32], domestic production of electricity is, *inter alia,* provided through the Van Eck coal-powered thermal station in Windhoek (120 MW), and Paratus, a diesel thermal station near Walvis Bay. Nampower is also the only electricity producer in Namibia. The Electricity Control Board, established in July 2000, is responsible for regulations covering distribution, licences, tariff structures, etc., although its recommendations must be approved by the Minister for Mines and Energy.[33]

1.9 Manufacturing

Manufacturing's contribution to GDP decreased from 14.0% in 2003 to 12.5% in 2008, reflecting the strong growth in mining and construction during the period. Meat and fish processing both continued to decline in relative terms. In constant 2004 prices, meat processing increased slightly from N$146 million to N$155 million while fish processing fell from N$852 to N$525 million. The manufacture of other food products and beverages changed little over the same period. The "other" manufacturing category covers a large range of goods, including wood and wood products, metal fabrication, chemicals, paints, plastics, leather and textiles.[34] Strong growth in manufacturing in 2007 resulted primarily from high prices for, and increased processing of, zinc and copper.

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29 EIU (2008).

30 Ibid.

31 Ministry of Mines and Energy (2008).

32 Although power output varies depending upon water supply, the CuneneRiver may offer substantial hydro-power potential. Feasibility studies are looking at additional projects, in cooperation with the Angolan Government.

33 Clark et al. (2005).

34 Bank of Namibia (2009).

Namibian manufacturing faces a number of challenges due to the relatively small size of the local market, high transport costs, high energy prices, and limited access to skilled labour. On the other hand, Namibia has much to offer to manufacturing enterprises, such as access to the SACU market, good communications (air and road), good infrastructure, and modern and efficient financial services. Government policy for manufacturing is focussed on exports. The Export Processing Zones Act (No. 9 of 1995) was designed for EPZs to "serve as a tax haven for export-oriented manufacturing enterprises".[35] Manufacturing, assembly, re-packaging or break-bulk enterprises that export all, or nearly all, their production are eligible for EPZ status, which entitles them to several tax incentives such as non-payment of corporation tax, import tax, and stamp duties. EPZ status is not confined to any specific area or region and can be conferred on any enterprise that meets the criteria, regardless of location.

1.10 Services

Despite the strong growth in mining and manufacturing and their increased contribution to GDP, services remained almost constant in its relative importance as it increased marginally from 57.9% of GDP in 2003 to 58.1% in 2008. Wholesale and retail trade are the main services sub-sectors at 11.9% of GDP in 2008 (more or less unchanged from 2003), followed by real estate and business services (9.7%), administration and defence (8.7%), education (7.0%), and transport and communications (6.6%) (Table IV.7). Namibia made minimal commitments on services under the WTO General Agreement on Trade in Services (GATS). The commitments cover tourism, more specifically hotels and restaurants, as well as travel agencies and tour operators, and scientific and consulting services relating to offshore oil and gas exploration. Namibia committed to having no limitations on market access and national treatment for these services for all four modes of supply. It did not participate in the extended GATS negotiations on basic telecommunications (Fourth Protocol) or financial services (Fifth Protocol).

1.11 Transport

The transport subsector is dominated by the state-owned TransNamib Ltd. It has a monopoly in rail transport services through its subsidiary, TransNamib Rail; it also operated the national airline, Air Namibia, until 1 April 1999. Transnamib is a major supplier of road transport freight and passenger services through TransNamib Carriers. Another state-owned enterprise, NamPort, operates the two main ports, Walvis Bay and Lüderitz. The Department of Transport of the Ministry of Works, Transport and Communication is responsible for formulating and implementing transport policies.

Namibia has an extensive and well maintained road network. Unpaved roads predominate while paved roads link all major towns. In 2009, out of a total of 44,425 km of road, 6,199 km are

[35] Ministry of Trade and Industry online information, "Industrial Development: Incentives"; available at http://www.mti.gov.na/subpage.php?linkNo=22; accessed March 2009.

paved, 24,994 km are gravel road, and 10,637 are earth road; the remainder are proclaimed road, and salt road along the coast.[36]

Namibia is an important outlet to the sea for the landlocked countries of the interior and, to some extent, this is reflected in road development. The Transcaprivi Highway, which opened in 1999, runs from Rundu in north eastern Namibia, through the Caprivi Strip to the Zambezi River at Katima Mulilo. There, a major road bridge, completed in 2004, links the Transcaprivi Highway to Zambia's road network. The highway is a Section of the Walvis Bay-Ndola-Lubumbashi Corridor, linking Zambia and eastern Democratic Republic of the Congo to the deep water port of Walvis Bay. The Trans-Kalahari Highway from Walvis Bay, via Windhoek, to Francistown in Botswana provides an important route between Walvis Bay and Botswana. To accelerate customs formalities at the Botswana border, authorities have agreed to implement fast-track customs procedures for registered haulage operators on a trial basis. Following a successful pilot scheme in the Trans-Kalahari route, harmonised customs procedures and a Single Administrative Document (SAD 500) have been implemented between all SACU Members and are being adopted by other countries in the region.[37]

Road transport consists of bus, taxi, and road haulage operators. About 200 road haulage operators use some 1,700 trucks and a freight capacity of around 31,000 tonnes. The state-owned TransNamib Carriers, the largest operator, operates without direct state support. All other operators are private; four are relatively large. Operators must be registered with the Namibian Traffic Information System and have an operator's card. Commercial road carriers no longer require permits to carry certain goods, although permits are needed for cross-border transport. Freight rates are set privately.

Bus operators service inter-urban and long-distance routes, including South Africa. There are currently about 15 operators using some 100 buses. Four operators, including TransNamib Carriers, run scheduled bus services between Windhoek, Keetmanshoop, and Swakopmund. Fares are market determined, and there are no restrictions on new operators, apart from technical requirements. Private operators are not subsidised. Some bus operators provide tour services, including the state-owned Transnamib Tours. There are about 5,000 taxis in Namibia, mainly owner-driven; about half operate in Windhoek. There is no restriction on the number of taxis, provided they meet safety and other technical requirements. The Namibia Traffic Information System (NaTIS) is responsible for licensing vehicles for road worthiness as well as driver testing, while the Road Transport Board considers applications for licences for goods haulage and passenger transport.

The bulky nature of much of Namibia's exports and the long distances between centres of population mean that rail remains the major mode of transport for bulk goods. There are

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36 Roads Authority online information, "Road Length Statistics".Available at http://www.ra.org.na/RoadNetwork.html;accessed 12 February 2009 and updated by the national authorities.

37 USAID Southern Africa Global Competitiveness Hub online information, "Speeding up Customs Clearances"; available at http://www.satradehub.org/index.php?id=1448; accessed 12 February 2009.

2,628 km of narrow gauge lines in Namibia. The state-owned holding company TransNamib is responsible for the rail network as well as for rail and road passenger and freight services. It is the only rail service provider in Namibia and owns the locomotives and carriages while the State owns the rail network. The Namibian railway network is linked only with South Africa, although there are plans to link with Angola, which has the same railway gauge.

Namibia has two major ports: the main one is at Walvis Bay and the other at Lüderitz. Both are administered by the parastatal Namibian Ports Authority (NamPort). Cargo levels have continued to increase substantially, with Lüderitz handling about 200,000 tonnes annually and Walvis Bay some 4.7 million tonnes. There are plans to upgrade Walvis Bay by deepening the harbour to increase its capacity to handle Panamax ships. Lüderitz was traditionally a fishing port but now also caters for the offshore diamond mining industry.

Walvis Bay handles imports and exports into Namibia and the land-locked countries of the interior. Imports of mining equipment and consumer goods and exports of minerals are the main activities. The Walvis Bay Corridor Group, a public-private partnership, was established to promote the use of the different transport corridors linking Walvis Bay with inland centres and other ports in the region.

A number of private companies provide liner services. There are about five private freight forwarders. There are no controls on entry into shipping, or cabotage restrictions. Foreign vessels may operate domestic services between Walvis Bay and Lüderitz without a permit, provided they meet sea worthiness requirements; inspections are the responsibility of the Directorate of Maritime Affairs. According to the authorities, Namibia does not subsidise shipping services.

Air Namibia provides scheduled domestic and regional services and international flights to Germany, and South Africa. A number of international airlines provide regular services to Windhoek under various agreements. Most foreign carriers have third and fourth freedom rights. Namibia is a signatory of the Yamoussoukro Decision relating to the liberalisation of access to air transport markets in Africa. In line with the Decision, it has signed reciprocal agreements with South Africa, Zambia, Democratic Republic of Congo, Zimbabwe, and the United Kingdom. Namibia acceded to the Convention on International Civil Aviation with effect from 30 May 1991. The primary aviation legislation in Namibia is the Aviation Act (No. 74 of 1962), which has been amended several times. The Airports Company Act (No. 25 of 1998) amended the 1962 Act by providing for the commercialisation of the eight major airports. These airports are owned and operated by the state-owned Namibia Airports Company. There are two international airports: Hosea Kutako near Windhoek; and Walvis Bay.

1.12 Tourism

Tourism makes a considerable contribution to Namibia's GDP and employment. In 2008, tourism and travel are thought to have directly contributed 3.1% to GDP and employed 18,995 people (4.5% of total employment). Including the indirect effects of travel and tourism brings

the total contribution to 13.6% to GDP and 74,461 people (17.6% of total employment).[38] Tourist arrivals have increased over the years and reached 928,912 in 2007, up from 780,000 in 2004. Most visitors are from neighbouring African countries, particularly Angola (36%) and South Africa (30%). The rest are mainly from Europe, especially Germany (8%).

1.13 Foreign Investment

Trade and investment promotion remain key elements of Namibia's trade policy and development strategy.[39] The Government's main objectives are further trade liberalisation and export expansion, including diversification of products, export markets, and import sources. Export promotion, through such measures as tax-based incentives and export-processing zones, remains a high priority for the Government in order to attract investment (...). This also encompasses a broadening of Namibia's industrial base and promoting growth in small and medium-sized enterprises (SMEs).

The Ramatex Case Study

Namibia welcomes foreign investment[40] but at the same time reserves the right to limit the acquisition of property by foreign nationals. What is the relevance of this restriction to the environment? Namibia is not onlyknown for its considerable resources such as diamonds, copper, uranium, zinc, and fish, but also for its water scarcity. Like climate change, water scarcity poses a significant threat to human vulnerability and sustainable development in the country.[41]

The case of Ramatex, a Malaysian multinational company that operated in Namibia, demonstrated how foreign investment can – at the same time - intersect with human rights infringements and environmental damage. Ramatex's decision to locate production in Namibia was motivated by the objective to benefit from the Africa Growth and Opportunity Act (AGOA), which allows for duty-free exports to the United States (US) from selected African countries who meet certain conditions, set by the US-Government.[42] The plant turned cotton – imported duty-free from West Africa – into textiles for the US market. This was achieved by offering concessions in the form of an export processing zone (EPZ).[43] The Namibian Export

38 World Travel and Tourism Council online information, "Tourism Research: Tourism Impact Data Forecasting Tool: Database"; available at http://www.wttc.org/eng/Tourism_Research/Tourism_Impact_Data_and_Forecast_Tool/index.php; accessed July 2009.

39 WTO (2003), Annex 3, p. 163. A research report by NEPRU found that trade liberalisation would contribute to economic growth and poverty alleviation Hansohm et al. (1999).

40 See e.g. Article 99 of the Constitution.

41 Mfune et al. (2009a; 2009b); Ruppel / Bethune (2007).

42 AGOA was signed into law on 18 May 2000 as Title 1 of the Trade and Development Act of 2000. The Act offers tangible incentives for African countries to continue their efforts to open their economies and build free markets.

43 See also *New Era*, 14 March 2008.

Processing Zones Act[44] *exempts companies from sales or value added tax payable in Namibia, and from all customs or excise duties for goods imported into the EPZ or manufactured in the EPZ. In order to attract foreign direct investment, the City of Windhoek and the Ministry of Trade and Industry assembled a scheme with an incentive package that included subsidised water and electricity, a 99-year tax exemption on land use, and over N$1 billion for infrastructure. From the beginning, controversy was rife. It was caused by the Malaysian textile company's environmental policy and behaviour and their treatment of labourers.*[45]

Textile dyes and other chemicals used in textile processing are known to contain heavy metals and other dangerous substances, highly toxic to the environment and to human beings. Complaints against the factory included the disposal of contaminated waste-water without proper treatment onto its property, polluting subsequently the waters of Goreangab Dam, one of Windhoek's major water reservoirs. Residents in the neighbourhood of the works complained about the stench emanating from the disposed waste water, and recorded irritation to their skin and respiratory tracts.[46]

The closure of the Ramatex factory in Windhoek marked the end of one of the most controversial investments in Namibia since Independence.[47] *The case characterises aggressive foreign investment driven exclusively by profit considerations and without regard for fragile ecosystems, intergenerational equity, and the right to a clean environment.*[48] *The company managed to mislead the Namibian government, hiding its true intention of using the country merely as a temporary production location.*[49]

Especially in the wider context of land, water and related reform, as well as equitable access to Namibia's natural resources, the onus of environmental protection rests on the state, for the benefit of the Namibian people on the one hand, and to enable and capacitate especially the previously disadvantaged citizen to gain equitable access to land on the other.[50] *To this end, Article 16(2) of the Constitution provides the state or a competent body authorised by the law – which surely refers to authorities responsible for, e.g. the railway, roads and water – to expropriate property in the public interest, subject to the payment of just compensation. Such*

44 No. 9 of 1995.

45 Winterfeldt (2007:65ff.).

46 *The Namibian,* 21 December 2004; 4 November 2005.

47 *The Namibian*, 12 March 2008.

48 On 27 January 2009, a team of consultants commissioned by the City of Windhoek publicly presented an Environmental Audit on the Ramatex site and its operations. The study determined and addressed concerns associated with past activities, including health investigations. It concluded that "the environmental impacts were minor" and "no significant effects on humans could be detected", whereas "no occupational health effects were monitored for the audit". The author of this Chapter was present at this public event, as was Advocate John Walters, the Ombudsman of Namibia. During the presentation, the question was raised whether the audit had been conducted independently or with a specific aim, namely to downscale the violations.

49 *The Namibian*, 12 March 2008.

50 See, among others, Gutto (1995).

expropriation may also become relevant in cases where the environmental rights of a group or certain individuals are negatively affected by activities that cause harm to the environment.

2 International Trade, the Environment and the Development Debate

No doubt, issues related to international trade and the environment have special significance to developing countries, as they argue that the developed countries have depleted resources and indulged in environmentally harmful practices during the past century, in order to achieve unprecedented high standards of living.[51] Therefore the developing countries demand a general but differentiated responsibility, seeking open trade and compensation for adopting environmentally restraining policies.[52] In further reflection on the link between economic growth activity, environmental protection and social development, the triangular debate on such will be reflected briefly, by introducing the various perspectives.

2.1 The Trade Perspective

Trade creates the wealth which increases human well-being. Trade can actually be good for the environment, since it creates wealth that can be used for environmental improvement, and the efficiency gains from trade can mean fewer resources used and less waste produced. Increased economic growth leads to more environmental protection and a higher standard of living. The exchange of goods introduces new technologies which reduce emissions and save raw materials and natural resources.

2.2 The Environmental Perspective

The environment actually represents a higher order than trade and the *status quo* seriously threatens the earth's ecosystems. Developing countries try to protect themselves against "costly" environmental demands. The wealth created by trade will not necessarily result in environmental improvements but in the contrary. Trade liberalisation is deemed to cause greater harm, leading to exports of natural resource mis-allocation to other countries and thereby causes increased environmental degradation.

51 Ruppel (2009c, 2010g,l).

52 Goyal (2006:11).

2.3 The Development Perspective

Developing countries' top priority should be to reduce poverty Openness to trade and investment may be a key way to do so, by increasing exports, though the link between openness and economic growth is not automatic. But developed countries protect their industries with subsidies, special trade rules and tariff systems that disadvantage developing country exporters. Demands that developing countries comply with developed country environmental standards are unfair, particularly if they are not accompanied by technical or financial assistance. Priorities differ; for example, in many developing countries in Africa clean water is paramount. And developed countries – during the past - caused most of the environmental damage in the first place.

2.4 Sustainable Development: The Answer to the Dilemma?

Principle 11 of the 1972 Stockholm Declaration states that-

> [t]he environmental policies of all States should enhance and not adversely affect the present or future development potential of developing countries, nor should they hamper the attainment of better living conditions for all, and appropriate steps should be taken by States and international organisations with view to reaching agreement on meeting the possible national and international economic consequences resulting from the application of environmental measures.

In its 1987 report *Our Common Future*, the Brundtland Commission defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs"[53]. Since the 1992 UN Conference on Environment and Development in Rio de Janeiro, the Principle of Sustainable Development has influenced a broad number of international instruments, both of a legal and non-legal nature. It aims at embracing and balancing ecology, economy, conservation and utilisation and has become a worldwide governing political *Leitmotiv* for environment and development. It can be broadly understood as a concept that is characterised by (1) the close linkage between the policy goals of economic and social development and environmental protection; (2) the qualification of environmental protection as an integral part of any developmental measure, and vice versa; and (3) the long term perspective of both policy goals, that is the states' inter-generational responsibility.[54]

Apart from the question, whether the Principle of Sustainable Development actually enfolds normative quality,[55] the concept reflects the idea of distributive justice and can play an important role in the process of bridging the North-South divide in international and

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53 The World Commission on Environment and Development.

54 Beyerlin (1996).

55 Cf. Sands (2003:254).

developmental relations.[56] Sands formulated an "integration approach", where economic and social development must be an integral part of environmental protection, and vice versa.[57]

Although many African countries are classified as least developing countries, the Southern African region is endowed with numerous natural resources, fisheries, and minerals.[58] In turn, environmental challenges include inter alia, land degradation, poor land use and land management, overexploitation of natural resources, water scarcity, biodiversity loss and climate change. In this regard poverty and challenges of governance often collide with different interests in society and political pressures.[59]

The former executive Director of the United Nations Environmental Programme (UNEP), Klaus Töpfer stated in context, that "sustainable development cannot be achieved unless laws governing society, the economy, and our relationship with the Earth connect with our deepest values and are put into practice internationally and domestically." The problem continues to lie, however, in that such laws "must be enforced and complied with by all of society, and all of society must share this obligation".[60] But how can the law work for everyone equitably (developing and developed countries), reduce poverty, retain wealth and at the same time protect the environment?

The Commission on Legal Empowerment of the Poor came up with an analysis and a few reasonable suggestions in its 2008 report:

> Though many have shared in this prosperity, far too many of the world's people have been left behind, still living in deprivation, taking talent unused to the grave. Sub-Saharan Africa is not on track to achieve any of the Millennium Development Goals and extreme poverty on every continent. (…) The Commission argues that four billion people around the world are robbed of the chance to better their lives and climb out of poverty, because they are excluded (…). The Commission believes poverty is manmade, by action and inaction, and a failure of public policies and of markets. The Commission sees that in rich countries people are more likely to enjoy access to justice and other rights – as workers, businesspeople, and owners of property. The recent, and vast, creation of wealth rests upon various legal protections, norms, and instruments governing such things as business organisations, corporations, tradable assets, labour contracts, workers associations, venture capital, insurance, and intellectual property. While the same protections and instruments exist in many developing countries, the overwhelming majority has no way to access them. (…). Because the poor lack recognised rights, they are vulnerable to abuse by authorities that discriminate, seek bribes, or take the side of powerful interests who may wish to prevent the poor from competing economically or seek to evict them from their land. (…) The majority of humanity is on the outside looking in, unable to count on the law's protection and unable to enter national, let alone global markets. (…). Transforming a society to include the poor

56 Beyerlin (1996) with further references.

57 Sands (2003:263).

58 For Namibia, Cf. supra.

59 Kameri-Mbote / Odote (2009:37).

60 Klaus Töpfer in the Preface to Making Law Work; available at http://www.inece.org/mlw/makinglawwork_toc.html; last accessed 17 November 2010.

> requires comprehensive legal, political, social, and economic reforms. In the short term, reform is unlikely to seem an easy option. (…) Legal empowerment is not a substitute for other important development initiatives, such as investing more in education, public services, and infrastructure, enhancing participation in trade, and mitigating and adapting to climate change: instead, it complements such initiatives, multiplying their impact by creating the conditions for success. (…). While the government is the key responsible actor, the 'duty bearer' in human rights terms (…) the United Nations and the broader multilateral system can help by lending their full support. The international non-governmental community can do the same. More specifically global multilateral agencies such as the World Bank, UNDP, ILO, FAO and UN-HABITAT; regional political organisations, regional banks, and regional UN institutions; civil society and community-based organisations; the business community; religious communities and indigenous spiritual traditions; and various professional associations (…). The world as a whole will benefit as more and more states undertake the reforms needed to empower the poor. Such initiatives will help to reduce the pressures created by refugee migrations, under-development, famines, environmental neglect, health emergencies, and strife. In an interdependent world, we will all do better if our neighbours are both able to count on the protections of law and expected to live up to their responsibilities under it. After all, our era is one of seismic shifts, not only in the economic order but also in the creation of a global public domain. Myriad ungoverned interactions flow between states, from the obvious to the near invisible, from the malign to the beneficent. Some must be curbed, some controlled, some eased and encouraged. Yet, as at the national level, our global institutions remain blind to much of reality, equipped rather for yesterday than today, hampering our attempts to grapple with each new problem we face. Who can deny that we all share a responsibility to protect: one which we are far from meeting? Whether for climate change, trade, migration, or security, the world will expect fair rules for the 21 century, rules offering protection and opportunity for all in accordance with shared human rights obligations.[61]

It is also important to acknowledge, that it is not only upon national governments and international organisations but also on the corporate business community to enter into a new era of sustainable development. When unveiling the world first Integrated Reporting Guidance document in Johannesburg, South Africa on 25 January 2011, the Chairman of the South African Integrated Reporting Committee, Judge and Professor Mervyn King, rightfully stated as follows: "Companies don't operate in a vacuum, they operate in the society we find ourselves in, and the situation we find ourselves in. And the one situation is the planet which is in crisis. We have used the natural assets of the planet faster than nature can regenerate them, so the great companies in the world (…) by means of integrated reporting need to tell their

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61 The full report is available at http://www.undp.org/legalempowerment/reports/concept2action.html; last accessed on 19 November 2010.

stakeholders in future more transparently how they had worked out a long-term strategy on sustainability issues."[62]

2.5 The Role of Trade for Sustainable Development and the Reduction of Poverty in Africa[63]

Human rights and good governance have an impact on the investment climate, which contributes to growth, productivity and the creation of jobs, all essential for economic growth and sustainable reductions in poverty. The furtherance of economic development, reduction of poverty and the promotion of human rights in fact go hand in hand. This interrelationship has become closer over the past few years due to increasing discussions in the world community on the issue. The interconnection can be seen as a two-way relationship insofar as economic development is obliged to respect human rights in a democratic society. Conversely, human rights can be given more effect through economic growth, as one outcome of economic growth is the increasing availability of resources, resulting in the reduction of poverty and a higher standard of living.[64]

States have committed themselves to respecting human rights by acceding to specific human rights treaties, conventions or declarations on the international, regional and sub-regional level, including the International Covenants on Civil and Political Rights and on Economic, Social and Cultural Rights and the African Charter on Human and Peoples' Rights.[65] On 10 December 2008, on the 60th Anniversary of the Universal Declaration of Human Rights, the United Nations adopted the Optional Protocol to the International Covenant on Economic, Social and Cultural Rights (ICESCR) bringing the possibility of international justice one step closer for millions of excluded people, groups, communities and peoples worldwide. The Optional Protocol is important because it promises to provide victims of economic, social and cultural rights violations that are not able to get an effective remedy in their respective domestic legal systems with an avenue for redress. Both human rights and good governance have an impact on the investment climate, which again contributes to productivity and the creation of jobs, all essential for economic growth, sustainable development and the reduction of poverty.[66]

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62 Interview available at http://www.moneyweb.co.za/mw/view/mw/en/page295799?oid=526093&sn=2009+Detail&pid=295799; last accessed 30 January 2011.

63 The following passages are largely based on Ruppel (2010f,g).

64 Cf. Ruppel (2009a, 2010b); Ruppel / Bangamwabo (2008).

65 Cf. Pillay (2009).

66 Ruppel (2009c).

The Committee on Economic, Social and Cultural Rights (CESCR) has stated that poverty has always been one of the central concerns of the Committee.[67] Given the magnitude of the problem, it is often unrealistic for Governments to be left alone to tackle this daunting task. To achieve sustainable development there is need for a holistic approach to dealing with the concerns of the poor.[68] There is a need for African governments to accelerate the process of creating enabling environment for the private sector to play an effective role in reducing poverty. To create this environment, countries and regions must ensure the efficient functioning of their markets, facilitate sufficient access of the poor to such markets and create the best possible conditions for competitiveness of their firms.[69] In particular, enterprises in the informal sector are to be considered as part of the enterprise entity, which contributes to the development process.[70]

The evidence of African poverty and growth rates leaves little room for doubt about the need for financial assistance and an improved trade climate. China, for example, is providing substantial funds for investment and development in many African countries. Of course China follows a 'purely capitalist' approach, not attempting to assist in the facilitation of social or political change through the pursuit of wealth. Although this approach seems appealing to many African leaders,[71] it is questionable since it does not attempt to improve social welfare in the targeted countries.[72]

Far more than any unconditional investment and development aid, trade can provide the catalyst - under the right conditions - for the upliftment of millions of people from poverty. Although African countries could gain disproportionately from further global trade reform it is widely acknowledged that a level playing field does not yet exist in the current world trade system – at least not to the extent necessary. Developing countries still face numerous hurdles, including high tariffs against their exports and subsidised competition. Nevertheless, developing-country participation in the global trading system is the most effective way of encouraging development and helping to alleviate poverty. A key objective of the on-going round of WTO negotiations – the Doha Development Round - is to help developing countries more fully reap the benefits of international trade. The liberalisation of agriculture in particular is hoped to provide significant benefits to developing countries in Africa.[73] However, the countries in Southern Africa are in a more or less permanent food security crisis, and policy formulation and response must be geared toward this reality on an on-going basis.[74] When

67 Cf. http://www.acpp.org/; last accessed 20 August 2010.
68 Yahie (2000).
69 Cf. Asche / Engel (2008:11ff.).
70 Ruppel / De Klerk (2009).
71 Politicians often receive so-called 'signature bonuses' for approving resource or other investment deals.
72 Keenan (2009:125f.).
73 Khor / Hormeku (2006); Ruppel (2010k).
74 Zunkel (2010:v).

addressing the World Economic Forum in Cape Town on 10 June 2009 South African President Jacob Zuma had to say this:

> African agriculture has suffered for decades from the huge subsidies provided to developed country agriculture. The continent is rich in natural resources, including agricultural land. The continent has the opportunity to diversify markets and products, including building the requisite infrastructure and systems for intra-Africa trade.

In the aforementioned spirit, free trade agreements (FTAs) can also bring about economic benefits by reducing barriers to trade and investment between participating parties. They can open markets faster than would otherwise be possible through the WTO and build on the commitments already agreed in the WTO.[75] Over two-thirds of WTO Members are developing and least developed countries. These Members can gain access to a range of special provisions and assistance contained in WTO rules. The WTO's Committee on Trade and Development and its Sub-Committee on Least Developed Countries monitor the implementation of provisions designed to assist developing and least developed countries. These committees also monitor the substantial amount of training and technical assistance provided to developing countries by the WTO.[76] Yet, the design of the multilateral trade regime needs to shift from one which overemphasises a market access perspective to one which prioritises enabling (or at least not disabling) the domestic policy space available to developing countries to make a range of diverse, including unorthodox, policy choices and pursue the concomitant strategies. It should also not be evaluated on the basis of whether it maximises the flow of goods and services, but on whether trade arrangements - current and proposed - maximise possibilities for human development, especially in developing countries. An implication is that multilateral trade rules will need to adjust 'one-size-fits-all' solutions that really only fit a few powerful members. The global trade governance framework needs more asymmetric rules in favour of the weakest members. In the long run, such rules will be beneficial for both developed and developing countries.[77] Trade rules therefore have to allow for diversity in national institutions and standards. Countries should have the right to protect their own institutions and development priorities where necessary; and no country has the right to impose its institutional preferences on others. In order to create a trade regime friendly to poverty reduction and human development, governments must have the space to design appropriate policies.

Article 11 of the International Covenant on Economic, Social and Cultural Rights, is concerned with the right to food and advocates "taking into account the problems of both food importing and food exporting countries, to ensure an equitable distribution of world food supplies in relation to need".[78] "Between the weak and the strong, poor and the rich, liberty is the

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75 AusAID (2007).Trade, Development and Poverty Reduction, available at http://www.ausaid.gov.au/publications/pdf/trade_devel_poverty.pdf; accessed 21 November 2010.

76 Ibid.

77 Cf. Malhotra (2004).

78 Lamy (2009).

oppressor and the law is freedom". Negotiating and implementing such rules is the WTO's basic mission, and its primary vocation in so doing is to regulate, and not to deregulate as is often thought. It also presupposes the existence of social policies, whether to secure redistribution or provide safeguards for the men and women whose living conditions are disrupted by changes in the international division of labour. It does not suffice unless it is accompanied by policies designed to correct the imbalances between winners and losers; and the greater the vulnerability of economies, societies or individuals, the more dangerous the imbalances. It does not suffice unless it goes hand in hand with a sustained international effort to help the developing countries to build the capacity they need to take advantage of open markets.[79] Lamy further pinpoints the importance of coherence, which he sees as

> the political commitment of citizens, of civil society, of trade unions, between the local and the global. Today the world needs more coherence in the organisation of governments between national and global, more coherence between the different islands making up the archipelago of international governance.[80]

In his remarks to the Trade Negotiations Committee on 19 October 2010 Lamy said that

> the foremost challenge facing us all (…) is to take the Doha negotiations to a higher gear by going deeper and wider in the discussions, as a prelude for the give and takes that will be required to build a final package.[81]

This final package will hopefully reflect the beneficial role of world trade for sustainable development and the reduction of poverty in Africa. Trade can be a powerful source of economic growth. But trade liberalisation is not automatically or always associated with economic growth, let alone poverty reduction or sustainable development. Moving intounbalanced agreements has the potential to lead to violations of economic and social rights of people.[82]Recent Economic Partnership Agreements (EPA) negotiations between various states in Africa and the EU have proven that trade and investment liberalisation is not always linked with development strategies, let alone with mechanisms which guarantee labour and other human rights. Moreover, regional integration

> can only be meaningful if it facilitates the integration of existing economic blocs in Africa by promoting intra-regional trade and encouraging diversification and the establishment of linkages between production units across the continent, thus effectively creating a larger regional market. The resulting increased productivity and product competitiveness will place Africa on a better footing to participate gainfully in reciprocal inter-regional trade. To the extent that the current EPA process undermines Africa's regional integration initiatives, it will not further the integration of African countries into world trade.[83]

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79 Ibid.

80 Such stated by Lamy (2010a).

81 Lamy (2010b).

82 Cf. Dessande (2010); Ruppel (2010g).

83 Ukpe (2010:231).

3 The WTO and the Environment

The world trade order is closely related to international environmental policy and its institutions. Environmental degradation and pollution is largely induced by economic activities and international trade flows. But what is the World Trade Organisation's (WTO) relationship to the environment – what is the primary objective of the WTO?

3.1 The Primary Objective of the WTO

The WTO provides a forum for negotiating agreements aimed at reducing obstacles to international trade and ensuring a level playing field for all, thus contributing to economic growth and development. The WTO also provides a legal and institutional framework for the implementation and monitoring of these agreements, as well as for settling disputes arising from their interpretation and application. The current body of trade agreements comprising the WTO consists of 16 different multilateral agreements (to which all WTO members are parties) and two different pluri-lateral agreements (to which only some WTO members are parties). Over the past 60 years, the WTO, which was established in 1995, and its predecessor organisation the GATT have helped to create an international trading system. More specifically, the WTO's main activities are:

(a) negotiating the reduction or elimination of obstacles to trade (import tariffs, other barriers to trade) and agreeing on rules governing the conduct of international trade (e.g. antidumping, subsidies, product standards, etc.);
(b) administering and monitoring the application of the WTO's agreed rules for trade in goods, trade in services, and trade-related intellectual property rights;
(c) monitoring and reviewing the trade policies of members, as well as ensuring transparency of regional and bilateral trade agreements;
(d) settling disputes among members regarding the interpretation and application of the agreements;
(e) building capacity of developing country government officials in international trade matters;
(f) assisting the process of accession of some 30 countries who are not yet members of the organisation;
(g) conducting economic research and collecting and disseminating trade data in support of the WTO's other main activities;
(h) explaining to and educating the public about the WTO, its mission and its activities.[84]

[84] Text largely taken from http://www.wto.org/english; last accessed 22 November 2010.

The WTO's founding and guiding principles remain the pursuit of open borders, the guarantee of most-favoured-nation principle and non-discriminatory treatment by and among members, and a commitment to transparency in the conduct of its activities. The opening of national markets to international trade, with justifiable exceptions or with adequate flexibilities, will encourage and contribute to sustainable development, raise people's welfare, reduce poverty, and foster peace and stability. At the same time, such market opening must be accompanied by sound domestic and international policies that contribute to economic growth and development according to each member's needs and aspirations.[85]

The WTO is not an environmental protection agency. Its competence in the field of trade and environment is limited to trade policies and to the trade-related aspects of environmental policies which have a significant effect on trade. However, in addressing the link between trade and environment, the two fields can complement each other. Overall the GATT/WTO rules already provide significant scope for members to adopt national environmental protection policies. Trade liberalisation for developing country exports, along with financial and technology transfers, are necessary in helping developing countries to generate the necessary resources to protect the environment and work towards sustainable development. However, coordination on trade and environment issues should be enhanced. An improved coordination at the national level between trade and environmental officials, as well as increased coordination at the international level could contribute to enhancing mutual supportiveness between the trade and environment regimes. The WTO's primary mandate is not to protect the environment but to promote trade. Although the first paragraph of the WTO Agreement explicitly refers to the objective of sustainable development, aspiring

> both to protect and preserve the environment and to enhance the means for doing so in a manner consistent with their respective needs and concerns at different levels of economic development.[86]

However, WTO members should not operate on the assumption that the WTO itself has the answers to environmental problems. Trade regulations are not, and cannot be, a substitute for environmental regulations.

3.2 The 2001 Doha Declaration and the Environment

The 2001 Doha Declaration envisages trade, the environment and sustainable development to become more mutually supportive. The declaration was adopted at the Doha Ministerial Conference in 2001 emphasising on the relationship between existing WTO rules and specific trade obligations set out in multilateral environmental agreements (MEAs). The negotiations shall be limited in scope to the applicability of such existing WTO rules as among parties to the

85 Ibid.

86 Cf. legal text on the Agreement Establishing the World Trade Organisation; available at http://www.wto.org/english/docs_e/legal_e/04-wto.pdf; last accessed 22 November 2010.

MEA in question. The negotiations shall not prejudice the WTO rights of any member that is not a party to the MEA in question; procedures for regular information exchange between MEA Secretariats and the relevant WTO committees, and the criteria for the granting of observer status; the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services. The Committee on Trade and Environment was instructed, in pursuing work on all items on its agenda within its current terms of reference, to give particular attention to the effect of environmental measures on market access, especially in relation to developing countries, in particular the least-developed among them, and those situations in which the elimination or reduction of trade restrictions and distortions would benefit trade, the environment and development; the relevant provisions of the Agreement on Trade-Related Aspects of Intellectual Property Rights; and labelling requirements for environmental purposes. The importance of technical assistance and capacity building in the field of trade and environment to developing countries, in particular the least-developed among them was stressed.[87]

Agenda 21 promulgated that international trade and environmental laws should be mutually supportive. In this context, the relationship of the WTO rules and MEAs, of which more than 250 exist to date, is not always clear.[88] Of the MEAs currently in existence, over 20 incorporate trade measures to achieve their goals. Such trade-restricting measures may conflict with WTO rules (this problem is reflected in the Chile-Swordfish case).[89]

The relationship is monitored by the Committee on Trade and Environment (CTE), which was established in April 1994. The CTE has the mandate to identify the relationship between trade measures and environmental measures in order to promote sustainable development, and making appropriate recommendations on whether any modifications of the provisions of the multilateral trading system are required. The CTE is composed of all WTO members and a number of observers from inter-governmental organisations. It reports to the WTO's General Council. In November 2001, at the Doha Ministerial Conference, it was agreed to launch negotiations on certain issues related to trade and environment. These negotiations are

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87 The Doha Ministerial Declaration is electronically available at http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.htm; last accessed on 22 November 2010.

88 E.g. the 1998 Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade; the 2001 Stockholm Convention on Persistent Organic Pollutants (POPs); the 1989 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal; the 1985 Vienna Convention for the Protection of the Ozone Layer; the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer; the 1992 Bonn United Nations Framework Convention on Climate Change and its 1997 Kyoto Protocol; and the 1992 Rio Convention on Biological Diversity, to name but a few of the most prominent MEAs.

89 See infra.

conducted in a Committee established for this purpose, the Committee on Trade and Environment Special Session (CTESS).[90]
The relationship between MEAs and WTO regulation is mostly not so problematic in cases, where all WTO members concerned are at the same time parties to the specific MEA in question. Then the case can be dealt with under the general obligations of public international law. WTO regulations will in general terms not hinder Members, which are parties to an MEA to apply it accordingly. More problematic are cases in which one of the parties concerned is not a WTO member, respectively not a party to the MEA in question.[91]

3.3 WTO Agreements and their Environmentally Relevant Provisions

3.3.1 The General Agreement on Tariffs and Trade (GATT)

The General Agreement on Tariffs and Trade (GATT) covers international trade in goods. The workings of the GATT agreement are the responsibility of the Council for Trade in Goods (Goods Council) which is made up of representatives from all WTO member countries. GATT 1994, Article I and III deal with non-discrimination. One component of the principles of non-discrimination is the Most-Favoured Nation (MFN) clause (Article I). It regulates that WTO members are bound to treat the products of other members not less favourable than accorded to the products of any other country. No country may give special trading advantages to another or to discriminate against it. This means that all members are on an equal footing, and all share the benefits of any move towards lower trade barriers. The MFN principle ensures that developing countries and others with little economic leverage are able to benefit freely from the best trading conditions, whenever and wherever they are negotiated. Another principle of non-discrimination is the National Treatment principle (Article III); it regulates that once goods have entered a market they must be treated no less favourably than equivalent domestically-produced goods. Non-discrimination in terms of environmental concerns ensures to prevent the abuse of environmental policies and of their usage as disguised restrictions on international trade.

Moreover GATT Article XI provides for an elimination of quantitative restrictions. Article XI has been violated in the context of a number of environmental disputes in which countries have imposed bans on the importation of certain products; it therefore has relevance for trade-and-environment discussions. Most importantly, Article XX grants general exceptions from the aforementioned GATT rules. Article XX(b) stipulates measures necessary to protect human, animal or plant life and health, Article XX(g) measures relating to the conservation of

90 Cf. http://www.wto.org/english/tratop_e/envir_e/envir_wto2004_e.pdf; last accessed 22 November 2010.
91 Stoll / Schorkopf (2006:258f.).

exhaustible natural resources. WTO members may be exempted from GATT rules in specific instances. However, measures must be necessary (necessity-test). If the conditions set by Article XX are fulfilled, they must still pass the test of the introductory clause (Chapeau) of Article XX. According the Chapeau measures may not be pronounced as arbitrary and unjustifiable discrimination between countries where the same conditions prevail and they may not constitute a disguised restriction on international trade. GATT rules provide significant scope for members to adopt national environmental protection policies. GATT rules impose only one requirement in this respect, which is that of non-discrimination. WTO members are free to adopt national environmental protection policies provided that they do not discriminate between imported and domestically produced like products (national treatment principle), or between like products imported from different trading partners (most-favoured-nation clause). Non-discrimination is one of the main principles on which the multilateral trading system is founded. It shall secure predictable access to markets, protect the economically weak from the more powerful, and guarantee consumer choice.[92]

3.3.2 The General Agreement on Trade in Services (GATS)

The General Agreement on Trade in Services (GATS) is among the World Trade Organisation's most important agreements. The accord, which came into force in January 1995, is the first and only set of multilateral rules covering international trade in services. It has been negotiated by the Governments themselves, and it sets the framework within which firms and individuals can operate. The GATS has two parts: the framework agreement containing the general rules and disciplines; and the national schedules which list individual countries' specific commitments on access to their domestic markets by foreign suppliers.[93]GATS contains a general exceptions clause in Article XIV, similar to that of GATT Article XX. In addressing environmental concerns, GATS Article XIV(b) allows WTO members to maintain GATS-inconsistent policy measures if this is necessary to protect human, animal or plant life or health. This must not result in arbitrary or unjustifiable discrimination and may not constitute disguised restriction on international trade. GATS Article XIV Chapeau is identical to that of GATT Article XX.

3.3.3 The Agreement on Technical Barriers to Trade (TBT)

The Agreement on Technical Barriers to Trade (TBT) attempts to ensure that regulations, standards, testing and certification procedures do not create unnecessary obstacles. Technical regulations and product standards may vary from country to country. Having many different regulations and standards makes life difficult for producers and exporters. If regulations are

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92 On the trade and environment debate see http://www.wto.org/english/; last accessed 22 November 2010.

93 See http://www.wto.org/english/tratop_e/serv_e/gats_factfiction1_e.htm; last accessed 22 November 2010.

set arbitrarily, they could be used as an excuse for protectionism.[94] The TBT aims to avoid unnecessary obstacles to trade. Product specifications, whether mandatory or voluntary (known as technical regulations and standards), as well as procedures to assess compliance with those specifications (known as conformity assessment procedures), should not create unnecessary obstacles to trade. Article 2.2 provides for legitimate objectives for countries to pursue protection of human health or safety; protection of animal or plant life; and protection of the environment.

3.3.4 The Agreement on Sanitary and Phytosanitary Measures (SPS)

The Agreement on Sanitary and Phytosanitary Measures (SPS) deals with the following problem: How do you ensure that your country's consumers are being supplied with food that is safe to eat - safe by the standards you consider appropriate? And at the same time, how can you ensure that strict health and safety regulations are not being used as an excuse for protecting domestic producers?[95]The SPS Agreement is very similar to the TBT Agreement, but covers a narrower range of measures. It covers measures that are taken by countries to ensure the safety of foods, beverages and feedstuffs from additives, toxins or contaminants, or for the protection of countries from the spread of pests or diseases. It recognises the right of members to adopt SPS measures but stipulates that they must be based on a risk assessment, should be applied only to the extent necessary to protect human, animal or plant life or health, and should not arbitrarily or unjustifiably discriminate between countries where similar conditions prevail. The SPS objectives aim to protect human or animal life from risks arising from additives, contaminants, toxins or disease-causing organisms in their food, beverages and feedstuffs.

3.3.5 The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)

The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) introduced intellectual property rules into the multilateral trading system for the first time. Ideas and knowledge are an increasingly important part of trade. Most of the value of new medicines and other high technology products lies in the amount of invention, innovation, research, design and testing involved. Films, music recordings, books, computer software and on-line services are bought and sold because of the information and creativity they contain, not usually because of the plastic, metal or paper used to make them. Many products that used to be traded as low-technology commodities now contain a higher proportion of invention and design in their value - for example brandnamed clothing or new varieties of plants. Creators can be given the right to prevent others from using their inventions, designs or other creations - and

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94 See http://www.wto.org/english/tratop_e/tbt_e/tbt_e.htm; last accessed 22 November 2010.

95 See http://www.wto.org/english/tratop_e/sps_e/sps_e.htm; last accessed 22 November 2010.

to use that right to negotiate payment in return for others using them. These are intellectual property rights. They take a number of forms. For example books, paintings and films come under copyright; inventions can be patented; brandnames and product logos can be registered as trademarks; and so on. Governments and parliaments have given creators these rights as an incentive to produce ideas that will benefit society as a whole. The extent of protection and enforcement of these rights varied widely around the world; and as intellectual property became more important in trade, these differences became a source of tension in international economic relations. New internationally-agreed trade rules for intellectual property rights were seen as a way to introduce more order and predictability, and for disputes to be settled more systematically.[96] TRIPS provides that patents are available for inventions in all fields of technology. It however also regulates the permissible exceptions thereto in Section 5: Article 27.[97]

3.3.6 The Agreement on Subsidies and Countervailing Measures (SCM)

The Agreement on Subsidies and Countervailing Measures (SCM) disciplines the use of subsidies, and it regulates the actions countries can take to counter the effects of subsidies. Under the agreement, a country can use the WTO's dispute-settlement procedure to seek the withdrawal of the subsidy or the removal of its adverse effects. Or the country can launch its own investigation and ultimately charge extra duty ("countervailing duty") on subsidised imports that are found to be hurting domestic producers.[98] The Agreement on Subsidies and Countervailing Measures applies to non-agricultural products and is designed to regulate the use of subsidies. Certain subsidies referred to as non-actionable are generally allowed. Under Article 8 of the Agreement on non-actionable subsidies, direct reference had been made to the environment. Amongst the non-actionable subsidies that had been provided for under that Article were subsidies used to promote the adaptation of existing facilities to new environmental requirements (Article 8.2(c)). However, this provision expired in its entirety at the end of 1999. It was intended to allow Members to capture positive environmental externalities when they arise.

3.3.7 The Agreement on Agriculture

The Agreement on Agriculture was negotiated in the 1986–94 Uruguay Round and is a significant first step towards fairer competition and a less distorted sector. WTO Member governments agreed to improve market access and reduce trade-distorting subsidies in agriculture. It seeks to reform trade in agricultural products and provides the basis for market-

96 From http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm7_e.htm; last accessed 22 November 2010.

97 See also Chapter 7 by Laltaika in this volume.

98 See http://www.wto.org/english/tratop_e/scm_e/scm_e.htm; last accessed 22 November 2010.

oriented policies. In its Preamble, the Agreement reiterates the commitment of Members to reform agriculture in a manner which protects the environment. Under the Agreement, domestic support measures with minimal impact on trade (known as green box policies) are excluded from reduction commitments (contained in Annex 2 of the Agreement). These include expenditures under environmental programmes, provided they meet certain conditions. The exemption enables members to capture positive environmental externalities.

4 Some Environmental Case References

A few of the environment-related cases that have been brought before the GATT/WTO dispute settlement mechanism are listed below in brief.

4.1 United States - Canadian Tuna (1982)[99]

An import prohibition was introduced by the United States after Canada had seized nineteen fishing vessels and arrested US-fishermen for harvesting Albacore tuna, without authorisation from the Canadian government, in waters considered by Canada to be under its jurisdiction. The United States did not recognise this jurisdiction and introduced an import prohibition to retaliate against Canada under the Fishery Conservation and Management Act.

The Panel found that the import prohibition was contrary to GATT Article XI:1, and was justified neither under Article XI:2, nor under Article XX(g).[100]

4.2 Canada - Salmon and Herring (1988)[101]

Under the 1970 Canadian Fisheries Act, Canada maintained regulations prohibiting the exportation or sale for export of certain unprocessed herring and salmon. The United States complained that these measures were inconsistent with GATT Article XI. Canada argued that these export restrictions were part of a system of fishery resource management aimed at preserving fish stocks, and therefore were justified under Article XX(g).

The Panel found that the measures maintained by Canada were contrary to GATT Article XI:1 and were justified neither by Article XI:2(b), nor by Article XX(g).[102]

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99 See http://www.wto.org/english/tratop_e/envir_e/edis01_e.htm; last accessed 22 November 2010.

100 United States - Prohibition of Imports of Tuna and Tuna Products from Canada, adopted on 22 February 1982.

101 See http://www.wto.org/english/tratop_e/envir_e/edis02_e.htm; last accessed 22 November 2010.

4.3 United States - Tuna (Mexico) (1991, not adopted)[103]

The US Marine Mammal Protection Act (MMPA) required a general prohibition of the "taking" and importation into the United States of marine mammals, except when explicitly authorised. It governed, in particular, the taking of marine mammals incidental to harvesting yellowfin tuna in the Eastern Tropical Pacific Ocean (ETP), an area where dolphins are known to swim above schools of tuna. Under the MMPA, the importation of commercial fish or products from fish which have been caught with commercial fishing technology which results in the incidental kill or serious injury of ocean mammals in excess of US standards were prohibited. In particular, the importation of yellowfin tuna harvested with purse-seine nets in the ETP was prohibited (*primary nation embargo*), unless the competent US-authorities established that the government of the harvesting country had a programme regulating the taking of marine mammals, comparable to that of the United States, and the average rate of incidental taking of marine mammals by vessels of the harvesting nation was comparable to the average rate of such taking by US vessels. The average incidental taking rate (in terms of dolphins killed each time in the purse-seine nets) for that country's tuna fleet were not to exceed 1.25 times the average taking rate of US vessels in the same period.

Imports of tuna from countries purchasing tuna from a country subject to the primary nation embargo were also prohibited (*intermediary nation embargo*). Mexico claimed that the import prohibition on yellowfin tuna and tuna products was inconsistent with Articles XI, XIII and III. The United States requested the Panel to find that the *direct embargo* was consistent with Article III and, in the alternative, was covered by Article XX(b) and (g). The United States also argued that the *intermediary nation* embargo was consistent with Article III and, in the alternative, was justified by Article XX, paragraphs (b), (d) and (g) because the tuna was caught in a manner harmful to dolphins.

The Panel found that the import prohibition under the *direct* and the *intermediary* embargoes did not constitute internal regulations within the meaning of Article III, was inconsistent with Article XI:1 and was not justified by Article XX paragraphs (b) and (g). Moreover, the *intermediary* embargo was not justified under Article XX(d). Allowing the American import measures – the import prohibition- would undermine the multilateral trading system.[104]

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102 Canada - Measures Affecting Exports of Unprocessed Herring and Salmon, adopted on 22 March 1988.

103 See http://www.wto.org/english/tratop_e/envir_e/edis04_e.htm; last accessed 22 November 2010.

104 United States - Restrictions on Imports of Tuna, circulated on 3 September 1991, not adopted.

4.4 United States – Gasoline (1996)[105]

Following the 1990 amendment to the Clean Air Act, the US Environmental Protection Agency (EPA) promulgated the Gasoline Rule on the composition and emissions effects of gasoline, in order to reduce air pollution in the United States. The Gasoline Rule permitted only gasoline of a specified cleanliness ("reformulated gasoline") to be sold to consumers in the most polluted areas of the country. In the rest of the country, only gasoline no dirtier than that sold in the base year of 1990 ("conventional gasoline") could be sold. The Gasoline Rule applied to all US refiners, blenders and importers of gasoline. It required any domestic refiner which was in operation for at least six months in 1990 to establish an individual refinery baseline, which represented the quality of gasoline produced by that refiner in 1990. EPA also established a statutory baseline, intended to reflect average US 1990 gasoline quality. The statutory baseline was assigned to those refiners who were not in operation for at least six months in 1990, and to importers and blenders of gasoline. Compliance with the baselines was measured on an average annual basis.

Venezuela and Brazil claimed that the Gasoline Rule was inconsistent, *inter alia*, with GATT Article III, and was not covered by Article XX. The United States argued that the Gasoline Rule was consistent with Article III, and, in any event, was justified under the exceptions contained in Article XX, paragraphs (b), (g) and (d).

The Panel found that the Gasoline Rule was inconsistent with Article III, and could not be justified under paragraphs (b), (d) or (g). On appeal of the Panel's findings on Article XX(g), the Appellate Body found that the baseline establishment rules contained in the Gasoline Rule fell within the terms of Article XX(g), but failed to meet the requirements of the Chapeau of Article XX.[106]

4.5 Chile - Swordfish (WTO / ITLOS / 2000)[107]

Swordfish migrate through the waters of the Pacific Ocean. Along their extensive journeys, swordfish cross jurisdictional boundaries. For ten years, the European Community and Chile have been engaged in a controversy over swordfish fisheries in the South Pacific, resorting to different international law regimes to support their positions. However, the European

105 See http://www.wto.org/english/tratop_e/envir_e/edis07_e.htm; last accessed 22 November 2010.

106 United States - Standards for Reformulated and Conventional Gasoline, Appellate Body Report and Panel Report, adopted on 20 May 1996.

107 See http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds193_e.htm and http://www.wto.org/english/tratop_e/envir_e/envir_wto2004_e.pdf; last accessed 22 November 2010.

Community decided in April 2000 to bring the case before the WTO, and Chile before the ITLOS[108] in December 2000.

With regard to the proceedings at the WTO on 19 April 2000, the European Community requested consultations with Chile regarding the prohibition on unloading of swordfish in Chilean ports established on the basis of the Chilean Fishery Law. The European Community asserted that its fishing vessels operating in the South East Pacific were not allowed, under Chilean legislation, to unload their swordfish in Chilean ports. The European Community considered that, as a result, Chile made transit through its ports impossible for swordfish. The European Community claimed that the above-mentioned measures were inconsistent with GATT 1994, and in particular Articles V and XI. On 12 December 2000, the Dispute Settlement Body (DSB) established a panel further to the request of the European Community. In March 2001, the European Community and Chile agreed to suspend the process for the constitution of the panel (this agreement was reiterated in November 2003).

Proceedings were instituted on 19 December 2000 at the ITLOS by Chile and the European Community. Chile requested, *inter alia*, the ITLOS to declare whether the European Community had fulfilled its obligations under UNCLOS:

- Article 64 - calling for cooperation in ensuring conservation of highly migratory species
- Articles 116-119 - relating to conservation of the living resources of the high seas
- Article 297 - concerning dispute settlement and
- Article 300 - calling for good faith and no abuse of right.

The European Community requested, *inter alia*, the Tribunal to declare whether Chile had violated

- Articles 64, 116-119 and 300 of UNCLOS, as well as
- Article 87 - freedom of the high seas including freedom of fishing, subject to conservation obligationsand
- Article 89 - prohibiting any State from subjecting any part of the high seas to its sovereignty.

On 9 March 2001, the parties informed the ITLOS that they had reached a provisional arrangementconcerning the dispute and requested that the proceedings before the ITLOS be suspended. This suspension was recently confirmed. Therefore, the case remains on the docket of the Tribunal.

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108 International Tribunal for the Law of the Sea.

4.6 United States - Shrimp: Initial Phase (1998)

To date, seven species of sea turtles have been identified world-wide. They spend their lives at sea, where they migrate between their foraging and their nesting grounds. Sea turtles have been adversely affected by human activity, either directly (exploitation of their meat, shells and eggs), or indirectly (incidental capture in fisheries, destruction of their habitats, pollution of the oceans). In early 1997, India, Malaysia, Pakistan and Thailand brought a joint complaint against a ban imposed by the United States on the importation of certain shrimp and shrimp products. The US Endangered Species Act of 1973 ("ESA") listed as endangered or threatened the five species of sea turtles that occur in US waters and prohibited their take within the United States, in its territorial sea and the high seas. Pursuant to ESA, the United States required that US shrimp trawlers use "turtle excluder devices" (TEDs) in their nets when fishing in areas where there is a significant likelihood of encountering sea turtles. Section 609 of Public law 101-102, enacted in 1989 by the United States, provided, *inter alia*, that shrimp harvested with technology that may adversely affect certain sea turtles may not be imported into the United States, unless the harvesting nation was certified to have a regulatory programme and an incidental take-rate comparable to that of the United States, or that the particular fishing environment of the harvesting nation did not pose a threat to sea turtles. In practice, countries having any of the five species of sea turtles within their jurisdiction and harvesting shrimp with mechanical means had to impose on their fishermen requirements comparable to those borne by US shrimpers, essentially the use of TEDs at all times, if they wanted to be certified and to export shrimp products to the United States.

The Panel considered that the ban imposed by the United States was inconsistent with Article XI and could not be justified under Article XX. The Appellate Body found that the measure at stake qualified for provisional justification under Article XX(g), but failed to meet the requirements of the Chapeau of Article XX, and, therefore, was not justified under Article XX of GATT 1994.[109]

4.7 United States - Shrimp: Implementation Phase (2001)

Malaysia introduced an action pursuing to Article 21.5 of the Dispute Settlement Understanding (DSU), arguing that the United States had not properly implemented the findings of the Appellate Body in the Shrimp/Turtle dispute. The implementation dispute revolved around a difference of interpretation between Malaysia and the United States on the findings of the Appellate Body. In Malaysia's view, a proper implementation of the findings would be a complete lifting of the US ban on shrimps. The United States disagreed, arguing that it had not been requested to do so, but simply had to revisit its application of the ban. In order to

[109] United States - Import Prohibition of Certain Shrimp and Shrimp Products, Appellate Body Report and Panel Report adopted on 6 November 1998.

implement the recommendations and rulings of the Appellate Body, the United States had issued Revised Guidelines for the Implementation of Section 609 of Public Law 101-162 Relating to the Protection of Sea Turtles in Shrimp Trawl Fishing Operations(the "Revised Guidelines"). These Guidelines replaced the ones issued in April 1996 that were part of the original measure in dispute. The Revised Guidelines set forth new criteria for certification of shrimp exporters. Malaysia claimed that Section 609, as applied, continued to violate Article XI:1 and that the United States was not entitled to impose any prohibition in the absence of an international agreement allowing it to do so. The United States did not contest that the implementing measure was incompatible with Article XI:1, but argued that it was justified under Article XX(g). It argued that the Revised Guidelines remedied all the inconsistencies that had been identified by the Appellate Body under the Chapeau of Article XX.

The implementation panel concluded that the protection of migratory species was best achieved through international cooperation. However, it found that the Appellate Body had instructed the United States to negotiate (not necessarily to conclude) an international agreement for the protection of sea turtles with the parties to the dispute. The panel found that the United States had indeed made serious *bona fide* efforts to negotiate such an agreement and ruled in favour of the United States. Malaysia subsequently appealed against the findings of the implementation Panel. It argued that the panel erred in concluding that the measure no longer constituted a means of "arbitrary or unjustifiable discrimination" under Article XX. Malaysia asserted that the United States should have "negotiated and concluded" an international agreement on the protection and conservation of sea turtles before imposing the import prohibition. The Appellate Body upheld the implementation panel's finding and rejected Malaysia's contention that avoiding "arbitrary and unjustifiable discrimination" under the Chapeau of Article XX.[110]

4.8 Brazil – Measures Affecting Imports of Retreaded Tyres (2007)[111]

On 20 June 2005, the European Community (EC) requested consultations with Brazil on the imposition of measures that adversely affect exports of retreaded tyres from the EC to the Brazilian market. The EC would like to address the following measures:

- Brazil's imposition of an import ban on retreaded tyres;
- Brazil's adoption of a set of measures banning the importation of used tyres, which are sometimes applied against imports of retreaded tyres, despite the fact that these are not used tyres;

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110 United States - Import Prohibition of Certain Shrimp and Shrimp Products, Recourse to Article 21.5 by Malaysia, Appellate Body Report and Panel Report, adopted on 21 November 2001.

111 See http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds332_e.htm; last accessed 22 November 2010.

- Brazil's imposition of a fine of 400 BRL per unit on the importation, as well as the marketing, transportation, storage, keeping or keeping in deposit or warehouses of imported, but not for domestically retreaded tyres; and
- Brazil's exemption of retreaded tyres imported from other MERCOSUR[112] countries from the import ban and from the above-mentioned financial penalties, in response to the ruling of a MERCOSUR panel established at the request of Uruguay.

The EC considers that the foregoing measures are inconsistent with Brazil's obligations under Articles I:1, III:4, XI:1 and XIII:1 GATT 1994.

- Brazil justifies its foregoing by Articles XX(b) and (d), XXIV GATT 1994.
- Upon Brazil's acceptance Argentina joined the consultations on 20 July 2005.
- Brazil justifies its foregoing by Articles XX(b) and (d), XXIV GATT 1994.
- On 6 March 2006, the European Communities requested the Director-General to compose the panel.

DidBrazil impose an import prohibition on retreaded tyres inconsistent with Article XI:1 GATT 1994?The Panelfound that the prohibition on granting of import licences is an import prohibition inconsistent with the requirements under Article XI:1 GATT 1994.

WasBrazil's import prohibition justified under Article XX (b) GATT 1994 to protect human, animal or plant life or health?Risks are posed to human life or health by the accumulation of waste tyres. The accumulation of waste tyres cause mosquito-borne diseases and tyre fires cause toxic emissions. The Panel finds that risks posed by mosquito-borne diseases such as dengue, yellow fever and malaria to human health and life exist in Brazil in relation to the accumulation as well as transportation of waste tyres. The existence of risks to human life and health fall within the meaning of ArticleXX(b) GATT. The Panel found that Brazil's policy of reducing exposure to the risks to human, animal or plant life or health arising from the accumulation of waste tyres – the import ban- falls within the range of policies covered by Article XX(b).

Was the measure "necessary" within the meaning of Article XX paragraph (b)?The necessity of a measure should be determined through "a process of weighing and balancing a series of factors"

- the relative importance of the interests or values furthered by the challenged measure;

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112 MERCOSUR (Spanish: Mercado Común del Sur;Portuguese: Mercado Comum do Sul;English: Southern Common Market) is an economic and political agreement between Argentina, Brazil, Paraguay and Uruguay.

- the contribution of the measure to the realisation of the ends pursued by it;
- the restrictive impact of the measure on international commerce.

Comparison is to be undertaken between the challenged measure and possible alternatives. The Panel's decisions on necessity are affirmative. The prohibition on the importation of retreaded tyres contributes to the objective pursued by Brazil, as it can lead to a reduction in the overall number of waste tyres generated in Brazil because retreaded tyres have a shorter lifespan than new tyres. This can in turn reduce the potential for exposure to the specific risks to human, animal, plant life and health. The Panel is of the view that alternative measures to the import ban (measures to reduce the number of waste tyres; measures to improve the management of waste tyres; other disposal methods e.g. landfilling; stockpiling) are not reasonably available to Brazil in light of the level of protection Brazil pursues in relation to the health risks concerned. Stockpiled waste tyres pose similar types of risks such as mosquito-borne diseases and tyre fires to those posed by the accumulation of waste tyres in general and thus cannot constitute an alternative to the import ban.
When considering the Chapeau of Article XX, was the import ban on retreaded tyres applied in a manner that resulted in discrimination?The Panel has determined that discrimination arises in the application of the measure at issue from two sources:

> The MERCOSUR exemption can be considered to form part of the manner in which the import ban imposed by Brazil on retreaded tyres – the measure provisionally justified under Article XX(b) – is applied and that it gives rise to discrimination within the meaning of the Chapeau of Article XX, betweenMERCOSUR and non-MERCOSUR countries.
>
> The importation of used tyres under court injunctions: In the case at hand, retreaded tyres may be *produced* in Brazil from imported *casings* (while retreaded tyres using the same casings cannot be imported. Court injunctions permitted imports of *used* tyres. This results in discrimination in favour of tyres retreaded in Brazil using imported casings, to the detriment of imported retreaded tyres. Thus discrimination also arises from the importation of used tyres under court injunctions.

Was the discrimination in the application of the measure arbitrary / unjustifiable under the Chapeau of Article XX?Arbitrary means dependent on will or pleasure, based on mere opinion or preference as opposed to the real nature of things capricious, unpredictable, inconsistent, unrestrained in the exercise of will or authority; despotic, tyrannical. Unjustifiablemeans, not justifiable, indefensible. The Panel's decision on arbitrary or unjustifiable discrimination was as follows:

> 1. The MERCOSUR exemption did not constitute arbitrary or unjustifiable discrimination. The Panelfinds, that, as of the time of the Panel's ruling, the operation of the MERCOSUR exemption has not resulted in the measure being applied in a manner that would constitute arbitrary or unjustifiable discrimination
>
> 2. The importation of used tyres through court injunctions was, however, considered to be unjustifiable. The Panel finds, that, since used tyre imports have been taking place under the court injunctions in such amounts that the achievement of Brazil's declared objective is

> being significantly undermined, the measure at issue is being applied in a manner that constitutes a means of unjustifiable discrimination

Did the discrimination in light of the Chapeau of Article XX occur between countries where the same conditions prevail?The Panel concluded that since used tyre imports have been taking place under the court injunctions in such amountsthat theachievement of Brazil's declared objective is being significantly undermined, the measure at issue is being applied in a manner that constitutes a means of unjustifiable discrimination where the same conditions prevail.

Was the measure applied in a manner that constituted a disguised restriction on international trade under the Chapeau of Article XX?The imports of used tyres through court injunctions constituted such disguised discrimination. Since imports of used tyres take place in significant amounts under court injunctions to the benefit of the domestic retreading industry, the import ban on retreaded tyres is being applied in a manner that constitutes a disguised restriction on international trade.

The MERCOSUR exemption did not constitute disguised discrimination. The MERCOSUR exemption, although it also has the potential to similarly undermine the achievement of the stated objective of the measure, has not been shown to date to result in the measure at issue being applied in a manner that would constitute such a disguised restriction on international trade. In conclusion, the Panel found that the importation of used tyres through court injunctions results in the import ban being applied in a manner that constitutes a means of unjustifiable discrimination and a disguised restriction to trade within the meaning of the Chapeau of Article XX. In light of this conclusion, the Panel found that the measure at issue was not justified under Article XX GATT 1994.

5 Concluding Remarks

Natural resources represent a significant and growing share of world trade, and properly managed, provide a variety of products that (continue to) contribute greatly to the quality of human life. They, however, also represent challenges for policy makers. Natural resources are scarce, economically useful, distributed unevenly and exhaustible. Their production, trade and consumption can have negative externalities[113] on people and the environment. Natural resources are dominated by national economies, they are highly volatile.[114] Some have considered it problematic that the WTO does not have an agreement specifically regulating trade in natural resources. However, most GATT and GATS rules remain relevant for the trade

113 An example of such negative externality would be when a production or mining process results in pollution affecting the health of people who live nearby, or that damages the natural environment, animal or plant life or reduces the livelihood of people.

114 WTO (2010).

in natural resources.[115]

The 'curse' of natural resources, climate change, water stress, food security and the prevalence of poverty inter alia remain challenges for Africa. All of these are also linked to international trade and certainly go hand in hand with poverty reduction, self-reliant sustainable development and the rational use of Africa's natural resources.

With regards to trade, overexploitation of natural resources, widespread dumping of sub-standard products and services, second-hand and re-conditioned machinery, including of transport goods to increase the share in exports in organically-grown agricultural products to create technical data bases on a wide range of exportables, implementing and monitoring plans for detection of heavy metals, pesticides, microbiological and contaminants in food items are issues that need to be addressed. What remains a challenge in terms of the WTO and the environment (e.g. biodiversity) is to control the transfer of genetically modified goods, including when delivered as food aid.[116]

In the implementation of pro-poor policies and sustainable development, natural resources management, integrated reporting, environmental planning, environmental impact assessment and the overall policy review remain part of the on-going African working agenda. Moreover, new technologies, environmentally friendly goods and services need to be promoted and the protection and preservation of traditional knowledge, agriculture and species is important, especially in the African context. All of that requires national commitment, international cooperation, adequate technical assistance and capacity building. Let's see what the on-going Doha negotiations will bring for Africa in the near future.

Namibia is well placed to gain from growing international environmental concerns, based on its assets – a pristine natural environment and rich biodiversity, coupled with good governance, committed and sound environmental management. While it faces challenges, especially in terms of poverty, the country can boast that it is one of few countries in sub-Saharan Africa on target to achieving the Millennium Development Goals (MDGs) by 2015.[117] What still needs some more attention, however, is getting trade, sustainable development and environmental inter-linkages more fully onto Namibia's policy agenda. This would require stakeholders and policymakers from the often disparate sectors of trade, environment, tourism, agriculture, health, mines, energy, justice and others to work together more closely in future.

115 Ibid.

116 See http://www.uneca.org/; last accessed 22 November 2010.

117 Jones et al. (2009).

Chapter 10

ENVIRONMENTAL JUSTICE: ADVOCACY, LITIGATION AND MEDIATION

Oliver CRuppel

1 The Concept of Environmental Justice

Today, in both the industrialised and developing parts of the world, a growing body of evidence demonstrates that poor and other disenfranchised groups have been the greatest victims of environmental degradation. The poor and marginalised still lack access to justice, especially environmental justice. The North-South divide still needs to be bridged in this respect.[1] The social impact of degradation increases the vulnerability of specific groups and populations. This vulnerability has become a key element in human rights discussions. Rights and responsibilities regarding the utilisation of environmental resources need to be distributed with greater fairness among communities, both globally, regionally and domestically. Therefore, human rights movements increasingly apply a rights-based strategy to confront global environmental devastation and to protect ecological habitats and the planet for future generations.[2]

Environmental justice as a concept embraces two objectives. The first is to ensure that rights and responsibilities regarding the utilisation of environmental resources are distributed with greater fairness among communities. This entails ensuring that poor and marginalised communities do not suffer a disproportionate burden of the costs associated with the development and exploitation of resources, while not enjoying equivalent benefits from their utilisation. The second is to reduce the overall amount of environmental damage, again globally and domestically.[3] Recognition of the link between the abuse of the human rights of various vulnerable communities and related damage to their environment is expressed in the concept environmental justice. The scale and urgency of environmental justice are beyond past challenges: solving them will perhaps mean destabilising and reorienting global economic growth.[4]

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1 Beyerlin (2006:259–296).

2 Kiss /Shelton (2004:12ff.).

3 Ibid.

4 Thus, the issue of climate change prompts significant questions about justice and distribution. There is an acute need for intelligent collective action focusing on the human suffering that climate change will cause in future. As a matter of law, the human rights of individuals need to be viewed in terms of state

Only recently, the Council of Europe stated that "living in a healthy environment should be made a legally enforceable human right".[5] On 30 September 2009, the Parliamentary Assembly of the Council of Europe(PACE) called for the "right to live in a healthy and viable environment" to be enshrined in the European Convention on Human Rights – which would make it legally enforceable in courts across Europe. It was further said that "society as a whole... must pass on a healthy and viable environment to future generations, in accordance with the principle of solidarity between generations".[6] Yet, the Legal Affairs and Human Rights Committee of the Council of Europe expressed a dissenting opinion, raising concerns about defining any new right in a way that could be enforced.[7] Although the European Convention on Human Rights does not include any provisions on the environment, the European Court of Human Rights (ECHR) has upheld the right to a healthy environment in an indirect manner.[8]

Environmental justice includes two complementary dimensions: *procedural* and *substantive*. The procedural dimension is divided into three rights: the right to information, the right to participate in decision-making, and the right of access to justice in environmental matters. Environmental rights still face a multitude of challenges of a procedural nature. To what extent these challenges are relevant depends, amongst others, on the following:

The question of whether and under what conditions an individual, organisation or state has the right to commence action regarding a right to environment needs to be addressed. The issue of *locus standi* is of great relevance in respect of judicial enforcement of the right to environment and needs specific attention. The Indian experience with the establishment of public interest litigation has shown that environmental concerns can be advanced more efficiently by enabling any citizen to appeal directly to the Supreme Court.[9]

Another focal point deals with the question of who would be the proper addressee of claims dealing with a right to environment, and whether a right to environment is to be enforced vertically between individuals and/or horizontally between individuals and states. Moreover, the

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obligations: it is the state that is responsible for human rights fulfilment. This assignation of such responsibility may seem inadequate in the context of climate change, where social and economic rights in poor countries are threatened primarily by actions undertaken elsewhere. The special responsibility of wealthy countries to mitigate climate change remains – and is widely accepted. See also Kiss /Shelton (2004:12ff.).

5 http://assembly.coe.int/ASP/Press/StopPressView.asp?ID=2206; last accessed 3 January 2010.

6 Ibid.

7 Ibid.

8 Here one could mention the judgments in *López Ostra v Spain* of 9 December 1994, which dealt with the relationship between the right to a healthy environment and the right to respect for private life; *Guerra and Others v Italy* of 19 February 1998, which put forward the theory of the "positive obligations" of states; *Hatton and Others v The United Kingdom* of 8 July 2003, in which the Grand Chamber employed the term *environmental human rights*; and *Öneryildiz v Turkey* of 30 November 2004, for an approach to environmental degradation from the angle of Article 2 of the Convention enshrining the right to life.

9 Rosencranz / Jackson (2003:228).

question whether environmental rights can be enforced at the national or international level is of particular interest in the globalising world, also with regard to the concept of *regional integration*, which is playing an increasingly important role in sub-Saharan Africa.[10]

2 Environmental Advocacy

Namibia is at the dawn of environmental advocacy, which refers to the act of speaking out in favour of, supporting, and defending the environment with the aim of having an impact on a decision or policy. Environmental advocates seek to preserve the natural and man-made environment, and to protect the relationships that people have with their environment. One of the more important aims of this article was to demonstrate that human rights concerns are closely related to environmental issues. Cities, villages, communities and individuals can experience a wide array of threats to the environment that may require advocacy. Business interests may be moving forward with a development project such as a dam, without addressing the needs and interests of the communities that will be affected by it. A factory may be polluting air or water, thereby posing risks to public health; or the government or other resource users might be proposing an activity that threatens humans and wildlife alike. Many problems can potentially be addressed through environmental advocacy. Through environmental advocacy, environmental rights can be strengthened. Through more public participation in environmental affairs and more participatory democracy[11] environmental justice can be achieved. Unfortunately, more often than not, the people who suffer from violations of their environmental rights are incapable of instituting litigation due to a number of factors, including poverty, access to information, and access to justice.[12]

3 Environmental Litigation

Disputes relating to environmental issues are often characterised by a blurring of boundaries requiring professional expertise, time-consuming processes, high costs and irreversible damage to the environment or to public health. In the case of matters relating to the development and construction of infrastructure, for example, the advantage of development are almost always accompanied by heavy social and public costs. The production of goods almost inevitably (and the provision of employment) pollutes air, water and soil, the construction of roads takes place at the expense of open spaces, the lack of a clear suburbanisation policy results in unwanted urban sprawl, imposing strain on the municipal

10 Ruppel (2009c:277ff.).
11 Ruppel / De Klerk (2009:2–4).
12 Ferris (2009).

systems. There are many other examples. In a nutshell: disputes over the environment usually occur where different interests collide.

Fighting, for example, industries and corporations that cause environmental damage can be quite demanding. Many businesses prefer cheaper methods of production, but these are far more often than not the more polluting.[13] Even in the face of strict regulation, companies will often act against the law. Taking these to court can prove to be a challenging endeavour. In order to prepare a successful case, plaintiffs must be able to link the effected damage to the alleged source. For the lawsuit to make it to court, the plaintiff must have credible evidence that he/she was exposed to, for example harmful substances. A resident may develop cancer and sue a nearby chemical manufacturer, but to prove it was that specific chemical in the water or in the air that caused the cancer, as opposed to, e.g. a genetic predisposition, requires substantial scientific evidence.

Moreover, taking a large corporation to court can be expensive. Whenever corporations' profits and public perceptions are at stake, these are often quite willing pay for highly skilled (and expensive) legal teams to preclude an unwanted negative outcome. One strategy is to draw the trial out as long as possible, as the prospect of spending years in court can wear plaintiffs down. Defence teams often use this strategy to bully victims to agree to 'more favourable' out-of-court settlements.

In Namibia, environmental litigation, with very few exceptions, has not yet been an issue. For this purpose lawyers need to be trained in the theory and practice of environmental litigation. Environmental litigation is an integral part of the environmental regulatory instruments and the designing of environmental policy. The role of lawyers in environmental litigation should become clearer when it comes to effective project planning, consultation, sound environmental management practices, and Alternative Dispute Resolution (ADR). Lawyers need to be familiarised with specific litigation strategies, the litigation process and in particular the use of expert witnesses. Environmental litigation is not only a means to enforce the law by private individuals using common law and statutory avenues. Environmental litigation can also be used against government decisions and by government, including civil litigation and criminal prosecutions.

Environmental litigation can play an important role in shaping and preserving the quality of life. Namibia has enacted numerous statutes designed to improve air and water quality, to better cope with waste, to protect the wild life and endangered species, and to establish rules for the management of land and marine resources. These statutes are deemed to become more and more subject in law suits, filed by affected industry, state and local governments, indigenous groups, conservation groups and private citizens. Environmental litigation entails a variety of highly specialised legal fields, inter alia:

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13 The case of Ramatex is a good example for this. Cf.chapter 9 in this volume.

- Global Climate Change Litigation;
- Environmental Criminal Litigation;
- Civil Environmental Enforcement Litigation;
- Insurance Recovery for Environmental Liabilities;
- Litigating Natural Resource Damages.[14]

4 Environmental Mediation

Private business actors are using mediation in many parts of the world with increased regularity in order to resolve commercial environmental disputes, such as those involving pollution indemnification or regulatory compliance. Mediation has also been used to address prosecutorial disputes between government and business. Finally, and more surprisingly, parties are turning to mediation to address seemingly intractable disputes over deeply rooted values, which are often the source of the environmental conflict.

In the resolution of environmental disputes, adversarial processes (like litigation) are only advantageous under certain circumstances. This is the case, when there is an imbalance in power between disputants or when one or both parties aim to establish a precedent in an evolving area of the law. Consequently, litigation and mediation remain important complements of one another.[15] Against this backdrop, there are numerous reasons why parties choose to mediate an environmental dispute, even where litigation is an option. Mediated processes, for example, help parties control dispute resolution costs that might otherwise escalate. These cost savings are advantageous regardless of whether a dispute concerns two businesses, a government prosecutorial action, or a citizen suit against developers. Mediated processes also allow people to maintain control over the dispute without delegating decision-making power to a third party or divulging confidential information. As a result, in mediation, parties can explore innovative means of dispute settlement that may offer joint gains for the parties involved, and also improve environmental quality. In mediated processes, parties are also more likely to develop parallel dispute and information management processes such as joint fact finding sessions to navigate the inevitable scientific and technical complexities and uncertainties that exacerbate environmental conflict. Mediation allows parties to sit around the negotiating table and create the solution together. However, an agreement reached through mediation should always be formally drawn up so that the agreement can be implemented.[16]

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14 Perlman (2009).

15 Ruppel (2007).

16 Ibid.

5 Concluding Remarks

In Namibia, 20 years after independence, a legal culture upholding environmental rights still needs to be created. Moreover, the holistic fulfilment of the constitutional environmental principles of state policy requires even more political will and public participation at different levels. There is also a need for Namibian society as a whole, and individuals in particular, to pass on a healthy and viable environment to future generations. For this purpose, it is imperative that Namibia considers such to be (at least implicitly) a fundamental right of its citizens and therefore a duty to enable these to live in an healthy environment, further, to reaffirm its international commitment to issues regarding the environment. The right to information, public participation and the right of access to justice should also be underlined in this respect.

The courts' role in promoting environmental justice cannot be overestimated. Internationally, the experience of courts that have been asked to decide on cases with regard to environmental rights show that the judiciary is crucial when it comes to interpreting existing law in a way that takes into account recent developments incorporating environmental concerns. In the 2009 South African case of *Lindiwe Mazibuko and Others v City of Johannesburg and Others*, O' Reagan J held that –

> [t]he purpose of litigation concerning the positive obligations imposed by social and economic rights should be to hold the democratic arms of government to account through litigation. In so doing, litigation of this sort fosters a form of participative democracy that holds government accountable and requires it to account between elections [for] specific aspects of government policy. When challenged as to its policies relating to social and economic rights, the government agency must explain why the policy is reasonable...[17].

Litigation concerning environmental rights cannot only lead to more environmental justice for the individual, but will also exact more detailed accounting from government and, with an attendant beneficial influence on the policy-making process. In this context, the Namibian judiciary will inevitably be confronted with the dilemma of *judicial activism* versus *judicial self-restraint*.[18] While the latter refers to a situation in which the judge tries to avoid developing the law beyond its clearly established parameters in order not to take over a lawmaker's function, *judicial activism* describes a situation in which judges extend or modify certain legal provisions as living legal instruments by interpreting them in the light of present-day conditions.[19]

In this spirit it is hoped, that in the course of dealing with practical cases and a subsequent increase of environmental rights litigation and advocacy, Namibian courts will gradually clarify the substance of those rights, also drawing on the international experience.

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17 *Lindiwe Mazibuko and Others v City of Johannesburg and Others,* Case CCT 39/09, [2009] ZACC 28.

18 The term was coined by Mahoney (1990:57–88).

19 White / Boussiakou (2009:42).

Environmental mediation can be a flexible alternative permitting a wider view of the dispute and reaching an agreement which extends the range of possible solutions(unlike a judicial process, which is usually characterised by its focus on a very limited aspect of the problem and which is bound by procedural rules). After all, it is the complexity of environmental disputes that often requires an overall and comprehensive viewpoint and creative solutions.

Yet, all of the aforementioned areas are still in their infancy in Namibia, and they should be developed. For this purpose, improvements in regards to the Namibian legal education and the deepening of public awareness of the concept of environmental justice and of environmental advocacy, environmental litigation and environmental mediation are crucial.

Chapter 11

CLIMATE CHANGE

Various Authors

I Climate Change in Namibia: Projected Trends and Effects

Isaac Mapaure

1 Introduction

The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as

> a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.[1]

This definition slightly differs from the definition of the Intergovernmental Panel on Climate Change(IPCC), which refers to climate change as

> a change in the state of the climate that can be identified by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer.[2]

The IPCC's definition therefore refers to any change in climate over time, irrespective of the causes –whether due to natural variability or anthropogenic causes.

Climate change is one of the biggest challenges and threats that humanity has ever faced. It has been acknowledged as "one of the greatest challenges of our time" by the United Nations. Climate change has largely resulted from anthropogenic influences on the climate system, necessitating global action to mitigate its causes, adapt to, and cope with the impact thereof. These actions are being taken through commitments to international instruments such as the United Nations Framework Convention on Climate Change and theKyoto Protocol.[3] It has been acknowledged that a certain amount of climate change is apparently unavoidable, regardless of

1 UN (1992).
2 IPCC (2007a).
3 UN (1998).

reductions in emissions, thus necessitating adaptation.[4] Human adaptation to a changing environment has been going on for millennia but the current scenario has a sense of urgency.[5]

Namibia ratified the UNFCCC in 1995 and became legally obliged to adopt and implement policies and measures designed to mitigate the effects of climate change and to adapt to such changes. Namibia acceded to the Kyoto Protocol in 2003. The Kyoto Protocol is an international agreement that sets binding targets for industrialised countries (Annex 1 countries) for reducing greenhouse gas emissions to an average of 5% against 1990 levels over a five-year period of 2008-2012. As part of global commitments, Parties to the UNFCCC are obliged to make periodic submissions including National Communications to Conferences of the Parties (COPs). Namibia's Initial National Communication to the Conference of Parties of the UNFCCC was submitted in 2002 in accordance with decisions taken at various COPs to the UNFCCC. The Ministry of Environment and Tourism (MET) through the Directorate of Environmental Affairs (DEA) is responsible for overseeing the coordination of climate change issues in Namibia.

Despite its insignificant contributions to greenhouse gas emissions, southern Africa is very susceptible to the impacts of climate change, including sea level rise, increased frequency and intensity of extreme weather events such as floods and droughts. Southern Africa is already a largely water-stressed region, with high frequencies of drought. Climate change is exacerbating this problem, considering that the region's susceptibility in the agricultural sector is rooted in its widespread rain-fed agriculture.[6] The vulnerability of the region's agricultural sector to climate change has been well documented in, among others, the National Communications to the UNFCC *C*(e.g. Botswana (2001), Mozambique (2003), South Africa (2000) and Zimbabwe (1998).Moreover, global models indicate that Southern Africa will suffer more from climate change than most regions of the globe, becoming hotter and drier.[7]

In many countries of the region, close to 70% of the population lives in rural areas where their direct dependence on the natural ecosystem with its goods and services is high. The impacts of climate change are more pronounced in these rural communities, who are often poor and marginalised. Their livelihood is largely dependent on agriculture. Studies have identified seven sectors where Namibia is most vulnerable to climate change. These include water resources, marine resources, agriculture, biodiversity and ecosystems, coastal zones and systems, health, and energy. Therefore, Namibia has to take measures and actions designed to mitigate the effects of climate change and to enable communities to cope with and adapt to its effects.

This section of the Chapter will highlight the projected changes in climate in southern Africa and put Namibia in that context. The vulnerability of Namibia to climate change and its effects on

4 IPCC (2007a).
5 Nielsen / Reenberg (2010).
6 CEEPA (2006); IPCC (1997); Hulme (1996).
7 IPCC (2007a); DEAT (2007).

various sectors of the economy and on biodiversity are also highlighted.[8] Measures taken by the Government of the Republic of Namibia and other stakeholders to deal with the challenges of climate change are also summarised.

2 Namibia's Contribution to Greenhouse Gas Emissions

Parties to the United Nations Framework Convention on Climate Change (UNFCCC) are categorised into three main groups according to differing commitments. Thus, certain groups of developing countries are recognised by the UNFCCC as being especially vulnerable to the adverse impacts of climate change, including countries with low-lying coastal areas and those prone to desertification and drought. These are classified as non-Annex 1 countries. Most developing countries, including Namibia are categorised as non-Annex 1 countries. According to the UNFCCC process, for countries in this category, the baseline values for greenhouse gas emissions (greenhouse gas) is pegged at 1994 as the base year.

From the abundance of scientific literature worldwide, there is clear evidence that the climate has changed and will continue to change during the next century, both globally and locally, due to increased concentrations of greenhouse gases in the atmosphere. These increases are mainly due to human activity, most importantly the use of fossil fuels. IPCC (2001) reported that Africa's contribution to greenhouse gas emissions is insignificant, being 50-100 times less than Europe's and 100-200 times less than America's. Just like many other countries in southern Africa except South Africa, Namibia's contribution to greenhouse gas emissions is insignificant.[9]

Namibia neither produces fossil fuels of its own, nor refines any fossil fuels. The Namibian economy is not energy-intensive, as it relies primarily on agriculture, fisheries and mining without much secondary processing.[10] Du Plessis[11] did a greenhouse gas emissions inventory for 1994, while Hartz and Smith[12] did a comprehensive review of the greenhouse gas inventory for Namibia for the year 2000 and compared this with the inventory for 1994. They analysed anthropogenic sources and sinks for greenhouse gases from energy industries, manufacturing industries and construction, the transport sector, the commercial/institutional sector, the residential sector, agriculture, fishing, forestry and other sectors. They compared greenhouse gas emissions of Carbon dioxide (CO_2), Methane (CH_4) and Nitrous Oxide (N_2O) for 1994 and 2000 per sector.

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8 For human vulnerability in Africa also see sub-Chapter by Ruppel below.
9 GRN (2002d); Hartz / Smith (2008).
10 GRN (2002d).
11 Du Plessis (1999).
12 Hartz / Smith (2008).

The energy sector produced 2200 Gg CO_2-equivalents in 2000 compared to 1905 Gg CO_2-equivalents in 1994. The transport sector is a significant emitter of CO_2 (about 50% of total national CO_2 emissions in 1994) because of the great distances travelled in order to distribute goods and services within the country. This is quite clear in the energy review for Namibia done by Capôco, *et al.* (2007). The agricultural sector contributed 6738 Gg CO_2-equivalents in 2000 compared to 3712 Gg CO_2-equivalents in 1994 while the energy sector contributed 2200 Gg CO_2-equivalents in 2000 compared to 1905 Gg CO_2-equivalents in 1994. As Namibia cultivates only a very small amount of rice in flooded fields (which is a potential for significant methane production), it means the major sources of methane are domestic livestock (more from enteric fermentation in livestock and less from manure management), burning of the veld, burning of agricultural residues and CH_4 from agricultural soils. Emissions of NO_2 are small and mostly derived from the burning of savannahs. Waste contributed 180 Gg CO_2-equivalents in 2000 while the 1994 value stood at 63 Gg CO_2-equivalents.

Trends from these values imply that greenhouse gas emissions in Namibia have increased between 1994 and 2000. However, land-use change and forestry have had an effect of removing CO_2 with values of -10560 Gg CO_2-equivalents and -5716 Gg CO_2-equivalents in 2000 and 1994, respectively. Thus, there has been a net effect of -1442 Gg CO_2-equivalents in 2000. This means that Namibia has been a net sink of CO_2. Vegetation growth captures CO_2 and increases the rate of transpiration. Thus, the clearing of vegetation has an opposite effect. Namibia has a significant land area that is bush-encroached by species such as *Acacia mellifera*, *Terminalia sericea*, and *Dichrostachys cinerea*. Bush encroachment results from commercial ranching practices which lead to overgrazing and upsetting the natural balance between woody plants and grasses such that the woody component proliferates. Though agriculturally undesirable, the impact of bush encroachment is highly significant for Namibia's greenhouse gas emissions profile because bush-encroached areas serve as huge sinks for CO_2.

In the final analysis, therefore, it is clear that Namibia contributes little to global greenhouse gas (greenhouse gas) emissions. Instead, Namibia is estimated to be a net sink for CO_2, both in 1994 and in 2000, because of increasing woody biomass in the rangelands due to bush encroachment.

3 Climate Trends and Predictions

Future trends in climate are predicted using modelling approaches based on past and present patterns. There are several climate models used worldwide but all of them provide the basis for projections of future climate change scenarios, the most used being General Circulation Models (GCMs). The IPCC Fourth Assessment Report[13] discusses and evaluates these models at

[13] IPCC (2007a).

length. The heterogeneity in the new generation of climate models and an increasing emphasis on estimates of uncertainty in the projections raise questions about how best to evaluate and combine model results in order to improve the reliability of projections.[14]GCMs work on a spatial scale of 200-300km, therefore this limits their projections for changes at a local scale.[15]Nevertheless, GCMs remain a fundamental tool used for assessing the causes of past change and projecting changes in the future.

There is undisputed evidence for climate change at global scale, much of which is attributed to human activity. However, understanding how global climate change may manifest itself at the local level is still a challenge.[16]At a global scale, it is widely recognised that there has been a detectable rise in temperature during the last few decades. This rise in temperatures cannot be explained unless human influence is taken into account.[17] The regional distribution of temperature increases is not uniform; some regions have experienced greater change than others.[18] Globally, the rate of average temperature increase has been quicker during the latter half of the 20th century than before. This increase in the rate of change is expected to continue, potentially resulting in more rapid changes of climate in the future.[19]

There is greater variability in global rainfall, therefore changes in rainfall are harder to detect, both spatially and temporally. Changes in global rainfall patterns have been detected in many parts of the globe. In southern Africa, there have been moderate decreases in annual rainfall and there have also been detectable increases in the number of heavy rainfall events in the region.[20] Trends also indicate an increase in the length of the dry season and increases in average rainfall intensity,[21] suggesting a shorter but more intense rainfall season. Other aspects of global change are increases in intensity and spatial extent of droughts since the mid-1970s; increases in the duration of heat waves during the latter half of the 20th century; shrinking of arctic ice caps since 1978; widespread shrinking of glaciers, especially mountain glaciers in the tropics; increase in upper ocean heat content; increases in sea level at a rate of 1.8 mm per year between 1961 and 2003, with a faster rate of 3.1 mm per year between 1993 and 2003.[22]

There is only a limited amount of studies detailing historical trends in climate over Namibia. Due to the arid nature of the country, natural variability is extremely high and is complicated by decadal variability.[23] There is evidence that changes in temperatures in Namibia have followed

14 IPCC (2010).
15 DRFN / CSAG (2010).
16 Ibid.
17 IPCC (2001).
18 DRFN / CSAG (2010).
19 Ibid.
20 IPCC (2007a).
21 New et al. (2002).
22 IPCC (2007a).
23 DRFN / CSAG (2010).

global trends as described above. There has been a tendency for warmer temperatures in the latter half of the 20th century, which is generally 1-1.2°C warmer than at the beginning of the century. However, this magnitude of warming is greater than the global mean temperature change,[24] which is worrisome for Namibia. An increase of 1°C generally implies an increase in evaporation of 5%. For a country with already high evaporation rates, this has serious consequences as will be discussed in a separate Section below.

Meteorological data for 25 years from the Namibia Meteorological Services indicates that there have been consistent increases in daily maximum temperatures at seven stations (Lüderitz, Keetmanshoop, Windhoek, HoseaKutakoInternationalAirport, Sitrusdal, Grootfontein and Okaukuejo).[25]The frequency of days with maximum temperatures above 25°C has significantly increased over this period. Midgley *et al.*[26]examined long-term temperature and rainfall records from 15 weather stations that had data with durations of between 25 and 60 years in Namibia and the Northern Cape (South Africa), and 53% of the stations showed significant increases in temperature over their recording period, while none showed a significant decline. There has also been a decrease in the frequency of days with minimum temperatures below 5°C.[27] Modelling changes in temperature in Namibia suggest a minimum towards the coast and an increase further inland during all seasons, with minimum expected increases during summer of 1-2°C and maximum changes of 2-3.5°C.[28]

Rainfall patterns are a bit difficult to decipher compared to temperatures. The long-term rainfall records for Namibia (1915 to 1997) suggest an overall national mean of 272 mm. In the period from 1981 to 1996 only two of these sixteen years had rainfall above this mean.[29] The variation in rainfall from year to year is extremely high (in excess of 30% everywhere in the country, rising to 70% in southern Namibia and 100% in the Namib Desert). DRFN and CSAG[30] reported that there are no obvious trends in rainfall patterns over a 100-year period between 1901 and 2000 in Namibia. However, there have been significant increases in the length of the dry season and decreases in the number of consecutive wet days in some areas. The onset of the rainy season is delayed in the north and the end of the rains is earlier than before.[31] Using different climate modelling scenarios, for the winter period, the lower estimates of change suggest a drying in the south and wetting in the north, whilst upper estimates of change suggest a wetting over most of the country except in the far southwest where reduced rainfall

24 Midgley et al. (2005).
25 DRFN / CSAG (2010).
26 Midgley et al. (2005).
27 DRFN / CSAG (2010).
28 Ibid.
29 GRN (2002d).
30 DRFN / CSAG (2010).
31 Ibid.

is projected.[32] During summer, the lower estimate of change suggests drying over most of the country except for an increase in rainfall over the coastal regions.

Recent experiences by local communities combined with meteorological data confirm real changes in climate patterns over the last few decades in Namibia. Delayed on-set of the rainy season and the shortening of the growing season have been reported. There have been unbearably hot summer temperatures and more frequent droughts. Communities in the northern and north-eastern parts of the country have experienced more severe flooding which has caused significant suffering among local communities. Nunes *et al.*[33] conducted a study in Ohangwena where communities reported variability in rainfall patterns characterised by high intensity of rainfall over a shorter period of time, late coming of the rain, quick disappearance of surface water, less cold winters than before and much stronger and hotter summer sun. These trends in rainfall and temperature patterns, observed by communities in northern Namibia, were confirmed by trend analysis by Mitchell *et al.*[34] for the period 1900 to 2000.

4 Potential Impact of Climate Change

4.1 Projections

Arid environments are areas that receive less than 250 mm of rain per annum, semi-arid environments receive between 250mm and 500 mm and hyper-arid environments receive less than 100 mm per annum. In Namibia, annual rainfall is low and highly variable between years, ranging from an average of 25 mm in the southwest to 700 mm in the northeast. Thus the greatest proportion of the Namibian environment is arid to semi-arid. The coefficient of variation of rainfall is also very high, ranging from 25% in the northeast to more than 80% along the coast in the west. Not only does Namibia receive little rain, it also experiences high rates of evaporation due to high solar radiation, low humidity and high diurnal temperatures. This makes the arid nature of the country even worse because the availability of water to plants, animals and humans is limited. It is estimated that only about 1% of rainfall ends up replenishing the groundwater aquifers.[35] This makes the Namibian environment harsh for most organisms including people. This arid nature of the country is caused by weather patterns prevailing in regions with oceanic cold currents - the cold Benguela Current that flows north along the west coast - and situated between 20° and 30° North and South, where dry air of the Hadley Cells descends.

Global climate change has resulted in changes in the normal patterns of weather and climate in Namibia, causing significant stress on various economic sectors of the country. The natural

32 Ibid.
33 Nunes et al. (2010).
34 Mitchell et al. (2004): in Midgley et al. (2005).
35 GRN (2002d).

conditions described above make Namibia very susceptible to the effects of climate change because it is already a stressed system. In general, most countries in southern Africa are vulnerable to climate change effects but to varying degrees depending on local conditions. The likelihood that an individual or group of people will be exposed to, and will be adversely affected by new climatic circumstances depends on the characteristics of the individuals or group of people in terms of their capacity to anticipate, cope with, resist and recover from the impacts of environmental change.[36] The capacity to adapt to climate change varies among regions and socio-economic groups in the sense that those with the least capacity to adapt are generally the most vulnerable. This also depends on the resources available for mitigation and adaptation.[37]

Africa will be negatively affected by climate change, more so because of the poor socio-economic conditions which exacerbate the vulnerability of the population on the continent. This is particularly so because vulnerability to environmental change does not only depend on changes in frequency or duration of climatic conditions but also on the capacity to respond adequately to those changes.[38] Poverty and prevailing levels of income influence the resource base of households and this determines the resilience of households to deal with impacts of climate change. Africa's capacity to respond is severely hampered by lack of resources. Climate change will affect the attainment of millennium development goals (MDGs), particularly the goals to eradicate extreme poverty and hunger, to reduce child mortality, to combat disease, and to ensure environmental sustainability.[39]Namibia's situation is not very different from fellow southern African countries. If anything, the environmental conditions make it even more vulnerable. Namibia is a lower middle-income country with US$2,524 per capita GDP in 2004,[40] with about 38% of households living in poverty. There are considerable disparities in income as reflected by the Gini-coefficient of 0.7.[41] Being a country that is highly dependent on its natural resource base of minerals, fisheries, agriculture and wildlife, coupled by variable rainfall, frequent droughts and reliance on subsistence agriculture, Namibia is highly vulnerable to climate change.

DRFN and CSAG[42] critically reviewed the vulnerability of Namibia to the effects of climate change. They compared mainly the Caprivi and Karas Regions of Namibia, in the northeast and south respectively. These two regions differ in their average climatic conditions and livelihood systems. Caprivi receives higher rainfall than Karas. Livelihood systems in Caprivi are based on subsistence-oriented maize cultivation, which is combined with small number of goats and

36 Galvin et al. (2004).
37 DRFN / CSAG (2010).
38 Ibid.
39 Galvin et al. (2004).
40 Young et al. (2010).
41 GRN (2002d).
42 DRFN / CSAG (2010).

cattle for domestic purposes, approximately supporting 12 000 farming households.[43] Livelihoods in Caprivi used to be flexibly organised around seasonal movement of water but nowadays the region is considered vulnerable to flooding of wetlands.[44] In Caprivi, natural shocks such as floods for those living in low-lying wetlands, droughts and climate change, livestock diseases and pests are factors that make people vulnerable. Alcohol abuse enhanced people's vulnerability considerably.[45] In 2009, close to 700 000 people were either directly or indirectly affected by floods in the north and north-eastern parts of Namibia which cost an estimated N$1.7 billion (1% of GDP) worth of damages and losses, both public and private.[46]On the other hand, natural conditions and livelihood systems in southern Namibia are very different from Caprivi. Rural production is dominated by raising small stock such as goats and sheep. In the Karas Region, vulnerability is related to loss of employment, disability and sickness (including HIV and AIDS), having many dependents and orphans.[47]

A number of sectors of the Namibian economy were identified as being the most vulnerable to the effects of climate change: agriculture, biodiversity and ecosystems, coastal zone, health, marine resources and water. These are discussed below.

4.2 Agriculture

Agriculture is the 6th largest contributor to Namibian GDP. The Namibia Agronomic Board[48] reports that the contribution of this sector has been declining in recent years for reasons that may include impacts of climate change. It is estimated that 67% of Namibians live in rural areas and the main basis for their livelihoods is subsistence agriculture. However, some urban dwellers are also full-time, part-time or weekend farmers. Crop production plays an important role for household food security, particularly in the northern parts of the country where pearl millet (*mahangu*) is a subsistence dry-land crop and a major staple food. However, *mahangu*harvests have been affected by extensive flooding and poor yields in the last two successive years,[49] an indication of possible impacts of climate change on crop production. Maize, wheat, rice and other grains and horticultural crops are also produced. Livestock production (especially cattle, goats and sheep) is the driver of the agricultural economy where meat is one of the major export goods of Namibia.

43 Ibid.
44 Ibid.
45 Ibid.
46 GRN (2009b).
47 DRFN / CSAG (2010).
48 Namibia Agronomic Board (2006).
49 Ibid.

During the 2008/9 season, the Agronomic Board of Namibia[50] observed that "floods and droughts can easily occur simultaneously and even within close geographic proximity, as we have seen for the past few years". They contend that grain production, especially *mahangu* surplus production, could seriously be hampered if solutions in terms of crop insurance, production methods, cultivars, alternative crops, and financing schemes are not found. These are not encouraging signs as climate projections indicate that the growing season will start later than usual in the northeast, with onset of rains delayed by about half a day per year (meaning that currently the season starts about 20 days later than during the last century). There will be a tendency for the early cessation of the growing season with significant negative impacts on the agriculture sector.[51]

The livestock subsector will also be negatively affected by climate change. Grazing rangelands are affected by alterations in precipitation regimes, temperature and atmospheric concentrations of CO_2. All these factors affect net aboveground primary productivity (NPP). There is likely going to be shifts in ratios of C3/C4 species of grasslands, changes in evapotranspiration and run-off and changes in forage quality. If the quantity and quality of NPP is reduced as predicted, then cattle production will also decline. Changes in climate will lead to alterations in the boundaries between rangelands and other biomes such as deserts and forests through shifts in species composition and indirectly through changes in wildfire regimes and opportunistic cultivation. Midgley *et al.*'s[52] modelling analysis projected significant changes in vegetation structure and function in several areas of Namibia by 2080, where arid vegetation types will increase in cover by almost 20% by 2050, and up to 43% by 2080 in the absence of CO_2 fertilisation effect.

Heat and water stress on livestock will lead to decreases in feed intake, milk production and rates of reproduction.[53] Changes in climate may affect the distribution of diseases as well as the timing of their outbreaks or their intensity. For vector-borne diseases, the distribution patterns of the vectors may be altered by changes in temperature and rainfall, thus influencing potential distribution of diseases. It is reported that climate appears to be more frequently associated with the seasonal occurrence of non-vector borne diseases than their spatial distribution.[54]

4.3 Biodiversity and Ecosystems

Despite the harsh arid climatic conditions described above, the Namibian landscape supports a remarkable biodiversity, especially its plant species. More than 4500 plant taxa have been

50 Agronomic Board of Namibia (2009).
51 DRFN / CSAG (2010).
52 Midgley et al. (2005).
53 DRFN / CSAG (2010).
54 Ibid.

recorded,[55] almost 700 of which are endemic to the country, and a further 275 of which are Namib Desert endemics shared with southern Angola.[56] The endemism of plant species is concentrated in five centres, namely the Kaokoveld in the northwest, the Otavi highland in the Kalahari basin in the east, the Okavango region in the northeast, the AuasMountains on the western edge of the central plateau, and the succulent-rich southern Namib.[57]

The natural ecosystems of Namibia are also vulnerable to climate change, given that the biodiversity of neighbouring South Africa has been found to be vulnerable to climate change because the two countries share similar bio climates (southern regions of Namibia and north-western South Africa), and they possesses similar biome types. Before Midgley et al.'s[58] assessment, there had been no previous quantified assessments of vulnerability of plant biodiversity to climate change in Namibia. Projections for warming and drying are harsh for central and western parts of southern Africa, with extreme warming centred on Botswana.[59]

Midgley et al.[60] used a dynamic global vegetation model (DGVM) to explore the effects of climate change on ecosystem structure, function and dominance of plant functional types in Namibian ecosystems. The main plant functional types they analysed were broad categories such as C4 grasses, deciduous trees and C3 herbaceous and shrub types. Elevated CO_2 levels that may result from anthropogenic causes potentially increase the water-use and nutrient-use efficiency of plants that use the C3 photosynthetic pathway,[61] and this will favour woody plants with a high degree of investment in carbon-rich support tissue (such as trees) relative to herbaceous species.[62] Seven vegetation structural classes are defined as occurring in Namibia under the current and future conditions by the DGVM, namely Desert, Arid shrub land/grassland, Grassy savannah, Mixed savannah, Woody savannah, Mixed shrub land/grassland and C3 shrub land/grassland. Projections of impacts on total vegetation cover were monitored through analyses of changes in bare ground and leaf area index (LAI).

Results of projections of the impacts of climate change on biodiversity indicated a reduction in vegetation cover over the central highlands by 2050, with further reductions to 2080. The greatest absolute cover reductions are projected for the Kaokoveld region in the extreme northwest, and in the Kalahari basin in the southeast, with less significant reductions recorded at higher altitudes in the central highlands. Midgley et al.[63] also showed that direct effects of rising atmospheric CO_2 on total cover were not significant and projected changes in LAI were more diverse, indicating significant reductions in areas of highest decrease in vegetation cover

55 Barnard (1998).
56 Maggs et al. (1998).
57 Maggs et al. (1994).
58 Midgley et al. (2005).
59 IPCC (2001).
60 Midgley et al. (2005).
61 Drake et al. (1997).
62 Bond / Midgley (2000); Bond et al. (2003).
63 Midgley et al. (2005).

as expected. However, such areas are of limited spatial extent, and much of the country is projected to experience LAI changes of between +10% and –10%. There will be an expansion of the two most arid vegetation types, Desert and Arid Shrub land/Grassland, mainly at the expense of Grassy Savannah and Mixed Savannah vegetation types. The arid vegetation types are projected to increase by almost 20% by 2050, and up to 43% by 2080, in the absence of a CO_2 fertilisation effect, but with CO_2 amelioration, the expansion of Desert in 2080 is reduced from 43% to just less than 30%.[64]

The current vegetation is dominated by Grassy Savannah but this is projected to decline substantially by 2050, with significant cover and biomass reductions in the central highlands and north-eastern plains, a scenario which will be exacerbated by effects of elevated CO_2 by 2080. The effect of elevated CO_2 is by facilitating the increase of currently relatively scarce C3-dominated vegetation types, Woody Savannah, Mixed Grassland, and C3 Grassland/Shrub land. This means that currently uncommon vegetation types will become widespread in the north-eastern part of the country, suggesting a strong potential for bush encroachment in these regions. In addition, the potential fire frequency is predicted to increase somewhat in the northeast region under the elevated CO_2 scenarios only. The distribution of deciduous trees will also decline in extent – they will suffer a reduction in both biomass and cover throughout their current range, showing a general retreat towards the north-eastern Kalahari. Projections also suggest that NPP will be significantly reduced by between 0.5 and 1 t/ha in the central-north-western regions and by up to 0.5 t/ha in the north-eastern Kalahari.[65] Overall, the SDGVM projections reveal a significant negative impact of climate change on ecosystem NPP, vegetation structure and cover, and the distribution of dominant plant functional types. These effects are strongest in the central/northwest regions and the north-eastern parts.

Impacts of climate change at species level will lead to high species losses, with mean species loss of between 40% and 50% by 2050 and between 50 and 60% by 2080.[66] However, these patterns of species loss and turnover will vary markedly in space. There will also be significant changes in plant community composition resulting from these species losses. Species turnover ranges of between 40% and 70% were projected, with much of the change committed to occur under climate regimes projected for 2050. Projected local extinctions at the pixel scale, assuming that there are no species migrations, are in excess of 80% in the north-eastern and northern Kalahari, dropping to below 20% from the edge of the escarpment into the coastal desert zone.[67] There will be high species turnover in the north-eastern parts of the country, with an overall trend of a reduction in turnover from northeast to west and south-west. The majority of species will suffer declining range size while a minority will experience significant increases in range size. This finding suggests that future climate change may be an advantage

64 Ibid.
65 Ibid.
66 Ibid.
67 Ibid.

to a small subset of species that might be able to capitalise on the novel climatic conditions in this country, but that this will depend strongly on their migration capacity.[68] Endemic species will have overall lower susceptibility to climate change (19% and 12% will be classified extinct and critically endangered, respectively by 2080) than non-endemic species. This is largely due to the fact that endemics are both arid-adapted and located in regions of lower projected climate change.

4.4 Coastal Zone

One of the impacts of climate change is a rising sea level due to melting glaciers and ice caps of the Arctic and Antarctica. Globally, the IPCC[69] indicated that sea level rose at a rate of 1.8 mm per year between 1961 and 2003, with a faster rate of 3.1 mm per year between 1993 and 2003. Sea level is projected to rise by between 30cm and 100 cm by the year 2100, relative to the 1990 level. The rate of rise is projected to be relatively steady, accelerating slightly over time, although storm surges are expected to be the main source of damage to coastal infrastructure. Coasts will be exposed to increasing risks of coastal erosion and by 2080, millions more people than today will experience floods every year due to sea level rise. The most affected people will be those in low-lying, densely-populated mega deltas of Asia and Africa.[70]Namibia will not be spared from some of these effects.

Namibia's coastline stretches some 1 800 km long and consists of 78% sandy beaches, 16% rocky shores and 4% mixed sandy and rocky shores, with only 2% of the shore backed by lagoons. The coastline is very important for tourism and recreation activities, which contribute significantly to the Namibian economy. Four major towns occur along the coast, namely Lüderitz, Walvis Bay, Swakopmund and HentiesBay. Walvis Bay is located between 1 and 3 m above sea level, in a semi-sheltered bay surrounded by an erodible coastline. The coastal aquifers which supply water for the town are susceptible to salt intrusion which would be further exacerbated by sea level rise. A sea level rise of 0.3 m, now regarded as virtually certain, will flood significant areas, and a 1 m rise would inundate most of the town during high tide.[71] The other three towns, Swakopmund, HentiesBay and Lüderitz, are less vulnerable to rising sea levels due to their relatively safe topographic positions.

68 Ibid.
69 IPCC (2007a).
70 IPCC (2007b).
71 GRN (2002d).

4.5 Energy

About 78% of Namibia's energy is imported as petroleum products, electricity and coal, while the remaining 22% is made up by biomass fuel (mostly wood).[72] The bulk of this energy is consumed by the transport sector. Namibia imports most of its electricity but has limited local generation at the Van Eck coal-fired power station in Windhoek, the Paratus diesel-powered station at Walvis Bay and the Ruacana hydroelectric power station on the KuneneRiver. Recent droughts have severely reduced electricity generation from the Ruacana plant. Given the projected decline in rainfall amounts and more frequent droughts that are likely to result from climate change, regional hydroelectric generation will be severely curtailed. In areas where rainfall is anticipated to increase in the tropical regions of southern Africa including the catchments of the KuneneRiver in Angola, there may be potential for increased generation of hydroelectricity. With plenty of sunshine most of the year, Namibia has great potential to develop solar-powered electricity. This is an option which has not been fully utilised. Midgley *et al.*[73] projected that bush encroachment may increase in some parts of the country as a result of climate change. This may provide availability of fuel wood to local communities. However, care must be taken not to utilise it in a way that will increase greenhouse gas emissions and reduce the carbon sink of the country.

4.6 Health

Human health, well-being and livelihoods are strongly dependent upon the state of global ecological and biophysical systems. Climate change is one of the global change factors which have adverse effects on human health. This may be through its impacts on aspects such as water quality and availability, nutrition status of humans, and distribution and abundance of vector organisms due to changing temperature and rainfall patterns. The impact of climate change on human health has increasingly attracted attention after it was highlighted in the IPCC's First[74] and Second[75] Assessment Reports. The IPCC[76] projects that globally there would be an increased burden from malnutrition, diarrhoea, cardio-respiratory and infectious diseases; increased morbidity and mortality from heat waves, floods and droughts; changes in distribution of some vectors and substantial burden on health services. Young *et al.*[77]reviewed the current state of knowledge on the impacts of climate change on health in the SADC region. They noted that there have been no substantial studies assessing the association between climate change and health in the SADC region, and where research has been done it focused

72 Ibid.
73 Midgley et al. (2005).
74 IPCC (1990).
75 IPCC (1995).
76 IPCC (2007a).
77 Young et al. (2010).

only on infectious diseases (particularly malaria). Even then, very little has been done to determine the relationship between climate change and the disease.

In Namibia, Young *et al.*[78] reported that infant mortality rate was 47 per 1000 in 2007, down from 65 per 1000 in 1990, and adult mortality (15-60 years old) was 365 per 1000 in 2007. The main causes of adult mortality are HIV and AIDS, tuberculosis and malaria. Infant mortality is higher in rural areas and in the wetter north, compared to urban areas and the more arid south, with main causes of death being diarrhoea (42%), malnutrition (40%), malaria (32%) and acute respiratory infections (30%).[79] These causes of death have a strong link to environmental influences, especially climatic factors. For instance, drought decreases the nutritional status of humans and reduces availability of clean water rendering the population vulnerable and susceptible to attacks by various infections.

There have been records of recent increases in the incidence of malaria in the country. This is consistent with a predicted increase in the area exposed to malaria where 60% of the population lives. This gives an indication of the magnitude of the impacts of changing temperature on the range of the anopheles mosquito, the vector for the malaria parasite. Sleeping sickness, carried by the tsetse fly *Glossina morsitans*, is currently not present in Namibia although the cattle version (nagana) occurs in eastern Caprivi.[80] Both these forms of disease are projected to decrease under future climate projections because of a reduction in habitat availability for the tsetse fly. GRN[81] also predict a possibility of incursion of lymphatic filariasis (elephantiasis), dengue fever and yellow fever from countries to the north with changes in climatic conditions.

4.7 Marine Resources

Namibia's marine fisheries sector is largely dependent upon the highly productive marine ecosystem driven by the upwelling of the cold, nutrient-rich Benguela current. The upwelling is caused by the interaction of south-easterly winds with the north-flowing current and the topography of the seabed. Currently there are no reliable scientific projections to suggest either an increase or a decrease in the Benguela fisheries yield as a result of climate change.[82] Links between environmental variability and fisheries dynamics are also poorly understood and large environmental anomalies or extreme events, such as the Benguela Niño, have negative impacts.[83] Marine ecosystems continue to be regarded as vulnerable pending more conclusive studies. Recent studies have shown that sea surface temperatures over the northern Benguela

78 Ibid.
79 GRN (2002d).
80 Ibid.
81 Ibid.
82 GRN (2002d).
83 Reid et al. (2007).

region appear to have become persistently warmer since 1993, consistent with global predictions of rising surface water temperature. It is possible that observed reductions in pilchard stocks since 1993 could be partially explained by warmer seas.[84]

Any changes in the distribution and intensity of winds would affect the fisheries sector as it has direct impact on the upwelling dynamics of the Benguela System. Roux[85] described four possible scenarios that could result from climate change. The first is a possible reduction in coastal upwelling intensity through a slackening of the South Atlantic trade wind circulation. This would reduce the productivity of the ecosystem and the species that characterise the Benguela System could suffer major reductions in stock size and distribution. The second would be an increase in average summer wind stress and coastal upwelling intensity which would enhance enrichment and potential primary production. This could benefit some pelagic species and their predators due to increased productivity. The third is that the frequency and severity of Benguela Niño events would increase, with a direct risk of large-scale population fluctuations, particularly of pelagic species. The fourth is a possible best-case scenario but probably the least possible where there would be low amplitude gradual affects that would lead to a succession of rapid regime shifts between semi-stable states of the system. These regime shifts would affect primarily the dominant pelagic species, which would in turn, induce large changes in the entire system.[86]

4.8 Water Sector

The agriculture sector is the major user of water in Namibia, consuming close to 75% of water in the country. Several other sectors such as mining (3.3%), services (2.9%) manufacturing (2.4%) and domestic (12.2%) sectors also have significant demands for water. Any changes that result in a decline in water supply will have serious repercussions on human livelihoods and the economy of the country.

Increases in temperature will have a marked increase in evaporation. It is estimated that for every degree of temperature rise, evaporation increases 5%. Therefore, there will be less water available for recharge and storage. The length of inundation of seasonally flooded terrestrial wetlands will therefore decrease due to increased evaporation. In some instances, this may lead to increased salt content of pans and pools and make them less suitable for human and animal consumption. Increased temperatures will also lead to increases in evaporation from plants, which will mean that plants will pump out more ground water, further depleting underground storage water. All this will lead to a reduction in the size and

84 Reid et al. (2007); Ministry of Fisheries and Marine Resources (2002).
85 Roux (2003).
86 Reid et al. (2007).

productivity of many wetlands,[87]negatively affecting human livelihoods that are critically dependent on these wetlands.

Of all the rain that falls in Namibia, less than 1% recharges groundwater and only 2% remains as surface water storage while the rest evaporates.[88] The whole of Namibia experiences a net water deficit, meaning that evaporation exceeds rainfall throughout Namibia, with average water deficit being highest in the southeast (over 2300 mm/year) and lowest in Caprivi (less than 1300 mm/year).[89] Water deficit in southern areas ranges between 2100 mm/year to more than 2500 mm/year, resulting in most terrestrial wetlands being ephemeral. Predictions are that southern Africa will receive 10% - 20% less rainfall by 2050. Such reductions in areas with rainfall regimes of 400-1000 mm per annum may lead to a drop in perennial surface drainage of 75% - 25%, respectively by 2050.[90] The magnitude of surface water shortage may even be higher in drier areas of Namibia, which actually form the bigger proportion of the country.

An estimated 60% of Namibia's population lives near the major wetlands, with the highest population density along the perennial OkavangoRiver.[91] Most of these communities are largely poor people and highly dependent on the river and floodplains for water and other resources. The projections outlined above therefore spell gloomy prospects for these people, who were identified as being extremely vulnerable to environmental change.[92]

5 Mitigation and Adaptation to Climate Change in Namibia: Action Taken

The above account has highlighted the vulnerability of Namibia to climate change and the effects this may have on the environment, the economy and human livelihoods. It is therefore important that the country takes measures to reduce these effects. Under the UNFCCC, the Kyoto Protocol and other international instruments, national governments that are party to these conventions and treaties have obligations to undertake various actions in order to mitigate further environmental deterioration and to take steps to reduce the effects these changes have on humanity and the environment. Namibia, being party to the UNFCCC and the Kyoto Protocol, must put in place policies and measures that meet the above objectives.

87 DRFN / CSAG (2010).
88 GRN (2002d).
89 DRFN / CSAG (2010).
90 Ibid.
91 Heyns et al. (1998).
92 DRFN / CSAG (2010).

The literature is awash with highlights of why climate change adaptation and mitigation are critical issues not only in Namibia and Southern Africa, but the world over. It is conceded though, that a certain amount of climate change is apparently unavoidable, regardless of reductions in greenhouse gas emissions.[93] It must be noted that effects of climate change will act in combination with other drivers of ecosystem degradation, for instance, communities in the region already face high levels of vulnerability and numerous stresses due to poverty, HIV/AIDS, food insecurity, and political instability.[94] Hence measures put in place must take cognisance of these interactive effects and approach them in a holistic manner.

Namibia established the Namibian Climate Change Committee (NCCC) in 2001 with the main function of advising and making recommendations to government on climate change including how to meet its obligations to the UNFCCC. The NCCC is hosted by the Directorate of Environmental Affairs in the Ministry of Environment and Tourism. Its membership is drawn from representatives of various government ministries, NGO's, parastatals and the private sector.

Namibia has taken several steps in addressing the issue of climate change and other global change challenges. In addition to the formation of the NCCC, other important steps under the obligations of the UNFCCC include (but not limited to) the following:

- National policies related to global change challenges and environmental management and protection are in place, including the Namibian Constitution, Vision 2030, National Development Plan 3, various sector policies and Cabinet directives. These policies are discussed in some of the earlier Chapters above. Of significance is the preparation of the Draft Namibia Climate Change Policy, Strategy and Action Plan which is currently under discussion.[95]
- Reports on the greenhouse gas inventory based on 1994 and 2000 data were completed (1998 and 2009).
- Preparation and submission of the Initial National Communication to the UNFCCC was done in 2002.
- The Draft Second National Communication to the UNFCCC has been completed and is being finalised for submission.
- Assessment of capacity needs required to implement Article 6 of the UNFCCC was completed in 2005.
- A Directorate of Disaster Risk Management is operational in the Office of the Prime Minister.

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93 IPCC (2007a).

94 Shackleton et al.(2008); Ziervogel et al. (2006).

95 Mfune et al. (2009b).

- A National Drought Policy and Strategy was developed in 1997, and is currently under review for improvement.
- A Technology Needs Assessment was conducted in 2005 to identify financial and research needs.
- Community-level activities are on-going for communities to adapt to climate change through improvement of traditional crops and livestock farming in Omusati and elsewhere; and enhancing the adaptive capacities of farmers, pastoralists and natural resource managers to climate change in agricultural and pastoral systems in north-central Namibia.
- Enhanced access to climate change information, and improved access to alternative resources.

6 Concluding Remarks

Climate change has emerged as one of the greatest challenges humans have ever faced. Namibia is very vulnerable to the effects of climate change due to the aridity nature of the country, lack of capacity to deal with the effects and limited technical and financial capacity for adaptation, given that there is a myriad of other challenges (e.g. poverty, HIV and AIDS) that need to be dealt with in addition to climate change. The evidence for impacts of climate change are very clear, manifested by more intense flooding, shortening of the growing season, more frequent droughts, rising average summer and winter temperatures, among many other effects. These conform to predictions from General Circulation Models (GCMs) that paint a gloomy picture of rising temperatures and declining rainfall in most areas. There will be an accelerated decrease in biodiversity, increasing evaporation leading to water scarcity, low crop yields leading to food insecurity, declining marine productivity, flooding of coastal areas and changes in the distribution of disease patterns and their vectors. The economic sectors of Namibia that will be affected most are agriculture, biodiversity and ecosystems, coastal areas, energy, health, marine resources and water. As a signatory to the UNFCCC and other international instruments, Namibia is taking steps to minimise the impacts of climate change on the people by putting in place relevant policies and structures for dealing with climate change. Namibia's greenhouse gas emissions are insignificant; in fact Namibia is a net sink for CO_2. Hence, efforts should be less on cutting down emissions but more on adaptation, coping strategies, and disaster management.

II Climate Change and Human Vulnerability in Africa

Oliver CRuppel

> I believe that for his escape he took advantage of the migration of a flock of wild birds. On the morning of his departure he put his planet in perfect order. He carefully cleaned out his active volcanoes. He possessed two active volcanoes; and they were very convenient for heating his breakfast in the morning. He also had one volcano that was extinct. But, as he said, "One never knows!" So he cleaned out the extinct volcano, too. If they are well cleaned out, volcanoes burn slowly and steadily, without any eruptions. Volcanic eruptions are like fires in a chimney. On our earth we are obviously much too small to clean out our volcanoes. That is why they bring no end of trouble upon us. The little prince also pulled up, with a certain sense of dejection, the last little shoots of the baobabs. He believed that he would never want to return. But on this last morning all these familiar tasks seemed very precious to him. And when he watered the flower for the last time, and prepared to place her under the shelter of her glass globe, he realised that he was very close to tears.
>
> Antoine de Saint Exupéry, in *The Little Prince*

1 Introduction

The African continent and in particular the SADC region is one of the poorest in the world, despite being richly endowed with natural resources. Approximately 45 per cent of the total population lives on US$1 per day. Malnutrition is around 36.1 per cent, ranging from 44 to 72 per cent in the different countries of the region. Life expectancy is just below 40 years with a declining tendency. Infant mortality rates remain above 50 per 1000 births in most countries in the SADC region. These figures reflect the magnitude of the poverty problem in the region.[96]

Various regions in Africa have experienced unusual weather patterns over the past years in terms of drought and flooding.[97] This has inter alia lead to destruction, loss of crops, livestock and settlements, as well as to displacement and, concomitantly to an increase in poverty. Vulnerability to climate change not only depends on a change in the frequency or duration of climatically unusual conditions, but also on the capacity to respond adequately to such. Two aspects of vulnerability can be distinguished. The first concerns the likelihood that an individual

96 SADC (2008).

97 Cf. Haensler et al. (2010:2-4) for a climate history of Namibia and western South Africa.

or group will be exposed to and adversely affected by new climatic circumstances. The second aspect of vulnerability relates to the capacity to anticipate, cope with, resist and recover from the impacts of environmental change. This capacity to adapt to climate change obviously varies among regions and socio-economic groups, in the sense that those with the least capacity to adapt are generally the most vulnerable to the impacts of climate change. In turn, this depends in great part on the nature and extent of the resources available to a given group, individual or region. Climate change has an impact on socio-economic development, and it affects various sectors related to it: water availability, forestry, agriculture, biodiversity, food security and human health. Human vulnerability has become a key element in human rights discussions, which now also tend to focus on how flooding, devastated housing, changes in the supply of fresh and irrigation water, contagious diseases, prolonged droughts, floods and subsequent forced migration, deforestation, soil denudation etc. will have an impact on human lives.[98]

Predicted impacts associated with temperature increases include a further rise in sea levels, changes in precipitation patterns, and the resultant threat to food security and sustainable development in general, with more people being caught up in the poverty trap – especially in developing countries whose economies are particularly sensitive and vulnerable.[99]

One of the major natural resource implications of climate change is that human populations – and law – will have to adapt to major shifts regarding water supplies, especially where they will create or exacerbate conditions of scarcity. More than three decades ago water law expert Frank Trelease wrote, in the context of climate change:

> While one function of law is to give stability to institutions and predictability to the results in action, often the strength of law will lie not in immutability but in capacity for change and flexibility in the face of new forces.[100]

It is not clear whether climate change in Africa will be pushing the hydro-climate beyond the capacity of existing water resources in future. However, again in the words of Trelease "we would be wise to plan for the unpredictable".[101] It is expected that the 'water side' of climate change is likely to generate a significant impact on national and global economies; and it is not unlikely that this will result in increased local and international conflict, particularly in Africa.[102]

This may also affect the energy production sector, as water is closely connected to the generation of electricity. An important question repeatedly posed is whether an increase in hydro-electric and nuclear electricity generation will have the required effect of a decrease in greenhouse gas emissions. In fact, the increased water requirements for these kinds of energy generation – to run turbines and for cooling – might exacerbate pressures on already quite depleted water reserves and create new constraints. The interconnectedness and

98 Passage taken from Ruppel (2010a).
99 Ibid.
100 Trelease (1977).
101 Ibid.
102 Scholz (2010).

interdependence of water, energy, national welfare and international economies becomes clearer, as climate change progresses around the world.

Moreover, the potential consequences of climate change and a decreasing availability of fresh water also pose challenges to animal and plant species and biodiversity,[103] which in turn is likely to influence the human food chain.[104] All of the aforementioned aspects call for global attention and perhaps for a new and global green deal[105] that rethinks development in a carbon-constrained[106] and water-stressed world.

2 The Intergovernmental Panel on Climate Change (IPCC) and Predictions for Africa

The Intergovernmental Panel on Climate Change (IPCC) was established by the United Nations Environmental Programme (UNEP) and the World Meteorological Organisation (WMO) in 1988. The IPCC assesses the scientific, technical and socio-economic information relevant for the understanding of human-induced climate change, its potential impacts and options for mitigation and adaptation. In 2007 the IPCC and Albert Arnold (Al) Gore Jr. were awarded with the Nobel Peace Prize

> for their efforts to build up and disseminate greater knowledge about man-made climate change and to lay the foundations for the measures that are needed to counteract such change.

The 5th IPCC Assessment Report (AR5)[107] is expected to be published between 2013 and 2014.[108]

The IPCC consists of three Working Groups: The IPCC Working Group I (WG I) assesses the physical scientific aspects of the climate system and climate change. The main topics assessed by WG I include: changes in greenhouse gases and aerosols in the atmosphere; observed changes in air, land and ocean temperatures, rainfall, glaciers and ice sheets, oceans and sea level; historical and paleoclimatic perspectives on climate change; biogeochemistry, carbon cycle, gases and aerosols; satellite and other data; climate models; climate projections, causes and attribution of climate change.[109] The WG I Technical Support Unit, which manages the

103 Hinz / Ruppel (2010).
104 Erens et al. (2009:207).
105 Barbier (2010).
106 Palosuo (2009).
107 Cf.http://www.ipcc.ch/pdf/ar5/ar5-outline-compilation.pdf; last accessed 14 December 2010.
108 Cf. http://www.ipcc.ch/; last accessed 14 December 2010.
109 http://www.ipcc.ch/working_groups/working_groups.shtml; last accessed 14 December 2010.

organisational and administrative activities of the Working Group, is hosted by the University of Berne, Switzerland and funded by the Government of Switzerland.[110]

The IPCC Working Group II (WG II) assesses the vulnerability of socio-economic and natural systems to climate change, negative and positive consequences of climate change, and options for adapting to it.[111] It also considers the relationship between vulnerability, adaptation and sustainable development. The assessed information is considered by sectors (water resources; ecosystems; food and forests; coastal systems; industry; human health) and regions (Africa; Asia; Australia and New Zealand; Europe; Latin America; North America; Polar Regions; Small Islands).[112] In its reports, Working Group II elaborates on the scientific, technical, environmental, economic and social aspects of the vulnerability (sensitivity and adaptability) to climate change of, and the negative and positive consequences for, ecological systems, socio-economic sectors and human health, with an emphasis on regional, sectoral and cross-sectoral issues. The WG II Technical Support Unit is housed at the Carnegie Institution for Science in Stanford, California, USA.[113]

The IPCC Working Group III (WG III) assesses options for mitigating climate change through limiting or preventing greenhouse gas emissions and enhancing activities that remove them from the atmosphere. The main economic sectors are taken into account, both in a short-term and in a long-term perspective. The sectors include energy, transport, buildings, industry, agriculture, forestry, waste management. WG III analyses the costs and benefits of the different approaches to mitigation, considering also the available instruments and policy measures. The approach is more and more solution-oriented.[114] The IPCC WG III Technical Support Unit is housed at the Potsdam Institute for Climate Impact Researchin Potsdam, Germany.[115]

The Task Force on National Greenhouse Gas Inventories (TFI) was established by the IPCC to oversee the IPCC National Greenhouse Gas Inventories Programme (IPCC-NGGIP). The core activity is to develop and refine an internationally-agreed methodology and software for the calculation and reporting of national GHG emissions and removals and to encourage its use by countries participating in the IPCC and by parties of the United Nations Framework Convention on Climate Change (UNFCCC). The NGGIP also established and maintains an Emission Factor Database.[116] The IPCC National Greenhouse Gas Inventories Programme was managed from 1991 by the IPCC WG I in close collaboration with the Organisation for Economic Co-operationand Development (OECD) and the International Energy Agency (IEA) until its transfer

110 https://www.ipcc-wg1.unibe.ch/; last accessed 14 December 2010.

111 The author of this sub-chapter is one of the two Coordinating Lead Authors for the AR5 Chapter on Africa in WG II.

112 http://www.ipcc.ch/working_groups/working_groups.shtml; last accessed 14 December 2010.

113 http://ipcc-wg2.gov/index.html; last accessed 14 December 2010.

114 http://www.ipcc.ch/working_groups/working_groups.shtml; last accessed 14 December 2010.

115 http://www.ipcc-wg3.de/; last accessed 14 December 2010.

116 http://www.ipcc.ch/working_groups/working_groups.shtml; last accessed 14 December 2010.

to the IPCC's Task Force on National Greenhouse Gas Inventories (TFI) based in Japan in 1999.[117]

In its 2007 Climate Change Synthesis Report, the IPCC already reflects as follows in regards to Africa:

> By 2020, between 75 and 250 million of people are projected to be exposed to increased water stress due to climate change. By 2020, in some countries, yields from rain-fed agriculture could be reduced by up to 50%. Agricultural production, including access to food, in many African countries is projected to be severely compromised. This would further adversely affect food security and exacerbate malnutrition. Towards the end of the 21st century, projected sea level rise will affect low-lying coastal areas with large populations. The cost of adaptation could amount to at least 5-10% of Gross National Product (GDP). By 2080, an increase of 5-8% of arid and semi-arid land in Africa is projected under a range of climate scenarios.[118]

In its 2007 Summary for Policymakers, IPCC Working Group II reflects on impacts, adaptation and vulnerability:

> New studies confirm that Africa is one of the most vulnerable continents to climate variability and change because of multiple stresses and low adaptive capacity. Some adaptation to current climate variability is taking place: however, this may be insufficient for future changes in climate.[119]

With regards to adaptation and vulnerability in Africa, the IPCC in its 2008 Technical Paper on Climate Change and Water observes that there is a clear variance in climate; about 25% of the contemporary population experiences water stress; one third of the people in Africa live in drought-prone areas and are vulnerable to droughts, which have contributed to migration, cultural separation, population dislocation and the collapse of ancient cultures.[120] Moreover, a number of studies have linked climate change to public health (e.g. Malaria, HIV and water-borne diseases, such as Cholera and Diarrhoea).[121] Safe access to water and sanitation has the potential to improve health and reduce poverty for the majority of the population in Africa. The health issues arising from climate change underscore that climate change is really about public health in important ways. Health is an important aspect of human capital. Therefore, there is a need to ensure that the health sector is ready to deal with climate change. Agriculture, which is the mainstay of many African economies in terms of the number of people supported by this sector, will be profoundly affected, unless this sector adequately prepares itself for the eventuality of climate change, will be heavily impacted.

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117 http://www.ipcc-nggip.iges.or.jp/; last accessed 14 December 2010.

118 IPCC (2007a:11).

119 IPCC (2007a:13).

120 Bates et al. (2008:79-85).

121 Ibid: at 83 with further references.

3 Human Vulnerability

Various studies highlight the vulnerability of African people that depend primarily on natural resources for their livelihoods, indicating that their resource base – already severely stressed and degraded by overuse – is expected to be further affected by climate change.[122] Populations already vulnerable as a result of their status - women, children, the aged, minorities and the disabled – will be feeling the effects of climate change more acutely.[123]

Women in Africa are especially exposed to climate change-related risks due to existing gender discrimination, inequality and inhibiting gender roles.[124] Particularly elderly women and girls are expected to become affected more severely. Women are vulnerable to gender-based violence during natural disasters and during migration, and girls are more likely to drop out of school when households come under additional stress. Rural women are expected to become affected by negative effects on agriculture and deteriorating living conditions in rural areas. Such vulnerability is exacerbated by factors such as unequal rights to property, exclusion from decision-making and difficulties in accessing information and financial services.

With regards to children in the African context, climate change is expected to increase existing health risks and to undermine support structures that protect children from harm. Extreme weather events and water stress are major causes for malnutrition and infant and child mortality in Africa. Likewise, increased stress on livelihoods will make it more difficult for children to attend school.[125] Girls will be particularly affected as traditional household chores, such as collecting firewood and water, require more time and energy when supplies are scarce.

Climate change also poses a threat to indigenous peoples in Africa, who often live in marginal lands and fragile ecosystems which are particularly sensitive to changes in the physical environment.[126] Climate change could become a 'motor' of migration and population displacement and it is acknowledged that indigenous people living in drylands are among the most vulnerable communities, especially due to water stress. Indigenous peoples have been voicing their concerns about the impacts of climate change on their collective rights as distinct peoples, and the importance of giving them a voice in policymaking on climate change at both national and international levels; further, to take into account and to build on their traditional knowledge. Customary law[127] and indigenous knowledge should therefore be incorporated into climate change policies in order to foster the development of cost-effective, participatory and sustainable adaptation strategies.[128]

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122 Ibid: at 85; Leary et al. (2006).
123 Ruppel (2010a,b).
124 Ruppel (2008b; 2010d).
125 Ruppel (2010b).
126 Cf. studies on Biodiversity in Hinz / Ruppel (2008a).
127 Ruppel (2010c).
128 Mfune et al. (2009b).

Populations whose rights are poorly protected are likely to be less well-equipped to understand or prepare for climate change; they would be less able to lobby effectively for government or international action; and are more likely to lack the resources needed to adapt to expected change of their environmental and economic situation. The efforts that have been made so far to place rights at the centre of any future climate change regime have not been human rights-focused. However, human rights impacts are a relevant aspect. To mobilise the policy value, and indeed the legal force of human rights in the construction of a climate change regime, therefore, requires the introduction of likely human rights impacts and outcomes of climate change. The specific rights potentially affected by climate change, such as rights to food, water, shelter, and health or rights associated with gender, children and indigenous peoples must be addressed in context. Each of the human rights[129] affected by climate change needs to be identified and addressed accordingly in order to bring relevance into the on-going consultations, political negotiations, global cooperation discussions and other sustainable actions - internationally, regionally and nationally.[130]

Rights and responsibilities regarding the utilisation of environmental resources therefore need to be distributed with greater fairness among communities, both globally and domestically. In the aforementioned context political devotion, access to information and broad public participation are just as important for the realisation of human rights, as the development of quality climate-change related education, as well as high standard interdisciplinary research. In order to become a winner - rather than a looser of climate change - Africa needs more highly skilled experts in this field in order to meet future demands and to be in the position to negotiate its international interests in a growing and complex, knowledge-based global economy.[131]

4 Concluding Remarks

Africa is most vulnerable to climate change due to the interaction of multiple stresses: endemic poverty, complex governance and institutional dimensions, limited access to capital, markets, infrastructure and technology, ecosystem degradation, complex disasters and conflicts and low adaptive capacity. Yet, as a global problem, climate change calls for multilateral solutions as opposed to unilateral approaches, in particular if these are confrontational. Differentiation through emissions targets and additional multilateral obligations on policies and measures in the climate sector is the key to addressing leakage and competitiveness concerns. A scientific consensus is emerging that substantial reduction in greenhouse gas emissions will be required to prevent an extreme increase in average temperature. It is furthermore acknowledged that a business-as-usual scenario would have disastrous consequences for future generations.

129 Ruppel (2008a).
130 PIK Report (2010).
131 Ruppel (2010a).

Although the on-going international negotiations on climate change centre largely on which countries will reduce their emissions, how and when, agreement is emerging that it is primarily the responsibility of developed countries to reduce their greenhouse gas emissions first, while – in line with the principle of common but differentiated responsibility – developing countries take specific policy commitments.

At the same time, it is clear that required global emission reductions cannot be achieved in developed countries alone. Developing countries will have to reduce emissions as well, especially China and India. In consequence, developed *and* developing countries will have to build low carbon economies, at least in the long run. This will require efforts at various levels, including substantive changes in life-style, in particular in industrial countries. No less important is, however, major investment in low carbon technology and modern technology transfer to and capacity building in Africa.[132]

132 Ohlendorf / Gerstetter (2009).

III International Climate Change Policy and Legislation: Where do we stand?

Nadia von Bassewitz

1 Introduction

Few now doubt that climate change (hereinafter CC) is occurring and that it is caused by human activity. Warming of the climate system is indisputable, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice and rising global sea levels.[133] Global warming is, according to the Pew Centre on Global Climate Change, largely the result of emissions of carbon dioxide and other greenhouse gases (both hereinafter greenhouse gas) from human activities including industrial processes, fossil fuel combustion, and changes in land use, such as deforestation.

During the mid to late 1980s, an emerging body of scientific evidence demonstrated unequivocally that man-made global warming was indeed happening, with severe consequences for current climate patterns predicted.[134] In this context the United Nations Environment Programme (UNEP) and the World Meteorological Organisation (WMO) set up an Intergovernmental Panel on Climate Change (IPCC) in 1988 to synthesise the scientific evidence for (or against) human induced climate change. The 1st IPCC Assessment Report (1990) presented sufficient scientific evidence that climate change was a reality, one that triggered concern worldwide.

2 UN Framework Convention on Climate Change (1992)

From its inception, the international climate change regime was firmly located in the UN system. The major accomplishment of the United Nation Framework Convention on Climate Change of 1992 (hereinafter UNFCCC or the Convention) was that it recognised, for the first time, that there is indeed a man-made problem of climate change at a moment when there was still considerable doubt regarding the causes of climate change and its extent and impact.[135] The ultimate objective of the UNFCC is to stabilise greenhouse gas concentrations "at a level that would prevent dangerous anthropogenic interference with the climate".[136] The stabilisation

133 IPCC (2007).
134 Pachauri (2009).
135 Bothe (2003:240).
136 UNFCC (2009a:1).

level is not quantified in the UNFCCC.[137] Such a level should be reached within a timeframe which allows ecosystems to adapt naturally to climate change, while guaranteeing that food production is not at risk and that development occurs in a sustainable manner.

The Convention is a framework document, identifying two major areas of work required to fight climate change:

- Mitigation:[138] Mitigation is one of the central approaches in the international CC process. Mitigation involves human intervention to reduce greenhouse gas emissions or boosting their removal from the atmosphere by sinks (oceans and land) that reabsorbs greenhouse gas emission, mainly carbon dioxide (CO_2).[139] Levels of greenhouse gas emissions are rising steeply, driven as they are by the ever growing coal-driven energy production. Over the next 20-25 years, and based on present levels of production, China alone will emit more than the US and Europe together over the last 100 years. A global climate change alleviation deal therefore will not be possible without a global emission reduction target.

- Adaptation:[140] Even if the global emission reduction targets for 2050 are met, it is expected that the globe will warm by another 1°-2°C. Mankind will have to adapt to the effect of inevitable climate change. The developing countries in Africa, Asia and South America, that typically have fewer capacities for adaptation at their disposal than developed countries, will be affected to a much higher degree.[141]Climate change has the potential to undo many achievements that developing countries have made under the Millennium Development Goals (MDGs). Adaptation includes technological and engineering options such as flood proof houses, risk management such as early warning systems, promotion of adaptive management tools. Adaptation needs sustained funding for the developing countries to develop national adaptation plans and to implement long-term adaptation initiatives. The UN Human Development Report 2007 has forecast that adaptation expenses for developing countries will be around US$86 billion annually by 2015.[142]

The UNFCCC allows any state to become a party,[143] thus making it a global instrument. Within this framework of global participation, actual obligations of parties differ substantially between industrialised and developing countries. The UNCCC thus enshrines the principle of “common

137 The latest climate analysis has identified a stabilisation range of 450 to 500 parts per million (ppm) CO2.
138 UNFCCC (2009b:1).
139 Ibid.
140 UNFCCC (2009c:1).
141 DIE (2007:2)
142 Hepburn/Stern (2009:56).
143 Article 22.1 UNFCCC.

but differentiated responsibility".[144]Today's accumulated greenhouse gas emissions originate mainly from over 150 years of carbon-based industrial activity in developed states. Therefore UNFCCC places the heaviest burden on industrialised states as fulfilment of their historic liability.[145]

Parties to the UNFCCC are divided, as follows:

- **Annex I Parties** include the 41 industrialised countries, including the members of the OECD in 1990, along with countries of the former Soviet Bloc (the economies in transition or EITs).[146]
- **Non-Annex I Parties** are mostly developing countries. Certain groups of developing countries are recognised by the UNFCCC as being especially vulnerable to the adverse effects of climate change, notable small-island developing countries (SIDs) and those prone to desertification and drought. The UNFCCC gives special attention to the 49 parties classified as Least Developed Countries (LDCs) by the UN.

As to the mitigation objective, the UNFCCC imposed a non-binding target of reducing greenhouse gas emissions to 1990 levels by 2000 for Annex 1 Parties, as well as for the 12 EITs. Because economic development is vital for the world's developing countries, the UNFCCC accepted that the share of greenhouse gas emissions produced by them will grow in the near future. However, it seeks to assist such countries to limit emissions in ways that will not hold back their development. The UNFCCC also recognises that developing nations will be more affected by climate change, in part because of their greater exposure to climate trends and variability and in part because of their low adaptation skills.

In light of the adaptation objective, the UNFCCC commits all members to formulate, implement and update adaptation measures. A system of grants and loans is set up through the Convention and is managed by the Global Environment Facility. Industrialised countries agree to share technology with less-advanced nations.[147]

Institutions and procedures of the UNFCCC are drawn from the UN system with the Conference of Parties (COP) as the ultimate policy-making body, which in turn is assisted by two subsidiary bodies. The international negotiation process on climate change revolves around the sessions of the COP, which meets every year to review the implementation of UNFCCC.[148]Procedures are governed by the procedural rules included in the UNFCCC itself and the Draft Rules on

144 Article 3.1 UNFCCC.

145 Boisson de Chazourne (2008:2).

146 A sub-category of Annex I countries, Annex II parties, composed only of OECD Members are held to provide funding and technology support to developing countries, while EITs are granted some flexibility.

147 Boisson de Chazourne (2008:4).

148 UNFCCC (2009d).

Procedure even though the latter have never been formally adopted owing to a quarrel over the voting rules. This is why most of the decisions can only be taken by consensus.[149]

3 The Kyoto Protocol (1997)

The publication of the 2nd IPCC Assessment Report in 1995 made it evident that the actions to combat climate change as outlined in the UNFCCC were insufficient. The Kyoto Protocol was negotiated subsequently. The 3rd IPCC Assessment Report in 2001 made it even further certain that climate change was, indeed, largely man-made and was an impetus to the further development of the Kyoto Protocol that finally came into force in 2005. The Kyoto Protocol shares the objectives and the institutions of the UNFCCC. The major distinction between the two is however that while the UNFCCC only encourages industrialised countries to stabilise greenhouse gas emissions, the Kyoto Protocol obliges them to do so.[150]

Under the mitigation objective, Annex I parties have undertaken to reduce their emissions by an average of 5% against 1990 levels over the first commitment period from 2008 to 2012. The final targets negotiated in the Kyoto Protocol are the result of last minute political compromises and include an 8% cut from the 1990 base year for the EU[151], 7% for the US (non-binding), 6% for Canada and Japan, no cut for Russia, and an 8% increase for Australia.

Just like the UNFCCC, the Kyoto Protocol imposes a heavier burden on developed nations under the principle of "common but differentiated responsibilities".[152] This group of countries must first and foremost take domestic actions against climate change, but the Kyoto Protocol allows them a certain degree of flexibility in satisfying their emission commitments through three innovative market-based instruments:

- Emissions trading which allows countries with an emission-reduction obligation under Kyoto to trade emission allowances between them.[153] Since CO_2 is the principal greenhouse gas, people speak of trading in carbon or carbon markets. Emissions trading schemes can be organised as climate policy instruments at national level and the regional level. Under such schemes, governments determine emission obligations to be reached by the participants. The European Union Emissions Trading Scheme(EU ETS) is the largest in operation and generally acknowledged for its pioneering role.[154]

149 Depledge / Yamin (2009:438).
150 UNFCC (2009e:1).
151 This value includes reduction targets of 21% for Germany, 12.5% for the UK and 0% for France, while Spain may increase its emissions by 15%.
152 UNFCCC (2009:1).
153 Article 17 Kyoto Protocol.
154 Farnsworth (2007:29).

- The Clean Development Mechanism (CDM) allows a state to implement an emission-reduction project in developing countries translating into Certified Emission Reduction (CER) units, which are then counted towards meeting the Kyoto Protocol obligations for that state.[155] A CDM project must confer measurable and verifiable emission reductions that are additional to what would otherwise have occurred without the CDM.[156] Government funding for CDM project activities must not result in less Overseas Development Assistance (ODA). The mechanism is overseen by the CDM Executive Board, answerable ultimately to the countries that have ratified the Kyoto Protocol. Operational since the beginning of 2006, the mechanism has already registered more than 1,650 projects and is anticipated to produce CERs amounting to more than 2.9 billion tons of CO_2 equivalent in the first commitment period of the Kyoto Protocol, 2008–2012.[157]

- The Joint Implementation (JI) mechanism allows a country to earn emission reduction units (ERUs) from an emission-reduction project in another Annex B Party, which can be counted towards meeting its own Kyoto Protocol target[158]. Like a CDM project, a JI project must lead to a emission reduction which is considered real, measureable and additional to what would have occurred without the project in question. CDM and JI are the first global, environmental investment tools of its kind, stimulating foreign investment and knowledge transfer in the host country while offering the industrialised countries a flexible and cost-efficient means of fulfilling a part of their Kyoto Protocol obligations.

Under the Kyoto Protocol, actual emissions have to be monitored: each party must keep a national register to show dealings carried out under the Kyoto Protocol instruments. The secretariat keeps an independent transaction log to verify that operations are consistent with the rules of the Kyoto Protocol. Under the adaptation objective, the Kyoto Protocol, like the UNFCCC, is designed to support countries in adapting to the inevitable effects of climate change and to facilitate the development of techniques that can help increase resilience to climate change impacts.[159] An Adaptation Fund was set up to help with concrete adaptation projects in developing countries. By 2005, in light of the 3rd IPCCC Assessment Report and new emerging science, it became abundantly clear that the measures agreed to in the UNFCCC and the Kyoto Protocol were an inadequate international response to the threats posed by climate change.

Before we look into the post-2012 negotiation framework (Section III), we will investigate how various parties have fared under Kyoto, including the US as the world-wide second-largest emitter, which is not a Party to Kyoto.

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155 Article 12 Kyoto Protocol.

156 Hepburn (2009:412).

157 http://cdm.unfcc.int/index.html; last accessed on 27 November 2010.

158 Article 6 Kyoto Protocol.

159 IPCC defines resilience as ability of a social or ecological system to absorb disturbances while retaining the same basic structure and ways of functioning, the capacity for self-organisation, and the capacity to adapt to stress and change.

3.1 Various Parties under the Kyoto Protocol

3.1.1 The European Union

The European Union (EU) is the world's third largest greenhouse gas emitter after China and the US, accounting for 13 % of global emissions in 2005.[160] Since 1990, EU emissions have declined by about 10.7% as a result of structural changes, such as Germany's reunification and the substitution of natural gas for coal in the United Kingdom, and new policies at both the EU and member state level. Reductions have occurred across most sectors of the EU economy, although in the transportation sector, emissions have increased significantly. The EU's emissions intensity is about a third lower than the United States' and the second lowest among industrialised countries – only Japan's is lower. Intensity has declined 31% since 1990. Per capita emissions in the EU are about a third lower than the developed country average and about half those of the United States

The European Union has long been in the vanguard of international efforts to combat climate change and has been a party to the UNFCC since 1993 and the *Kyoto Protocol* since 2002. The EU is the only regional economic integration organisation that is a Party to the Convention and the *Kyoto Protocol*, as are all its member states individually.[161] As opposed to the US, the EU follows an approach to climate change that is based on mandatory greenhouse gas emission reductions; it is grounded in 'hard' law measures and accompanied by 'soft' law measures at the regional and member state level. In 2000 the European Climate Change Programme (ECCP I)[162] was launched, which serves as the main framework tool for policy actions to implement the Kyoto Protocol, replaced in 2005 by ECCP II.[163]The ECCPs have led to the adoption and implementation of a wide range of new policies and measures including the ground-breaking EU Emissions Trading System.

The EU introduced a long-term objective of curbing average global temperature increase to 2°C. In line with that objective and with a view to the post-2012 climate framework, the EU adopted a climate and energy set of measures with the world's most ambitious climate and energy targets for 2020 and beyond, in April 2009.

3.1.1.1 Mitigation

Under the Kyoto Protocol the 15 older EU member states (EU-15) took on the obligation of reducing their collective emissions to 8% below the level of their chosen base year (1990 in

160 PEW (2009a:1).

161 Environment is a so-called "shared competence", where both the EU and the Members can have legal authority. The EU decides on a case by case basis on its representation in international negotiations.

162 Communication from the Commission to the Council and the European Parliament on EU policies and measures to reduce greenhouse gas emissions; COM (2000:88), 8 March 2000.

163 Communication from the Commission to the Council and the European Parliament, Winning the battle against climate change, COM (2005:35), 9 February 2005.

most cases) by 2012.[164] By the end of 2007, emissions from the EU-15 stood 5.0% below base year levels (while combined emissions from all 27 member states were 12.5% lower. While it is projected that the EU-15 would overachieve their Kyoto target by 5.1%, the individual members have had varied results in achieving their individual targets. Though some member states like the United Kingdom, France and Greece have reduced domestic emissions above their Kyoto targets, others like Austria, Denmark, Italy, Portugal and Spain have a large compliance gap.[165]

A historic landmark was the adoption of the afore-mentioned 2008 Climate and Energy Package mentioned[166], obliging EU Members to reduce their greenhouse gas emissions by 20% below 1990 levels by 2020 (which can be increased up to 30% under a new Global Climate Change Agreement if other developed states offer comparable undertakings). To underpin these undertakings, EU leaders have set three other key targets to be met by 2020: a 20% reduction in energy consumption as compared with projected trends; an increase to 20% in the share of renewable energy (in terms of total energy consumption); and an increase to 10% of biofuels (in terms of total petrol and diesel consumption). The Energy and Climate Package, which is intended to become valid in all EU member states by January 2011, includes an ambitious set of climate and energy related legislative proposals to meet the above obligations.

The cornerstone of the EU's strategy for reducing greenhouse gas emission is the EU Emissions Trading System (EU ETS), which was launched in 2005.[167] Currently in its 2nd phase (until 2012), a revised ETS directive was adopted in 2008 to further improve the EU ETS for the next 3rd phase in 2013-2020. Moreover, the EC wants to promote the creation of a robust OECD-wide carbon market by 2015, to be further extended to more economically advanced developing countries by 2020.

Until 2012, the EU ETS involves only CO_2 emissions in the power and heat generating industry, including a few other emission-intensive industries (oil, iron and steel) across the 27 EU members plus Iceland, Liechtenstein and Norway. While overall ETS guidelines are set at EU level, allocation rules and emission caps are determined at national level. The firms in question obtain allowances to emit a certain tonnage of greenhouse gas each year:[168]Those undertakings that emit more than their allowance permits can buy surplus allowance from others or invest in technologies to reduce their emissions. The overall emission level is reduced

164 European Commission (2009b:4).

165 Barrett (2009:62).

166 Communication from the Commission to the European Council and the European Parliament, "An Energy Policy for Europe"; COM (2007:1), 10 January 2007.

167 Directive 2003/87/EC of the European Parliament and the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community.

168 For an overview, see Massai (2007: 18).

over time. It is currently some 6.5% below the 2005 level and by 2020 will be 21% lower. In 2008, 3 billion tons of CO_2 were traded at a market value of US$92 million.[169]

While the EU ETS is generally acknowledged for its pioneering role, its success was at times disputed, as it was not clear that trading permits were a better means to reduce greenhouse gas than carbon taxes.[170] In phase II, the ETS only covered 40% of all EU emissions, leaving out the important transport sector.[171] Other weaknesses included the need for further harmonisation of rules within the EU and the increased predictability of the market, stricter enforcement tools as well as the linkage to ETS in third countries.[172] Following intensive studies, leading to an amendment of the EU ETS directive in 2009[173], the coverage of the ETS has been broadened for phase III in order to include CO_2s from the chemical industry and aviation, as well as certain other gases e.g. N_2O. Moreover, caps will be set at EU level and there will be EU wide harmonised allocation rules.

3.1.1.2 Adaptation

The White Paper on Adaptation to Climate Change was published in 2009.[174] It builds on the wide-ranging consultation launched in 2007 by the Green Paper[175] and the EC Climate Change Programme. The White Paper describes the scope of the EU Adaptation Framework, which aims to (i) complement and reinforce members' actions, particularly through existing funding channels, the provision of accurate climate information and appropriate guidance; and (ii) ensures that adaptation is integrated in important EC policy areas and (iii) promotes solidarity between countries and regions. In a first phase (2009-2012) it will lay the groundwork for the preparation of a more comprehensive adaptation strategy to be implemented during a second phase, commencing in 2012.[176]

Phase 1 will focus on four pillars of action:

- Building a solid knowledge base on the impact and consequences of climate change for the EU. A first step will be to establish a Clearing-House Mechanism (CHM) as an IT tool and database for exchanging information on the impact of climate change, vulnerabilities and best practices. The CHM is expected to be operational by 2011.

169 PEW (2009a:3).
170 Helm (2009a:229).
171 Farnsworth (2007:29).
172 Massai (2007:21).
173 Directive 2009/29/EC of the European Parliament and the Council of 23 April 2009 amending Directive 2003/87/EC to improve and extend the greenhouse gas emission allowance trading scheme of the Community.
174 European Commission (2009a).
175 European Commission (2007a).
176 European Commission (2009a:7).

- Integrating adaptation into EU key policy areas; the second pillar focuses on the integration of adaptation into sectoral policies at European level to reduce the vulnerability of sectors such as: agriculture, forests, biodiversity, fisheries, energy, transport, water and health.
- Employing a combination of policy instruments (market-based instruments, guidelines, public-private partnerships) to ensure effective delivery of adaptation measures.
- Stepping up international cooperation on adaptation.

3.1.1.3 Financial Support for Developing Countries

The European Union's financial contributions to climate change mitigation and adaptations projects in developing nations have steadily increased from €160 million in 2004 to €511 million in 2008.[177]Stepping up international climate finance: A European blueprint for the Copenhagen deal was adopted on 10 September 2009. It recognises that the financing issue is key to reaching an agreement between states in Copenhagen. The European Commission therefore suggests that industrialised nations and more advanced developing countries should provide finances of some €22-50 billion a year (out of an estimated total of €100 billion per year developing countries will require by 2020 to mitigate greenhouse gas emission and adapt to climate change).

The importance of financial support for adaptation efforts has continuously grown, as indicated by the increasing number of programmes and activities dealing with this issue – such as the Global Climate Change Alliance (GCCA).[178] The GCCA became operational in 2008, replacing the EU Action Plan on Climate Change and Development of 2004. The objective of the GCCA is to assist EU Partner countries (developing countries) to meet the challenges posed by climate change through supporting them to implement the UNFCCC and the Kyoto Protocol. It is already a keystone of the EU's external development action in the field of climate change, and offers a platform for dialogue as well as hands-on cooperation between the EU and those developing countries that are most vulnerable to climate change, the least developed countries and small island developing states. Other currently implemented or planned EC initiatives include[179]: Advancing Capacities, Partnerships and Knowledge to Support Climate Change Adaptation in Africa and Asia (ACCCA), support to the Nairobi Work Programme and to theConsultative Group on International Agriculture Research (CGIAR), the Disaster Preparedness ECHO Programme (DIPECHO) and the Global Climate Financing Mechanism.

177 European Commission (2007c:243).
178 European Commission (2007b:12).
179 European Commission (2009c:232).

3.1.1.4 Technology Transfer

Under the UNFCCC, the EU has undertaken to promote and finance the access to environmentally sound technology for developing countries.[180]Such transfer and development of technology activities can be 'hard' or 'soft' as defined in the Technology Transfer Framework. Soft technologies are capacity-building, information networks, training and research. Hard technologies include the equipment to control, reduce or prevent anthropogenic emissions of greenhouse gas in the energy, transport, forestry, agriculture, and industry sectors, to enhance removals by sinks, and to facilitate adaptation.

Funding for technology transfer has more than doubled over time, from €160 million in 2004 to €318 million in 2007.[181] The 7th Framework Programme for Research and Technological Development (FP7) remains the most important EC financial mechanism to support research on climate change and the development of energy technologies, including cooperation with non-EU countries. The key element of FP7, running between 2007 and 2013, is a €32.4 billion cooperation programme, which is divided into 11 research themes, one of which is called Environment (including climate change), with a total budget of €1.89 billion. It includes a number of projects which are specifically targeted at developing countries. The EU is undertaking a number of activities to involve the private sector in activities relating to the technology transfer to mitigate and adapt to climate change. There were a number of schemes between 2004 and 2007 that aimed to encourage private sector involvement, of different size and geographical location, e.g. the EU-China CDM Facilitation Project.

3.1.2 The United States of America

The US has been a Party to the UNFCCC since 1992. The US Government,as the only major industrialised country and the world's largest economy signed the Kyoto Protocol on 12 November 1998, yet declined to ratify the Protocol ultimately. As the international community works to agree on a post-2012 climate framework, the domestic actions and international positions taken by the US are vitally important. After all, as second biggest emitter of greenhouse gas, the US play a key role in any long-term global strategy to address climate change.

Until quite recently CC policy-making on the federal level was pursued with a combination of 'soft' market-driven instruments to encourage - rather than oblige with a regulatory top-down, 'hard' approach – the battle against climate change. The Fourth US Climate Action Report demonstrated that until recently voluntary initiatives accounted for half of the federal policy. While the US explains that these instruments are usually based on a vigorous monitoring

180 Article 4.5 UNFCCC. Access to technology is defined as a broad set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change among different stakeholders.

181 European Commission (2009c:264).

system, critics feel that voluntary tools alone may not necessarily utilise the full potential of greenhouse gas reductions.[182]

Over the last years, pressure is however mounting for an inclusive, mandatory federal response to climate change and a shift of focus can be noted.[183] As of 2008, the climate policy of the US was newly designed to follow 4 streams: while (i) voluntary partnerships with industry (e.g. Climate VISION and Climate Leaders) and (ii) long-term technology development continues, more (iii) regulations and mandates (e.g. the introduction of renewable fuel standards or the Warner Liebermann Bill) as well as (iv) incentive-based approaches (e.g. EISA 2007) were introduced.

Shortly after being voted into office President Obama released a statement placing the adoption of a comprehensive climate and energy bill near the top of his legislative priorities. Under Obama's leadership, in June 2009, the U.S. House of Representatives passed the American Clean Energy and Security Act[184](or Waxman-Markey Bill). This comprehensive national climate and energy legislation would have established an economy-wide greenhouse gas cap-and-trade system and critical complementary measures to help address climate change and build a clean energy economy.[185]Once the House passed the Waxman-Markey Bill, it would have been up to the Senate to consent to the climate legislation. Despite much work by key committees, the Senate was unfortunately unable to do so and in June 2010 it was announced that any upcoming energy legislation would not include a limit on greenhouse gas emission, which in fact thrashed any hopes for climate legislation in this Congress. Or, as one Senator put it, cap-and-trade is dead, at least for a while.[186]

3.1.2.1 Mitigation

For lack of ratification of the Kyoto Protocol, the US is not subject to internationally binding reduction targets. Likewise, at national level, the US has not enacted binding targets to reduce greenhouse gases. When it comes to federal action, the only national target is a non-binding goal announced by former President Bush on February 2002: the emission intensity[187] per dollar of GDP is to be reduced by 18% by 2012.[188] A greenhouse gas intensity target can lead to a net reduction of greenhouse gas but only if it is adequately strict. Cutting greenhouse gas

182 UNFCCC (2009g:9).
183 Stavins (2009:197).
184 H.R. 2454.
185 PEW (2010c:1).
186 PEW (2010b).
187 Emission intensity is usually defined as the average emission rate of a given pollutant from a given source related to the intensity of a certain activity. The intensity used in the CAR4 is defined as the amount of CO2 emitted per unit of GDP.
188 US (2006:37).

emission intensity by 18% from its 2002 level, however, represents only a very modest improvement over historical patterns.[189]

For lack of a federal mitigation policy, individual states have been taking the lead in energy regulation and standards until now. Notable developments at state level include the adoption of greenhouse gas targets by 18 states, the introduction of ambitious Renewable Portfolio Standards (RPS) by 29 states, the elaboration of climate change plans by 29 states and the participation by almost 40 states in a climate registry, as well the increasing promotion of cap-and-trade schemes over the last years.[190] However, the overall cooperation between state and federal government on climate change is limited.

The afore-mentioned Waxman-Markey Bill would have created a national cap-and-trade scheme covering 85 % of US emissions with the long-term goal of delivering an 80 % reduction in greenhouse gas emissions relative to 2005 levels by 2050.[191]Emission caps would be placed on electricity generation, oil refining, natural gas supply, and energy intensive industries, such as iron and steel, cement and paper. The caps would cover approximately 85 % of US greenhouse gas emissions by 2016. The proposed scheme would commence in 2012. Emissions caps would be defined relative to 2005 levels and would rise from a 3% reduction by 2012, to 17 % by 2020, 42 % by 2030 and 83 % by 2050. Commercial production and imports of hydrofluorocarbons (HFCs)would be addressed under Title VI of the existing Clean Air Act to be covered under a separate cap. The bill would have also imposed economy-wide thresholds for all sources. These goals are the same percentage reduction and timetables as the cap-and-trade programme, except that the 2020 target is 20% rather than 17% below 2005 levels.

At present, CO_2 trading systems only exist at state level, the most important of which is the Regional Greenhouse Gas Initiative (RGGI) involving 10 states. It aims to cap emissions at the 2009 level and then reduce emissions by 10 % by 2019.[192] The initial phase of the RGGI involves the distribution and trading of CO_2 allowances among emitters in the power sector only. In a later phase of the RGGI, all members will work together to develop reliable protocols for off-sets, which may be used to achieve observance with the cap. The on-going development of a cap-and-trade system within the Western Climate Initiative (WCI) (7 states) is also noteworthy. The WCI aims to achieve an ambitious emission reduction target of 15 % by 2020 compared to 2005 levels for its member states.

189 UNFCCC (2009g:9).
190 Ibid:at12.
191 PEW (2009c:1).
192 Stavins (2009:199).

3.1.2.2 Adaptation

In 2008, the U.S. government undertook various studies (so-called synthesis and assessment products (SAPs)) tackling high priority question on climate change.[193] These 21 SAPs were designed to communicate scientific information on on-going and potential impacts, vulnerability and adaptation to a diverse group of decision makers and stakeholders. The main objective was to facilitate better scientific understanding of adaptation and encourage and facilitate the inclusion of climate change into decision-making and to help avoid maladaptation. Improved scientific understanding was considered essential to building resilience to climate change. The existing 21 SAPs focuses on the analysis of sectoral impacts of climate change and vulnerability including water and ecosystems, public health and welfare, coastal elevations and ocean-level rise, transportation and infrastructure, and energy production and use. The outcome of the 21 SAPs is expected to serve as a basis for an integrated national communication on adaptation responses.

3.1.2.3 Financial Support for Developing Countries

Overall, support for the fight against climate change andthe attention paid to programmes that fight vulnerability and adaptation in developing countries is growing. Since 1991, the US Agency for International Development has included global climate change in its development funding, spending approximately US$2.6 billion on climate-related development programs.[194] The focus is on improving the knowledge and capacity on vulnerability to climate change, building resilience through ODA, and providing early warning and vulnerability adaptation. However, it can be noted that support to developing countries that are particularly vulnerable to climate change remains modest.[195] This is due to the US approach which recognises that progress will be best achieved by embedding climate goals in a broader development agenda. This lead to the incorporation of climate change considerations into various development projects, whether their focus is energy, land management, or vulnerability and adaptation, operated by USAID, Environmental Protection Agency (EPA), Department of Energy (DOE), the United States Geological Survey, and the National Oceanic and Atmospheric Administration (NOAA). Furthermore, in 2005, the Millennium Challenge Account (MCA) was launched which provides support for vulnerability and adaptation programmes, and provides enhanced support to adaptation measures envisaging in the 2008/2009 financial year budget of US$ 60 million. The sectors identified are agriculture and water resource management. It is hoped that this mechanism will also directly support on-going adaptation efforts in the small island developing countries.

193 UNFCCC (2009g:27).
194 US (2006:77).
195 UNFCCC (2009g:30).

3.1.2.4 Technology Transfer

There are a number of federal and regional programmes on climate-friendly technology by US agencies in developing and transition countries.[196] These include the USAID Climate Change Programme, the Asia-Pacific Partnership on Clean Development and Climate, the International Partnership for the Hydrogen Economy, the Clean Energy Technology Export Initiative, the Carbon Sequestration Leadership Forum, and the Generation IV International Nuclear Energy Research Initiative.

3.1.3 Some Economies in Transition: The cases of Brazil, China and India

3.1.3.1 Brazil

Brazil is one of the cleanest nations in the world in terms of energy use.[197] In Brazil energy demand is expected to increase at a rate of 2.6% per year through 2030, more than 4 times the average for OECD countries. However, Brazil is also the largest emitter of greenhouse gas in Latin America and the Caribbean and ranks fourth in emissions globally.[198] The bulk of greenhouse gas released in Brazil does not come from energy use but rather from deforestation, which accounts for about 60% of Brazil's total greenhouse gas emissions.

Brazil's growing ethanol industry helps the world to meet increasing energy demands as well as with the transition to cleaner energy sources.[199]Brazil is home to 60% of the Amazon, the world's largest tropical rain forest. These forests are carbon sinks because they eliminate CO_2 from the atmosphere. When forests are cut down, CO_2 is not only not absorbed any longer, but released. Reasons for deforestation in Brazil include logging, clearing areas for farming and cattle grazing, establishing hydropower plants, and general development.[200]

3.1.3.1.1 National Climate Policy

In December 2008, Brazil released a major framework document, its National Plan on Climate Change. Whilst Brazil previously held a defensive position, the launch of this strategy represents a shift to a more leading position, with which Brazil hopes to influence the Group of 77.

Key commitments from the National Plan on Climate Change include:[201]

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196 US (2006:79).

197 At present 45.8% of the energy matrix consists of renewable energy, while the global average is 12.9 %. In relation to the electric matrix this percentage is even more significant, reaching 89.0%; cf. Council of the Americas(2009:3).

198 Council of the Americas (2009:12).

199 Brazil is the world second largest producer of ethanol and is maybe the only state in the world to have achieved a competitive ethanol industry.

200 Council of the Americas (2009:12).

201 Climatico (2008:1).

- To reduce deforestation in the Amazon by 70% by 2020 - saving 4.8bn tons of carbon over the next 12 years. This is more than the total reduction target of all countries as agreed to in the Kyoto Protocol. This is the first time Brazil has committed to targets for stemming deforestation. To achieve this goal, Brazil set up the Amazon Fund and is seeking to raise US$21 billion from public and private sources. Under the National Climate Change Plan the reforestation is to be increased from 5.5 million to 11 million hectares, of which two million ha with indigenous species, doubling the current rate of reforestation. The Plan introduces a certification process for wood and forest management to battle illegal sales of wood from the Amazon.
- To improve energy conservation across the industry, with the goal of gradual energy saving up to 106 TWh/year targeted for 2030, avoiding a projected 30 million tons of CO_2 in that year.
- To increase biofuels in the transportation matrix by 11% each year, reducing a further 500 million tons of carbon over 10 years and to work towards an international biofuel market. Additionally, this will be achieved without any impact on land used by indigenous people or for food production.
- To increase the use of other renewables in addition to hydropower, i.e. wind, solar and cogeneration from sugarcane and other forms of biomass as well as non-conventional sources such as waste. Cogeneration is estimated to reach 11.4% electricity supply by 2030.
- To organise a fund to support adaptation and fight desertification - a key issue for the north-eastern areas of Brazil, home to 50 million people.

3.1.3.1.2 International Standing

Brazil has ratified the UNFCCC as well as the Kyoto Protocol; however, as Non-Annex I country it is not subject to reduction targets. In global climate change negotiations of late, Brazil has consistently argued several key issues:[202] It has maintained that developed nations should be accountable for the bulk of greenhouse gas cutbacks because, in a historical perspective, those states are responsible for the majority of greenhouse gas in the atmosphere. Brazil has also stated that developing countries should be allowed to grow without having to take on climate obligations until they reach developed country status. While wanting to use the Amazon as sink to offset future emissions, Brazil refused to open up the Amazon to international carbon markets.

Lately, however, Brazil has commenced to shift some of its positions: With the National Climate Change Plan of 2008, for the first time, Brazil set goals for limiting deforestation voluntarily. Soon after, Brazil called on larger developing nations, such as China and India, to accept

[202] Council of the Americas (2009:14).

greenhouse gas targets as well. In June 2009, while underlining that the developed countries have the greater liability, the Brazilian President stated that Brazil was open to committing to targets.[203] Following the Copenhagen Accord, Brazil committed itself to a reduction of 36.1 to 38.9% below BAU by 2020.[204]

3.1.3.2 China

Since the end of 2009, China is the world's largest greenhouse gas emitter. Its emissions are increasing rapidly with strong growth and rising energy demand. Emissions have grown by about 80% since 1990, driven heavily by increased use of electricity generated from coal[205]. While total emissions have grown, greenhouse gas intensity (greenhouse gas emissions per unit of GDP) has fallen significantly in China over the past few decades, though it remains among the highest in the world. Per capita emissions are below the world average and about one fifth those of the United States.[206]

3.1.3.2.1 National Climate Change Policy

With growing political attention to the impact of climate change, China issued a first National Assessment Report on Climate Change in late 2006, including three Sections: (i) the past and the future of climate change, (ii) adaption to climate change and (iii) the socio-economic impact of climate change. Following this report, China adopted the National Climate Change Programme in June 2007, outlining objectives, basic principles and key areas of measures to battle climate change up to 2010.[207]

Climate policy-making has come in the form of various domestic schemes that are not climate instruments per se but policies implemented throughout the economy that have the effect of reducing greenhouse gas.[208] Many of these initiatives were in fact enacted to help China meet its broader development goals, but if implemented will also serve as policies to mitigate China's emissions.[209]

China's Eleventh Five-Year Plan includes a major programme to improve energy efficiency nationwide, including a goal of reducing energy intensity[210] by 20% below 2005 levels by

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203 Colitt / Benson (2009).

204 PEW (2010a).

205 Coal accounts for 65% of energy use, with demand exceeding 2 billion tons a year (nearly twice the demand in the US).

206 PEW (2007a:1).

207 Gao (2007).

208 Lewis (2007:1).

209 Ibid.

210 Energy intensity is generally defined as the amount of energy used in producing a given level of output or activity. It is measured by the quantity of energy required to perform a particular activity (service), expressed as energy per unit of output or activity measure of service.

2010.[211] The government forecasts that meeting this target would reduce China's greenhouse gas emissions by 10% below business-as-usual (BAU). The energy intensity target is part of a broader goal of quadrupling growth, while only doubling energy consumption between 2000 and 2020.

Under a national renewable energy law adopted in 2005, China has set a target of producing 16% of primary energy from renewables (RNS).[212] For the electricity sector, the target is 20% of capacity from renewables by 2020, including wind power, biomass power and hydropower capacity. The law offers financial incentives, such as a national fund to promote renewable energy development, discounted borrowing as well as tax preferences for RNS activities.

Policies to advance reforestation have helped to increase forest coverage from 13.92% in early 1990s to 18.21% in 2005. From 1980 to 2005, improved forest management has sequestered an estimated 3 billion tons of CO_2.

China is involved in a range of international partnerships including:

- China-EU Partnership – A UK-led initiative, part of a broader China-EU partnership on climate change, is promoting carbon capture and storage at coal power plants. Phase one is a three-year study of technology options for the capture of carbon dioxide emissions from power generation and of the potential for geological storage, leading towards a possible demonstration project starting between 2010 and 2015.
- Asia Pacific Partnership – China is collaborating with international partners on coal and carbon capture and storage technologies through the Asia Pacific Partnership on Clean Development and Climate (APP). Officially launched in January 2006, APP brings together China, the U.S., Australia, India, Japan and the Republic of Korea to promote the development and deployment of clean energy technologies.

3.1.3.2.2 International Standing

China has been participating actively in the climate change negotiations since the beginning in 1990, and has ratified both the UN Framework Convention on Climate Change and the Kyoto Protocol. As a non-Annex 1 (developing) country, China has no binding emission limits under the first commitment period (2008-2012) of the Protocol until now.[213] However, together with India, it has been clear in stating that the main burden for addressing the climate change issues rests with the developed countries.[214] This has been reiterated by China at the G8 Conference in Germany in 2007 and again at the Copenhagen COP/CMP meeting in 2009.

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211 PEW (2007:2).

212 Lewis (2007:2).

213 However, China is an active participant in the Clean Development Mechanism (CDM) established under the Protocol. China is by far the largest source of CDM credits, accounting for over 40% of those generated to date.

214 Gupta (2007:167).

In November 2009, China announced its intention to reduce the intensity of carbon dioxide emissions per unit of GDP in 2020 by 40 to 45% compared with the level of 2005.[215] According to the Chinese Government, this is a "voluntary action" based on its own national requirements and deemed a major input to the global efforts in tackling climate change.[216] The index of carbon dioxide emission cuts would be "a binding goal", incorporated into China's medium and long-term national social and economic development plans.[217] This statement was later confirmed in form of a pledge based on the Copenhagen Accord.

From the above, it is obvious that bringing China to agree on mandatory commitments is of utmost importance for any future climate change regime, as without this nation's participation, no effective universal response to climate change can be achieved. A future climate change regime will need further commitments of China who already significantly contributes to greenhouse gas intensities. Yet, it seems highly unlikely that China will accept some kind of formal binding reduction target until and unless the US does so as well.[218] For China, it is incumbent upon the US to lead by example, both domestically and abroad, and to reengage productively in the international climate negotiations.

3.1.3.3 India

India is the world's fourth largest economy and fifth largest greenhouse gas emitter, accounting for about 5% of global emissions.[219]India's emissions increased by 65% between 1990 and 2005 and are projected to grow by 70% by 2020.[220] However, emissions intensity has declined significantly. India's greenhouse gas intensity is currently 20% lower than the world average (and 15% and 40% lower than the United States' and China's, respectively). Energy demand is projected to grow by 5.2% a year for the next 25 years.[221]India is deemed more susceptible to climate change than the US, China and Russia, indeed, most parts of the world (apart from Africa).[222]

3.1.3.3.1 National Climate Change Policy

In June 2008, the First National Action Plan on Climate Change was released, which serves as the main framework document, outlining existing and future policies, addressing climate mitigation and adaptation.[223] Highlighting the overriding priority of maintaining high economic growth rates to improve living standards, the NPCC "identifies ways that advance our

215 Chinese Government Official Web Portal (2009).
216 Ibid.
217 Ibid.
218 Gupta (2007:177).
219 PEW (2008b:1).
220 Ibid.
221 Coal accounts for 39% of the total primary energy demand followed by biomass and waste (29%). The latter reflects the fact that some 500 million people do not have access to electricity.
222 Joshi/Patel (2009:168).
223 PEW (2008a:1).

development objectives while also yielding co-benefits for tackling climate change." The plan builds upon eight core "missions", running through 2017, including:[224]

- The NAPCC aims to promote the development and use of solar energy for power generation and other uses with the ultimate objective of making solar competitive with fossil-based energy options. (The goal is to increase production of photovoltaic energy to 1000 MW/year; and to deploy at least 1000 MW of solar thermal power generation.)
- The NAPCC seeks to reduce the energy consumption. Building on the Energy Conservation Act 2001, initiatives are expected to yield savings of 10 000 MW by 2012. Furthermore, energy consumption is to play a key role in urban planning (waste management, transportation).
- With water scarcity to deteriorate as a result of climate change, the plan targets a 20% improvement in water use efficiency through pricing and other measures.
- The NAPCC aims to promote climate adaptation in farming through the development of climate-resilient harvest and expansion of climate insurance tools.
- To gain a better understanding of climate science and impacts, the plan envisions a new Climate Science Research Fund, improved climate modelling, and increased international collaboration. It also encourages business sector initiatives to develop adaptation and mitigation technologies through venture capital funds.
- The NAPCC also describes other on-going initiatives, including:
- Power Generation: The government is mandating the retirement of inefficient coal-fired power plants and supporting the research and development of Integrated Gasification Combined Cycle (IGCC) and supercritical technologies.
- Renewable Energy: Under the Electricity Act 2003 and the National Tariff Policy 2006, the central and the state electricity regulatory commissions must purchase a certain percentage of grid-based power from renewable sources. The Eleventh Five Year Plan aims at increasing the installed capacity from 4% of the total installed capacity of the power generating sector to more than 10%.

3.1.3.3.2 International Standing

India is a party to both the UN Framework Convention on Climate Change and the Kyoto Protocol. As a non-Annex I (developing) country, India has no binding emission limits under the Protocol.[225] Given its development imperative and low-carbon footprint, India's view in climate

224 PEW (2008b:2).

225 However, India is an active participant in the Clean Development Mechanism (CDM) established by the Protocol. India has more than 345 registered CDM projects, more than any other country and about a third of all projects globally.

negotiations, like that of most developing countries, has been rather negative until lately.[226]India had made a commitment not to allow the nation's per capita emission to rise above per capita emissions in the advanced countries. But this obligation, however well-intended was vacuous, considering India's unwillingness to go for internationally agreed binding targets.

Virtually all agree that India, as much as China, has a key role in an agreement that limits global emissions and that this role has to be commensurate with its development status. There are also various factors why India should review its current negative opinion:[227] It is in India's own interest to help achieve a comprehensive climate change agreement since it is particular vulnerable to climate change damage. Neither the US, nor China would join an international binding climate change agreement without the other and India, as another key player could take on a catalytic role. If India joins ahead of other developing countries it could secure a first *mover advantage and some tangible quid pro quo. Following the Copenhagen Accord, India* committed itself to a 20-25% emission intensity reduction below 2005 levels by 2020, yet underlining that domestic actions are voluntary in nature and will not have a legally binding character.[228]

3.1.4 Developing Countries (with an Emphasis on Africa)

Climate change threatens all countries, with developing countries the most vulnerable.[229] Estimates are that they would bear some 75 to 80% of the cost of damages caused by the changing climate. Even 2°C warming above preindustrial temperatures - the minimum the world is likely to experience - could result in permanent reductions in GDP of 4 to 5% for Africa and South Asia. Most developing countries lack sufficient financial and technical capacities to manage increasing climate risk. They also depend more directly on climate-sensitive natural resources for income and well-being. And most are in tropical and subtropical regions already subject to highly variable climate. Furthermore, whereas for other regions the consequences of climate change will only occur in the future, in developing countries, especially in Africa many of the negative effects are already showing.[230]

In contrast to this atypically severe vulnerability, the responsibility of developing countries, in particular in Africa, for greenhouse gas emissions is unusually minor.[231]The present carbon footprint of developing nations is extremely low.[232] The carbon footprint per head of a low-(or middle) income country is 1.3 to 4.5 mtons of CO_2 respectively, compared to 15.3 in high-income countries. Projections suggest that the emissions intensity will remain low. Therefore,

226 Joshi / Patel (2009:169).
227 Ibid: at 191.
228 PEW (2010a).
229 Collier et al. (2009:127).
230 For an overview of regional impacts of CC see UNFCCC (2007:18); DIE (2007:2).
231 Collier et al. (2009:125).
232 World Bank (2009b:39).

while poverty alleviation and sustainable development remain key priorities, both of developing countries and of development aid, climate change must urgently be addressed.

3.1.4.1 Adaptation

Whereas in other regions the key issues concern mitigation, in most developing countries and certainly in Africa, they concern adaptation to the inevitable impact of global warming. Where the impacts of climate change pose a direct threat to peoples' very survival, adaptation is imperative.

The UNFCCC commits all Parties to formulate, implement and update adaptation measures, as well as to cooperate on adaptation.[233] The UNFCCC secretariat developed a compendium on tools for measuring vulnerability and adaptation and a database on existing local coping strategies to climate change hazards.

In 2005, the UNFCCC secretariat launched the Nairobi Work Programme on Impacts, Vulnerability and Adaptation (NWP) to climate change endeavouring to help DCs in understanding adaptation and to make informed decisions on practical adaptation options.[234] Over 130 organisations are partners to the NWP and 84 action pledges have been received so far. The initial phase during 2007 – 2008 involved reports on nine key areas, including methods and tools, data and observations, climate modelling, socio-economic information, technologies for adaptation and economic diversification. The second phase started in 2008. An Adaption Practices Interface has been established.

The implementation of adaptation needs to be integrated into national and international sustainable development priorities, as well as into national and sectoral development plans. Effective implementation strategies at the national level include:[235]

- enhancement of the scientific basis for decision-making;
- improving tools for the measurement of adaptation;
- introducing adaptive planning including different sectors at different levels;
- legislation and regulatory frameworks, which promote adaptive-friendly measures;
- training on adaptation, including for young people;
- individual and institutional capacity-building;
- technology development and transfer; and promotion of local coping strategies

233 Articles 4.4, 4.8 and 4.9 UNFCCC.
234 UNFCCC (2009f:1).
235 Collier et al. (2009:131).

In order to help least developed countries (LDCs) identifying their urgent and immediate adaptation needs, the UNFCCC uses so-called National Programmes of Actions (NAPAs).[236] The rationale behind NAPAs is the even more limited ability of LDCs to adapt to the effects of climate change. The NAPA takes into account existing coping strategies at the grassroots level, and builds upon these to identify national priorities:[237]

> The NAPAs focus is on urgent and immediate needs - those for which further delay could increase vulnerability or lead to increasing costs at a later stage. NAPAs are designed to use existing information; and no further research is needed. They must be action-oriented and country-driven and be flexible and based on national circumstances.
>
> Once a NAPA has been submitted to the UNFCCC secretariat, the LDC Party can begin the process of implementation under the LDC Fund, which is managed by the Global Environmental Facility (GEF). The GEF agency then works with the country to develop the concept into a full project that is ready for implementation under the GEF project cycle.

As of July 2009, 42 out of 49 NAPAs had been submitted. Funding needs to be significantly boosted, to cover the 439 projects under the NAPAs of in total US$1.7 billion, such as early-warning systems, disaster risk management, improving water and food security.[238] As of May 2009, donor countries have made pledges to the LDC Fund of around US$176 million.

3.1.4.2 Mitigation

As outlined before, and from a historical perspective, developing countries and specifically Africa have contributed little to the greenhouse gas stock. In most African countries emissions are below 0.5 mtons per head and sub-Saharan Africa with 11% of the world population accounts for just 3.6% of world emissions.

According to the principle of *common but differentiated responsibility* as formulated in Article 3.1 UNFCCC, developed states lead in targeting emissions, given both their historical responsibility and significantly higher per capita emissions today. However, in the future, emission reductions by high-income countries alone will not be sufficient to limit global warming to tolerable intensities.[239] While greenhouse gas intensity of developing countries will remain low, most emission growth will occur in developing countries. More importantly CO_2 emissions of developing, middle-income states will keep on growing and will outdo the emissions of all industrialised states together in the next decades.[240]Africa is fast becoming a major greenhouse gas emitter, as land-use patterns change rapidly. Especially deforestation plays a major role in this context. The implications, as stated in the UNFCCC Bali Action Plan, are that

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236 Article 4.9 UNFCCC recognises the special situations of the LDCs and states: "The Parties shall take full account of the specific needs and special situations of the Least Developed Countries in their actions with regard to funding and transfer of technology".

237 Gupta (2007:166).

238 Peskett (2009:1).

239 Collier et al. (2009: 136).

240 World Bank (2009b:55).

all countries have a role in a mitigation agreement. Developing countries will need incentives and support to limit their greenhouse gas release while safeguarding economic growth and poverty alleviation.

4 Funding

Funding is vital in order for developing countries to implement adaptation (and mitigation) initiatives. The (new) climate change regime will have to deliver sustained funding for the implementation of wide-ranging long-term initiatives instead of re-active funding, e.g. emergency assistance.

Funding for adaptation is provided through diverse mechanisms of the Convention, currently operated by the Global Environment Facility (GEF) and the Adaptation Fund Board (AFB). Funding opportunities include:[241]

- The GEF Trust Fund gives support for vulnerability and adaptation studiesas part of National Communications by developing countries and is operated by the GEF. The GEF operates two more funds, the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF), both established in 2001. The outcome, so far, is not impressive. The LDCF has received pledges from 17 donors coming to just under US$ 157 million and the SCCF has been pledged a sum of US$ 67 million, of which US$ 56.7 million is earmarked for adaptation.
- The Adaptation Fund (AF) under the Kyoto Protocol was created in 2001 and is managed by its operating unit, the Adaptation Fund Board. The Adaptation Fund, which is funded by share of proceeds from the Clean Development Mechanism (CDM), could receive US$ 80-300 million up to 2012. Post-2012, if the funding mechanism is up-held, funding could be US$ 100-500 million for a low demand for CDM and US$ 1-5 billion for a high demand.

Again, funding to support mitigation efforts of developing countries is imperative. By far the largest mechanism to transfer funding from rich to poor countries has been the Clean Development Mechanism. The CDM, established under the Kyoto Protocol, provides an instrument linking mitigation to financing for sustainable development. CDM is expected to deliver around 300-400 Certified Emission Reductions (CERs) annually over the 2008-2012 period, corresponding to an international transfer of several billion US$ yearly.[242] Yet, CDM ventures are heavily concentrated in a small number of large developing countries, especially in China, Brazil, Korea and India. Smaller developing countries have generally been by-passed, e.g. SSA represents less than 2% of credits. To lower the high transaction costs, a

241 UNDP (2007:187).

242 Hepburn (2009:411).

programme-based approach should be introduced, under which developing nations could undertake to achieve a level of emission reduction in a certain sector or the country as a whole.[243] The scope of CDM, which is currently very restrictive, has to be broadened to include the power-generating industry (hydropower) and avoided deforestation, thus opening up new opportunities especially for Africa.[244]

The funds that are presently offered under the UNFCCC and the Kyoto Protocol are small compared to the scale of the adaptation and mitigation costs identified. The UNFCCC estimates that added funds needed in 2030 are likely to be US$ 28 to 67 billion for adaptation and US$ 176 billion for mitigation.[245] At present, there is a vast funding gap that needs to be closed: Funding for adaptation (and mitigation) efforts in developing nations as committed to by wealthier nations is less than 5% of what may be needed yearly by 2030. The Copenhagen Accord, while not delivering on various other issues, managed to broker a new funding deal: The CA has delivered both (i) an initial fast start aid of US$ 30 billion, to be operational immediately from 2010 to 2012 and (ii) long-term aid with developed countries to jointly organise $100 billion a year by 2020.

5 The post-2010 Framework - Way Forward?

5.1 Assessment of the UNFCCC / Kyoto Protocol

When assessing the Kyoto Protocol, one has to recall its logic: the meeting at Kyoto was intended as a first step, establishing modest reduction targets of 5% for the industrialised countries over 5 years only. This was then to be followed by a chain of other agreements to impose ever wider and deeper reductions for the Annex I members. Non-annex I countries were hoped to follow suit in time, so that at last, all countries would have an emission limit. Gradually tightening the limits by future agreements, the world price of greenhouse gas emissions would increase, inspiring a range of measures to drastically reduce the emission of noxious carbon-dioxide.

Yet, the results of the Kyoto Protocol are not as expected. Economists agree that the Kyoto Protocol imposes relatively high costs and generates only humble benefits, while failing to provide a real solution.[246] Yet, most scientists warn that the Kyoto Protocol has not resulted in the reduction of these gasses to such a degree that global warming could be stemmed efficiently.[247]

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243 UNDP (2007:154).
244 Collier et al. (2009:138).
245 UNFCCC (2007:38).
246 Olmstead / Stavins (2006:1).
247 Helm (2009b:16).

Progress towards the emission reduction targets under the Kyoto Protocol has been mixed at best. The World Bank reported that there were significant differences in performance across individual countries.[248]For the Annex I non EITs emissions in 2005 were 5% higher than 1990 levels.[249] Their Kyoto target for 2008-2012 is for a 6% reduction in emissions. The Annex I EITS emissions in 2005 were 35% below 1990 levels.[250]Their Kyoto target is for a 2% reduction. In 2005, the Annex I non-Kyoto Protocol Parties (Turkey and US) emissionswere 18% above their 1990 levels. In total, the Annex I Kyoto Protocol Parties emissions for 2005 were 14% below their 1990 levels. Their Kyoto target is for a 4% reduction.

According to the Netherlands Environmental Assessment Agency, the industrialised countries with a Kyoto target will, as a group, probably meet their emission limitation.[251] Jointly, this was for a 4% reduction relative to 1990 levels. Projections of 2000-2005 emissions trends led to reduction in 2010 of almost 11%. However, the expected reduction of 11% was particularly due to the large greenhouse gas emission reduction of about 40% until 1999 in the EITs.

When looking at the individual level, the compliance gap for many states is quite noteworthy,[252] including Canada with a gap of 60.2%, the US with 23.3%, New Zealand 22.7%, Japan 13.1% and Switzerland 12.6%. Likewise, some EU members are well off target, including Spain with a gap of 44.8, Luxemburg with 28.4 and Ireland and Denmark with more than 11%.[253]Various factors have contributed to the underachievement, some linked to the Kyoto Protocol itself, others going beyond the scope of Kyoto.

A serious flaw of the Kyoto architecture is the lack of broad participation by major industrialised countries and key developing countries.[254]First of all, the world's largest greenhouse gas emitter at the time, the US, pulled out of Kyoto in 2003; further, the largest increase in greenhouse gas emissions originates from the seven more advanced developing countries, among them China and India.[255] None of these have quantitative emission targets under Kyoto. Lastly, Russia and other EITs were given "hot air" targets[256] leading in fact to an increase in

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248 World Bank (2008:6).

249 The non-EITs Kyoto Protocol Parties involve the EU 15, Australia, Canada, Iceland, Japan, Liechtenstein, Monaco, New Zealand, Norway and Switzerland.

250 This involves Belarus, Bulgaria, Croatia, CzechRepublic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Russian Federation, Slovakia, Slovenia, and Ukraine.

251 Netherlands Environmental Assessment Agency (2009).

252 Barrett (2009:62).

253 Thanks to the European "bubble" commitment, these states are not bound by their individual targets, as long as the original EU-15 meet their joint obligation. Yet, for 2005, the EU -15 do show a compliance gap of 4%.

254 Barrett (2009:61).

255 Brazil, Mexico, South-Korea, Saudi Arabia and South Africa.

256 PEWCenter of Global Climate Change defines hot air targets as a situation in which emissions (of a country, sector, firm) are well below a target due to the target being above emissions that materialised under the normal course of events (i.e. without deliberate emission reduction efforts). Hot air can result from over-optimistic projections of growth.

their emissions. Moreover, while the Kyoto Protocol covers a broad range of emission sources, it does not include important greenhouse gas sources like air and maritime transport which has grown dramatically over the last years.[257]

A great, if not the greatest weakness of Kyoto is its blatant division of countries in two annexes, which has reinforced the already existing ideological North-South divide.[258] While pronouncing the richer countries to take the lead, there is no yardstick by which to evaluate Annex I country leadership. The Kyoto Protocol sets no time frame for the introduction of binding targets for Non-Annex I parties, and no graduation process, by which to judge if developing countries are ready to join Annex 1.[259] Furthermore, all 150-plus Non-Annex 1 countries are legally treated the same, despite the huge variations that exist between them.

Another important shortcoming of the Kyoto Protocol is the lack of compliance incentives and enforcement mechanisms to deter non-participation and non-compliance.[260] The UNFCCC and the Kyoto Protocol have extensive provisions for monitoring compliance, specifically for the emission reductions targets of Annex I countries. But monitoring is still imperfect, both in linking it to effective enforcement and in broadening its scope to include issues of importance to developing countries.[261]

Others claim that the methodology of Kyoto is seriously flawed in that it takes a geographical approach to emission responsibilities, the so-called production basis methodology (as opposed to the consumption methodology).[262] Emissions are attributed to states on the basis of territory.[263] All emissions produced within a state are attributable to its emissions' total. Hence, Kyoto places the burden of emission reduction on those states which produce emission-intensive goods, rather than those which import and finally consume these goods. The handicap of this methodology is that wealthier nations can relocate CO2-intensive production abroad to no-cap locations in order to meet their Kyoto targets.[264]

In defence of Kyoto, it must be said, however, that the problem of climate change does not easily lend itself to a global agreement. To name but a few issues: the allocation of responsibility for the existing level of greenhouse gas is complex; greenhouse gas emissions per head are low in those countries most rapidly increasing their emissions; the impact of climate change varies greatly between countries, the measurement of emissions is at best

257 Helm (2009b:17).
258 Gosh / Woods (2009:454).
259 Depledge / Yamin (2009:443).
260 Barrett (2009:63); Aldi / Stavins (2009:8).
261 Gosh / Woods (2009:463).
262 Helm (2009b:20).
263 Pan et al. (2009:145).
264 A country, e.g. the UK could produce low greenhouse gas intensive goods (i.e. services instead of manufacture) and import high greenhouse gas-intensive goods (aluminum, steel) from abroad. By transferring energy-intensive production to China, India or other DCs, the UK could achieve a Kyoto obligation without making any noticeable difference to climate change.

weak.[265]Additionally, the sheer complexity of climate change in terms of participants and issues is all the time growing and begins to have an impact on the international negotiations.[266] Each negotiation round has become more complex.[267]

5.1.1 Twelfth Session of the Conference of Parties of the UNFCCC in Montreal 2005 (COP 12)

As outlined above, virtually all agree that the Kyoto Protocol is insufficient to the overall challenge of global warming. Hence, the 2005 Conference of Parties in Montreal adopted a series of decisions which launched a two-track negotiation process.[268]The first track, under the Kyoto Protocol, involved the formal negotiation of commitments, but only for Annex I members of Kyoto (this negotiation is conducted in form of an Ad Hoc Working Group / AWG-Kyoto Protocol). The second track, under the UNFCCC, foresaw a 2-year informal dialogue on long-term cooperative action, encompassing non-Kyoto parties, such as the US. This two-track process was aimed at broadening the participation and improving the effectiveness of the international climate regime.

5.1.2 Thirteenth Conference of Parties, Bali 2007 (COP 13)

In 2007 the IPCC Fourth Assessment Report resulted in a significant increase in pressure on the international community to seriously and urgently address the global challenge of climate change. The report highlights that:

- Observed and predicted future trends of a changing climate are unequivocal and (with 90% certainty) caused by human socio-economic activities.
- The impacts and risks of climate change are more imminent and severe than previously thought. Between 2050 and 2100 climate change could have disastrous effects. Not only do developing countries generally lack the means to cope with climate hazards, but their economies also have greater dependence on climate-sensitive sectors, e.g. agriculture, water, and coastal zones. Africa and Small Island Developing States (SIDS) are uniquely vulnerable.
- Existing technology, together with new developments in the pipeline, can solve the problem at a cost that is affordable (between 1% and 3% of global GDP by 2100).

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265 Helm (2009b:19).

266 Depledge / Yamin (2009:446).

267 The Copenhagen negotiations were tasked not only with deciding new emission obligations for high-income states, alongside possible amendments to the Protocol rules, but as well a whole new architecture for developing nation involvement and maybe of the US. To name just a few agenda items: financial provisions, technology access incentives, new reporting guidelines for developing nations, provision on CO2 storage, concessions for oil exporters, sectoral approach, and a new joint vision.

268 UNFCCC (2005).

5.1.2.1 Outcomes

The 2007 COP in Bali decided to uphold the dual track negotiations under both UNFCCC (for which the so-called AWG Long Term Cooperative Action was established) and the Kyoto Protocol with the hope that the two tracks will lead to a comprehensive post-2012 agreement. The key intention of the Bali Action Plan (BAP) was to achieve a legally binding agreement by December 2009 in Copenhagen, which was to take effect after the expiration of the 1st commitment period under the Kyoto Protocol at the end of 2012. The 'Bali Roadmap' is not a single decision or process, but rather an umbrella term to include all of the forward-looking decisions reached in Bali:[269]

- The BAP included negotiations on four key issues - mitigation, adaptation, technology transfer, and funding. It calls for a "shared vision of long- term cooperative action, including a long-term global objective for emission reduction" without, however, including figures.[270] The key issues under the BAP are (i) to reduce greenhouse gas emissions by committing all major economies under the UNFCCC, while allowing for various types of commitments, (2) to intensify international climate funding and (3) to share climate-friendly technology among the parties.

- For the first time developing nations recognised the urgent need for mitigation, an important departure from the 'no other commitments' stand they uphold, as a ruler.[271] These mitigation efforts are to be supported technologically and financially by the wealthier nations. The BAP introduced a new requirement: mitigation efforts of both developed and developing countries, as well as the support for developing countries' actions, have to be "measureable, reportable and verifiable" (MRV).

- Moreover, the COP/MOP resolved long-standing differences on the management of the Adaptation Fund that was created under the Kyoto Protocol to help developing countries that are particularly vulnerable to the impacts of climate change.[272] In Bali, the parties established a 16-member Adaptation Fund Board to manage the fund on behalf of the COP/MOP, thus replacing the Global Environment Facility as secretary every three years.

- Deforestation, which accounts for 20 % of all greenhouse gas emissions, also figured on the agenda in a major way for the first time in climate change discussions. Parties

269 PWE (2007b:2).

270 Initial proposals supported by the EU foresaw that developed countries would have to reduce greenhouse gas emissions by 25-40% below 1990 levels by 2020. Due to strong opposition from the US, but also Canada and Japan, the final decision only asks for "deep cuts in global emission". See also TWN (2007).

271 UN NGLS (2008:2).

272 PEW (2007b:6).

agreed on a range of measures to study and verify the issue, including finding out just how to calculate emissions from deforestation.

5.1.2.2 Assessment

When assessing the COP 13 in Bali, the overall outcome was considered a major leap forward in some respects for the international community's effort to tackle climate change. Bali was also notable in being the forum in which the US, as a result of pressure from especially the developing countries was convinced to join an agreement that it had vigorously opposed and sought to water down. This might imply that the US would then be seriously engaged in the post-2012 UNFCCC process.

Yet, the Bali consultations also highlighted on-going conflicting views among parties – especially between industrialised and developing nations – over how best to implement and improve on emission targets and other commitments under the UNFCCC and Kyoto Protocol in ways that are sustainable and that promote the development opportunities of developing countries.

A host of crucial issues has remained open in Bali:[273]

- For example, the Ad-Hoc Working Group established in Bali will have to determine exactly what kind of process – e.g. formal negotiations, informal dialogues, or both – will be undertaken.
- It will also have to deal with the issue that the objectives to be achieved for each 'priority' lacked quantitative figures – especially with respect (i) to the long-term global emissions goal, (ii) to developed countries' emissions reductions obligations and (iii) commitments on adaptation finance, technology as well as overall financing and investment.
- Most importantly, the issue of whether the process would focus on coming up with new treaty provisions – such as changes to the Kyoto Protocol or the UNFCCC (which developed countries pushed for) that could weaken developed countries' existing commitments especially on financing and technology transfer – or on focusing on new and additional actions by Parties to strengthen the implementation of existing commitments (especially on emissions reductions, financing, and technology transfer) under the Kyoto Protocol and UNFCCC (which is what developing countries stress) will also need to be addressed.

273 UN NGLS (2008:3).

5.2 The Copenhagen Accord (2009)

The Copenhagen meeting was the culmination of two years of intense negotiations that had been launched with the 2007 Bali Action Plan.

5.2.1 Expectations

Copenhagen was meant to serve as a foundation for and as launch pad to a new legally binding global climate agreement.[274] Targets and mechanisms agreed should illustrate that the future belongs to a lowCO_2-economy.

For the Copenhagen convention to be successful, a high level declaration needed to include a set of agreements in the form of verifiable reduction obligations and timeframes for developed countries and reduction actions for developing countries.[275]In line with science, developed countries as a group would have to agree to reducing emission by at least 80% by 2050. Furthermore, each of these countries would undertake to an economy-wide reduction target by 2020. The larger developing countries, such as China, India, Brazil and Mexico should agree to non-binding goals to reduce emissions by 15 to 30% under business-as-usual levels by 2020. Other developing countries would commit to implement emission reduction policies in all major sectors, including forestry.

A Copenhagen deal ought to include mechanisms for generating new, predictable and sustainable financial resources and technology to unleash both mitigation and adaptation efforts by developing countries. It should include (i) a fast start fund with yearly funding of US$10 to 15 billion pledged by wealthier countries building from 2010 to 2012 and (ii) long term funding to deliver substantially larger amounts by 2020.[276] Sources could include domestic cap and trade programmes.

As the legal form the Copenhagen agreement should take was not identified by the BAP, there were three basic scenarios:[277](i) a new protocol under the UNFCCC concurrent with the revised Kyoto Protocol; ii) a new protocol superseding the Kyoto Protocol; or (iii) a set of decision of the COP and an amended Kyoto Protocol. Of all three, the 2nd scenario would have presented the most ambitious outcome. It would have provided a single framework for all countries willing to take on binding commitments and resolve the issue of industrialised countries not Party to Kyoto. It would furthermore capture the outcome of both negotiation tracks in one legal instrument.

274 WRI (2002:1).
275 UNFCCC (2009h:2).
276 WRI (2002:4).
277 Bodansky (2009:2).

5.2.2 Outcomes

The gathering in Copenhagen drew a level of political attention well beyond expectations in that an unprecedented number of heads of government -almost 120- decided to meet to provide leadership and give the final input for a new global climate change order. Has this strategy paid off? Most would agree that the outcome was far less than most had hoped for. It is still unclear if the agreement is a disaster (Swedish EU presidency at the time) or represents an unprecedented breakthrough (US President Obama)?[278]

First of all, the Copenhagen Accord itself is a political decision (as opposed to a legally binding new order). After two weeks of harsh rhetoric and fierce battles, COP/CMP adopted two decisions under the UNFCCC and the Kyoto Protocol, "taking note" of a political accord: Decisions under the U.N. climate process are formally taken by consensus. As a handful of nations opposed the wording in the eleventh hour, the COP/CMP managed only to take note of the existence of the Copenhagen Accord rather than to adopt it, thus opening the way for governments to individually sign the accord.[279] In further decisions, COP/CMP extended the Ad-Hoc Working Group under both the UNFCCC and the Kyoto Protocol to continue negotiating towards a broader agreement in late 2010 in Cancún, Mexico. These unusual outcomes have raised a good deal of speculation about the nature of the CA under the UN climate process and of any future agreement.[280]The Copenhagen Accord is immediately operational despite many of its provisions will require further elaboration by the UNFCCC COP. The timeline for doing so is not specified.

The CA fell dismally short on its key goals: It does not impose measurable and verifiable binding emission reductions, obligations and timeframes, or financial contributions. Such obvious deficiencies should not belittle the progress which has been made in all of the above-mentioned cornerstones of the BAP:[281]

- Progress was made by recognising the scientific view, that for keeping the increase in global temperature below 2°C; yet the recognition fails to offer a way forward for meeting this objective. Instead the CA introduces so-called 'domestic pledges to be submitted by the end of January2010.
- At the end of January 2010, the CA will become the first-ever vehicle to include explicit, if not unconditional, mitigation pledges from the world's major economies, including China, India and other large developing states. Further mitigation actions by developing countries can be listed on an on-going basis. Actions for which developing countries

278 Egenhofer / Georgiev (2009:1).
279 Anderson (2009:2).
280 PEW (2009b).
281 Egenhofer / Georgiev (2009:3).

obtain support are to be registered. LDCs and small island countries "may undertake mitigation actions voluntarily and on the basis of support".[282]

- The emission targets of Annex I countries (and their delivery of funding for developing countries) will be measured, reported and verified in accordance with new guidelines. These guidelines are to ensure "rigorous and transparent" accounting of both objectives and finance. Actions by developing countries "will be subject to their domestic" MRVs. Developing country actions benefiting from international help will be subject to international MRV under guidelines adopted by the COP.[283]
- "Scaled up, new and additional, predictable and adequate funding" is to be granted to developing countries to support mitigation efforts, adaptation, technology development and capacity-building. As one the of the major achievements, the CA has delivered both (i) an initial fast start aid of US$ 30 billion, to be operational immediately from 2010 to 2012 and (ii) a long-term aid with developed countries to jointly organise $100 billion a year by 2020 in the context of mitigation actions and transparency on implementation. The long-term finance is to be a mix of state (bilateral and multilateral) and private resources. The CA introduces a new Green Climate Fund as one instrument for delivering finance.
- The CA endorses two parallel decisions under the UNFCCC and the Kyoto Protocol, continuing the two formal negotiating tracks that were launched in Bali. Those decisions, however, do not cross-reference the accord. Thus, while some members will look to those negotiating processes to elaborate and operationalise the accord, no formal link was established.

5.2.3 Assessment

Quite a bit of guesswork has already occurred among those concerned over the parties' decision to only take notice of the CA.[284]This unusual outcome raises a number of questions about the standing of the CA under the UN climate process and about the nature of any future agreement. The objective of a legally binding instrument, which appeared to be a part of the deal when first revealed, was quickly removed in Copenhagen. So what is the CA? An emerging view is that the CA might act as a touchstone or reference point to help shape the decision-making as the formal negotiations under the UN roof move on.[285]

As mentioned earlier, for the first time ever, all of the world's major economies have committed themselves to explicit international climate pledges. In this respect, the CA is indeed an important step forward. Yet, critics fear the reliance on voluntary pledges only, by which each

282 Ibid.
283 Ibid.
284 Anderson (2009:2).
285 Gurria (2010:1).

state gives what it deems appropriate, will prove unsatisfactory.[286] In aggregate the submissions to date do not yet imply the achievement of the 2°C goal; rather they reflect a limit of approximately 3°C[287]. Moreover, in only a few cases the pledges are unconditional[288]. Australia, Norway and the European Union offered unconditional reduction targets (5% below 2000, and 30% and 20 % below 1990, respectively by 2020), and pledged to go further if there is a stronger deal. Most other countries' pledges are conditional. The United States' target, in the range of 17% below 2005, is contingent on the enactment of domestic U.S. legislation (as is Canada's virtually identical pledge). Japan and New Zealand say their targets are contingent on reaching a more ambitious international agreement. China and India said they "will endeavour" to reduce their carbon intensity by 40-45% and 20-25%, respectively (while once again emphasising the voluntary nature of their pledges). Most of the developing-country-pledges are contingent on support from developed countries.

Furthermore, it is far from obvious which country will actually sign the CA. A number of key countries were less than clear about whether they were in fact association" themselves with the Accord.[289] While the United States expressed a desire to associate, and others voiced willingness, some were silent on the question. China and India, using strikingly similar language, made no mention at all of the Accord, tying their actions instead to the UN Framework Convention on Climate Change.

5.3 Conference of Parties to UNFCCC (Cancún 2010)

5.3.1 Expectations

Undoubtedly, the results of Copenhagen and the way they have been achieved pose a number of challenges in the UNFCCC process.The first question to solve was on how to translate the Copenhagen Accord, which is a political agreement, technically outside the UNFCCC process, into the UNFCCC framework.[290] After Copenhagen, three possible scenarios have been discussed: (i) to use the Copenhagen Accord as an alternative negotiation track, a view led by the US; (ii) to ignore the Copenhagen Accord and to pursue within the LCA and Kyoto Protocol mandate only; and (iii) to pick those elements of the Copenhagen Accord, where progress was achieved, and integrate them into the Kyoto Protocol and LCA track of the UNFCCC discussions. Following the Procedural Session of Negotiations in April, the third option appeared to be the most realistic. In mid-May, the AWG-LCA chair presented a draft negotiation text, which contains the elements of the Copenhagen Accord as well as the latest texts under the AWG-LCA in the respective groups.

286 WBGU (2009:1).
287 UBA (2010:5).
288 Diringer (2009:1).
289 Ibid: at 2.
290 Diringer (2010a:2).

The comprehensive package approach for COP 15 where "Nothing is agreed until everything is agreed" has proven very difficult.[291] The alternative is to allow for a disaggregated approach to negotiate and conclude more advanced issues first. Areas where compromise is within sight and where Cancún realistically could achieve COP decisions are adaptation, Reducing Emissions from Deforestation and Forest Degradation (REDD), capacity building and technology transfer.[292]

In order to be able to conclude the LCA and Kyoto Protocol negotiations, it is pivotal to achieve effective UNFCCC decision-making structures which simultaneously meet the requirements of participation and inclusiveness.[293] In general, there are two options of streamlining the decision-making process. One is the full adoption of the provisional rule of procedures (including the rule 42, which sets the voting rule) in order to enable COP decisions by majority rule and not by consensus. The other option is to be more tactful with the proceedings of the 'Friends of the Chair'- group, a small number of countries which negotiate on behalf of the remaining countries to better prepare decisions for adoption by all Parties.

The Copenhagen Accord, as it stands, reflects a bottom-up approach, in that it is based on voluntary pledges and it gives developing countries 100% flexibility in defining their target. 'Top down', on the other hand, implies mandatory targets derived from a collective goal with strong international enforcement. What is needed is something in-between, an international framework that is flexible enough to guarantee wide participation, and binding enough so that parties can be reasonably confident that others will fulfil their obligations.[294] Moreover, given the stated 2°C limit also enshrined in the Accord, it is obvious that the ambition of pledges needs to be increased.[295] However, the Accord does not provide for a mechanism to increase the ambition level other than public pressure.[296] The option to jointly increase the ambition level under the pressure of not agreeing at all was missing in Copenhagen.

Different interpretations of the underlying causes behind the disappointing results in Copenhagen exist. One reoccurring theme, however, is the lack of trust.[297] Building of trust must therefore be the core strategy in the negotiation. At this point, financial commitments play a priority role in building trust.

The most important question is what to do with the Kyoto Protocol. However, the chances are slim for achieving a legally binding deal in Cancún for all building blocks, with equal strength to the Kyoto Protocol.[298] Hopes for a quick binding deal have faded, partly because of a standoff

291 UBA (2010:27).
292 Diringer (2010b:1).
293 UBA (2010:28).
294 Diringer (2010a:1).
295 EU Council (2010:3).
296 UBA (2010).
297 Figueres (2010:1).
298 UBA (2010:28).

between China and the United States throughout 2010 about new actions and scant prospects that the USSenate would be able to ratify a treaty in coming years.[299] In any new deal, China says that Obama must show more leadership than his stalled USplan to curb emissions by 17% below 2005 levels by 2020. Washington says China must toughen a voluntary plan to curb the rise of its carbon emissions by between 40 and 45% below projected levels by 2020 from 2005. The rivalry overshadows other tensions between rich and poor nations. Additionally, India has stuck rigidly to its insistence that developed countries, which are responsible historically for global warming, should bear the burden of mitigating climate change and has resisted a legally binding treaty.[300] Realising this inconvenient truth, developed countries must reverse their position on the Kyoto Protocol.

5.3.2 Key Outcomes

Agreeing to put aside for now issues that have stalemated international climate talks for years, governments meeting at the COP 16 in Cancún approved a set of decisions anchoring national mitigation pledges made under the Copenhagen Accord, and taking initial steps to strengthen finance, transparency and other elements of the multilateral climate framework.[301] The key outcomes can be summarised, as follows:

The main focus of COP 16 was to solve the question in which manner the non-binding pledges taken under the Copenhagen Accord would be reflected in the U.N. decisions.[302] The Cancún Agreements have done well to import the key elements of the Copenhagen Accord into the UNFCCC. They do include the mitigation targets pledged under the Copenhagen Accord – marking the first time all major economies have pledged explicit actions under the UNFCCC since its launch nearly two decades ago.[303]

Moreover, the Cancún Agreements include decisions by parties under both the UNFCCC and the Kyoto Protocol, reflecting the outcomes of the two AWGs:

AWG UNFCCC:[304]Like the Copenhagen Accord, the Convention-track decisions set a goal of limiting average global warming to below 2 degrees Celsius above pre-industrial levels, and calls for periodic review to consider strengthening this long-term goal, including to 1.5 degrees. The first review is to begin in 2013 and conclude by 2015.

At COP 17, parties will again consider setting a timeframe for the peaking of global emissions and a global emissions goal for 2050. A Cancún Adaptation Framework is adopted to enhance adaptation efforts by all countries and an Adaptation Committee to provide technical support to parties, facilitate sharing of information and best practices, and advise the COP on adaptation-

299 AFP (2010b); Reuters (2010).
300 AFP (2010a).
301 PEW (2010c:1).
302 Note that the respective content of states' mitigation pledges was not under negotiation.
303 PEW (2010d:1).
304 For more information see PEW (2010d:4).

related matters. The finance goals set in the Copenhagen Accord are reiterated.[305] Parties agreed to establish a Green Climate Fund operating under the "guidance" (rather than the direct "authority") of, and accountable to, the Conference of the Parties (COP).

AWG Kyoto Protocol:[306]While deferring the issue of new binding targets, Kyoto Protocol parties made progress on several related issues. They decided that in a second commitment period: 1990 will continue to serve as the base year for calculating parties' binding targets, while allowing parties for their own purposes to also express their targets against an alternative reference year; The Kyoto Protocol's emissions trading and project-based mechanisms will continue to be available to developed countries as a means of meeting their targets; Land use-related measures to reduce emissions and enhance greenhouse gas removals will also count toward parties' targets.

6 Concluding Remarks

After the Copenhagen Summit of December 2009, there certainly was a strong feeling of unfinished business among the parties: While the CA achieved what it set out to do on the before-mentioned issues, there are deficiencies in other respects. For example, the CA included no agreement to restrict global temperature increase to 2°C, no deadline for concluding a legally binding agreement, no clear greenhouse gas emissions targets, no universal guidelines for monitoring and verifying compliance with emissions targets, no emissions peaking deadlines, no restrictions on bunker fuel use.

The COP 16 in Cancún in December 2010, however, was in strong contrast to the bitter disappointment of a year earlier in Copenhagen. The United States and China avoided to openly disagree, and India emerged as a broker between the two. In general, the Parties were quite scared that another failure could once and for all hamper the UN process; therefore they were far more ready to accept outcomes not necessarily reflecting their initial demands.

Yet, it is still far from clear where the process will proceed after Cancún:[307] In one scenario, the operational decisions initiate a focused phase of institution-building that mobilises resources and strengthens transparency, building confidence toward a future binding agreement.[308] But having deferred on their demands for new binding commitments, and with the Kyoto targets

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305 The collective commitment by developed countries to provide $30 billion in fast-start finance for developing countries in 2010-12; and to mobilise $100 billion a year in public and private finance by 2020 in the context of meaningful mitigation actions and transparency on implementation.

306 PEW (2010d:6).

307 PEW (2010d:2).

308 Indeed, the Cancún outcomes foresee a very heavy work program for 2011 COP 17-CMP 7 inDurban and beyond.

expiring in just two years, some countries are now looking to force the issue at the 2011 conference in South Africa.

- Reaching a new climate deal is both urgent and important, and will be exceptionally challenging. Many trends are adverse, but a new global deal on climate is still possible.[309]
- A new deal should seek to stabilise the greenhouse gas concentration at around 500 ppm CO_2 or place an adequate limit on greenhouse gas emissions.
- Achieving this long term goal calls for a path to reduce greenhouse gas emissions by 50% in 2050, which in turn involves deep emission reductions by the wealthier nations, up to 75%. A stronger mitigation commitment of developing states is needed, in particular by those whose emissions will soon significantly contribute to atmospheric concentrations.
- Incentives for developing countries to limit their emissions have to be scaled-up: several kinds of incentives are currently on the table, which include directs transfers, the allocation of emission quotas or access to new and improved technology.
- An innovative approach is needed to enhance international technology cooperation between industrialised and developing countries.

309 Gao (2010:455).

CHAPTER 12

TEACHING AND RESEARCH OF ENVIRONMENTAL LAW IN AFRICA AND NAMIBIA

Oliver CRuppel

1 Introduction

The primary function of environmental law is to ensure that present and future generations can enjoy the environment and its resources without jeopardising the interests of generations to come. Trends show that African countries have been positively disposed towards accepting environmental law, either as legal obligation or at hortatory level. The general acceptance of environmental law by African countries is also demonstrated by the fact that nearly all African countries have enacted framework environmental laws of different levels of sophistication, beside the wide array of sectoral and functional laws. It is equally significant that more than 30 African countries have entrenched environmental provisions in their national constitutions, ascribing real legal status and weight to environmental concerns.

This Chapter focuses on recent trends in the teaching of environmental law, both in Africa in general and in Namibia in particular. The 1992 Rio Declaration on Environment and Development urges countries to cooperate and to strengthen capacity-building for sustainable development with an emphasis on scientific and technological advancement. It is obvious then that competence in environmental law is really needed in this context. With the assistance of UNEP, the United Nations Environment Programme and the International Union for Conservation of Nature (IUCN)Academy of Environmental Law, this capacity is already evolving and with the efforts of Universities it will gain rapid and increasing competence.

2 The Emergence of the Concept of Environmental Law

Until not too long ago, environmental law was rather narrowly understood to be about public health problems or urban and industrial pollution etc. By the 1970s, the meaning of the term environment came to be more widely understood, setting the stage for a broader appreciation of the relevance of environmental law. This broader meaning now extended to the totality of nature and natural resources; it further included the context within which they exist and

interact, as well as the infrastructure constructed to support socio-economic activities. With the Brundtland Commission Report and the 1992 Rio Principles, the integration of environmental exigencies into development planning and management was emphasised. For the purpose of this Chapter, environmental law is the ensemble of norms expressed in common law doctrines, civil law norms, constitutional provisions, treaty law, and general principles of law (otherwise called soft law), which seek to promote the rational management of the environment and its resources, to protect intra- and intergenerational equity.[1]

3 Development and Establishment of Environmental Law at African Universities

African countries have willingly demonstrated wide acceptance of environmental law. This is demonstrated by the wide range of treaties, soft law and hortatory instruments adopted since the demise of colonialism across the continent. Trends show that, as a group, African countries have been positively disposed towards accepting environmental law. This is demonstrated by the fact that nearly all African countries have enacted framework environmental laws of different levels of sophistication, beside the wide range of sectoral and functional laws. It is equally significant that more than 30 African countries have entrenched environmental provisions in national constitutions, elevating the environment to the highest legal order of the country.[2]

This is not the place for an appraisal of the implementation of treaties or the enforcement of constitutional and statutory provisions in African countries. This Chapter focuses on environmental law education and recent trends in the teaching and research of environmental law in Africa and Namibia.

On a global level, the first forum for the declaration of environmental principles was the Stockholm Conference on Human Environment in 1972. Principle 19 of this convention's declaration advised that environmental education be promoted in order to educate and conscientise both the youth and adults alike; the aim was to create environmental awareness and a sense that it needs to be guarded and protected. Principle 20 recommended research into and development of environmental issues and argued for the free flow of information.[3] Principle 9 of the 1992 Rio Declaration on Environment and Development urges countries to cooperate and to strengthen endogenous capacity-building for sustainable development with an emphasis on scientific and technological advancement.[4] But one would understand that to include legal regimes which provide either regulation and control, or facilitation of such

1 Sands (2003:3ff.).
2 See Okidi (2007).
3 Ibid.
4 Kiss / Shelton (2004:12 ff.).

scientific capacity building. Principle 10 advocates public participation and exhorts states to facilitate and encourage public awareness.

Agenda 21[5] is far more succinct on matters of environmental education. Chapter 36 addresses the promotion of environmental education, the importance of public awareness and training, while Chapter 37 addresses the establishment of national mechanisms and international cooperation for capacity-building in developing countries. Chapter 36 of Agenda 21 also acknowledges the contribution of the Intergovernmental Conference on Environmental Education organised by UNESCO and UNEP. The three programme areas discussed in this Chapter are: (a) re-orienting education towards sustainable development; (b) increasing public awareness; and (c) promoting training.[6]

With the assistance of the United Nations Environment Programme (UNEP) and the International Union for Conservation of Nature (IUCN) Academy of Environmental Law, the required capacity is evolving.

4 The United Nations Environment Programme (UNEP)

It is the mission of UNEP to provide leadership, and to encourage worldwide academic partnership in caring for the environment by inspiring, informing, and enabling nations and peoples to improve their quality of life, without compromising that of future generations. To kick-start such a process, UNEP sent invitations to 75 African universities to nominate scholars teaching any environmental subject to attend a workshop in Nairobi, Kenya. Forty universities sent delegates; 25 papers were presented. Of these, only one was on environmental law.[7] In 2004 UNEP again sent out invitations to African governments to nominate and delegate university lecturers of environmental law to attend a symposium at Nakuru, Kenya. Only 23 participants from as many countries attended and a total of 25 papers, including two from UNEP officers, were read.[8] Two years later, in 2006 the second UNEP Symposium New Horizons in Environmental Law, Natural Resources and Poverty Eradication was held in Entebbe, Uganda.[9] The Entebbe Symposium may be considered, to date, as the climax of the

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5 Agenda 21 is a comprehensive plan of action to be taken globally, nationally and locally by organisations of the United Nations System, Governments, and Major Groups in every area in which human impacts on the environment. Agenda 21, the Rio Declaration on Environment and Development, and the Statement of Principles for the Sustainable Management of Forests were adopted by more than 178 Governments at the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, 3 to 14 June 1992. Cf. http://www.un.org/esa/dsd/agenda21/; last accessed 19 November 2010.

6 Sands (2003:3ff.).

7 Okidi (1980:8 – 22).

8 Okidi (2007).

9 See http://www.unep.org/dpdl/Law/Calendar/PDF_docs/Proceedings_of_Second_Symposium_for_E-Law_Lecturers-(FINAL_DRAFT).pdf; last accessed 17 September 2009.

new initiatives to promote capacity building and scholarly exchange in environmental law in Africa.[10] Scholars did not only engage in the academic conference and the research discourse, interrogating the development of and application of environmental law to development. They also established the Association of Environmental Law Lecturers in African Universities (ASSELLAU) and formalised this with a permanent office with office-bearers, guided by a constitutive instrument for a learned society. They also established the African Journal of Environmental Law and Policy and a Database of Environmental Law. The aims and objectives of ASSELLAU are to

- promote environmental law teaching, research and contribute to sustainable development policies in Africa;
- constitute a think-tank for the identification of environmental problems of Africa and suggestion of solutions for environmental governance;
- generate material and disseminate research findings for the teaching of environmental law in Universities;
- facilitate exchange of information on legal developments and current trends in environmental management in African countries;
- canvass law- and policy-makers to implement and up-date legislation on environmental matters and also to integrate, as far as possible, public participation in law making;
- encourage and promote mainstreaming of environmental law in the teaching of other disciplines in university education;
- develop and promote curricula for professional institutions for the teaching of environmental law;
- source funding for common research projects in environmental law carried out within the framework of collaboration and cooperation amongst Universities in Africa; and
- encourage capacity building in environmental law and policy and exchange of scholars in universities.[11]

The capacity is evolving and will gain rapid and increasing competence so long as the resolutions at Nakuru and Entebbe are pursued. But even if the structures as proposed at Entebbe do not become vibrant, the momentum has been established and the experts who have been identified are expected to be on the global orbit of environmental law.

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10 Cf. Ruppel (2006).

11 See http://www.unep.org/dpdl/Law/Calendar/PDF_docs/Proceedings_of_Second_Symposium_for_E-Law_Lecturers-(FINAL_DRAFT).pdf; last accessed 16 September 2009.

Moreover, UNEP has paid much attention to the judiciary and to other legal stakeholders as a focal point for the promotion of environmental law at national level. Awareness was raised at the 2007 UNEP Symposium for Judges and Magistrates on Environmental Law in Namibia held in Swakopmund, where members of the judiciary were instructed on current environmental laws, procedures and practices to enhance the role of the judiciary in environmental management. Indeed,

> UNEP has thus started a Judges Programme, targeted at the more specific needs of judicial stakeholders. The initiative is based on the idea that the role of the Judiciary is fundamental in the promotion of compliance with and enforcement of international and national environmental law. It aims at promoting judiciary networking, sharing of legal information, and harmonisation of the approach to the implementation of global and regional instruments. Courts of Law of many countries have demonstrated sensitivity to promoting the rule of law in the field of sustainable development through their judgments and pronouncements, e.g. through applying international environmental law principles such as the polluter pays principle, the precautionary principle and the principle of intergenerational equity.[12]

The symposium was the first of its kind in Namibia.[13] In its quest, it sensitised judges and magistrates about current national and international issues pertaining to environmental rights and justice.[14]What transpired at the end of the symposium was that the judiciary can play an important role in interpreting existing legislation, while it takes into account recent developments and incorporating environmental concerns.

5 The International Union for Conservation of Nature (IUCN)

IUCN, the International Union for Conservation of Nature, helps the world to find practical solutions to the most pressing environmental and development challenges. The IUCN brings together 82 states, 111 government agencies, more than 800 non-governmental organisations (NGOs), and a number of universities and 10,000 scientists and experts from 181 countries.[15] IUCN supports scientific research; manages field projects all over the world; and pulls governments, NGOs, UN agencies, companies and local communities together, to develop and implement policy, laws and best practice.[16] IUCN was founded in 1948, and is the world's oldest and largest global environmental network.

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12 See http://www.unep.org/law/Programme_work/Judges_programme/index.asp; last accessed 8 February 2010.

13 The symposium was opened by Mr Simon Nhongo, the UN Resident Coordinator in Namibia; Dr Iwona Rummel-Bulska, the then UNEP's Principal Legal Officer and Chief of the Environmental Law Programme, and Namibia's Chief Justice Peter Shivute.

14 The author of this Chapter had the opportunity to give two presentations during the symposium.

15 http://cms.iucn.org/; last accessed 12 January 2010.

16 Ruppel / Bethune (2007).

In 2002, the IUCN Council unanimously approved the establishment of the IUCN Academy of Environmental Law at its 57th meeting in Gland, Switzerland. In 2006, the Secretariat of the Academy was established within the Faculty of Law of the University of Ottawa, Canada.[17]The IUCNAcademy's main focus is on research and teaching in environmental law. It pushes the development of collaborative research programs between member institutions. This involves collaborative and inter-disciplinary research on the operation and development of environmental law. This also includes conference and publication activities, designed to stimulate the exchange and dissemination of environmental law research. The Academy is promoting various activities to enhance teaching capacities in environmental legal education in universities and related institutions, such as the United Nations Environment Programme, focusing on developing countries and economies in transition. This involves the preparation of environmental law curricula, the offering of training-the-trainers programmes, the development of electronic teaching materials, on-line teaching, and other forms of web-based learning. Collaborative teaching involves ventures where the participating parties are on a relatively equal footing in terms of the intellectual inputs provided (though one may contribute the larger proportion of the material resources required). The Academy's role in relation to these types of collaborative exercises might be regarded as purely facilitative, in the sense that its objective is to serve as a catalyst or broker in relation to the development of such teaching arrangements. The Academy may also choose to involve itself in the promotion of teaching ventures where the objective is to meet a need for assistance in environmental law teaching that has arisen within a developing country or a country with an economy in transition. In this situation, the Academy may be called upon to perform a more proactive role with respect to the matters of curriculum development, mode of delivery and, possibly, funding. It could be possible to include local academics as participants in any courses delivered with a view to having them take over the teaching task subsequently. Local teachers also could be encouraged to deliver some limited teaching in these courses, as suited to their level of knowledge on the subject-matter; or alternatively, to lead student discussion groups within the courses.[18]

As of 2010, the following African Universities were accredited members of the IUCN Academy: University of Botswana; Addis Ababa University in Ethiopia; Makerere University in Kampala, Uganda; in South Africa the University of Cape Town, the University of Kwazulu-Natal in Scottsville, the North-West University in Potchefstroom, the University of Pretoria and the University of Witwatersrand, Johannesburg; Obafemi Awolowo University in Ile-Ife, Nigeria, the University of Nairobi, Kenya, Tumaini University, Tanzania and the University of Namibia.[19] Most recently the University of Stellenbosch, South Africa was accepted as a new member of IUCNAEL.

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17 http://www.iucnael.org/; last accessed 10 November 2010.

18 http://www.iucnael.org/index.php?option=com_content&view=article&id=23&Itemid=54&lang=en; last accessed 10 November 2010.

19 http://www.iucnael.org/index.php?option=com_sobi2&catid=3&Itemid=39&lang=en; last accessed 10 November 2010.

In 2010, the IUCNAcademy launched its new journal, the IUCN Academy of Environmental Law e-Journal. The first issue of the Journal was published in August 2010. The e-Journal is intended to keep members updated on recent environmental law and policy developments and debates in member jurisdictions; and to provide a forum for information exchange between members. The e-Journal also contains country reports to update the readers on recent developments in policy, law and case law emanating from the forty or so countries in which IUCNAEL member institutions are present. The country reports are intended to provide some critical reflection on these developments; to highlight possible new research agendas for IUCNAEL which emanate from these domestic developments; to facilitate information exchange and collaboration between scholars preparing and reading these reports; and to provide a platform for younger scholars to publish in the international arena. The first country report on Namibia was published in the first issue of the IUCN e-Journal.[20]

6 Today's Concepts of Environmental Law

Today environmental law is an accepted, autonomous academic subject, taught in universities all over the world. It is taught in many African universities as an optional or elective course and in some universities as a core or compulsory course. In the few years of its recognised existence as a specialised discipline of law, it has become popular and established as one of the courses that deal with the future of the human race through advocating sustainable management of the environment in order to sustain life on our planet. The teaching of environmental law has also revitalised an interest in natural resources law. It has encouraged a holistic approach to its teaching and research of environmental law out of appreciation of the inter-linkages with other subjects in law. Some of the components that form part of environmental law today were taught and are still taught in the law of torts (law of delict), administrative law, planning law, land and water law. It has been taught as part of public international law, more particularly in law of the sea, when aspects of the protection of the marine environment were at stake. Environmental law has slowly evolved in the last three decades, as a result of the realisation that problems of management of the environment and its protection currently constitute one of the main preoccupations of humanity. It is undisputed today that environmental problems are global and therefore interrelated. As such they require an international and concerted effort remedy and preventive measures for future occurrences. The growing realisation that environmental problems are of an international dimension, and that they transcend national boundaries, has been a catalyst in the development of international environmental law.

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20 http://www.iucnael.org/index.php?option=com_content&view=article&id=97&Itemid=75&lang=en; accessed 10 November 2010.

7 Teaching Environmental Law in Africa

Some African universities teach international environmental law as a course without dwelling on national environmental law. The latter is separately treated and offered as a subject on its own for LLB degree courses. However, in many universities international environmental law is taught only one part in the environmental law course. International environmental law covers such topics as state responsibility and environmental problems, trans-boundary pollution, ozone depletion, global climate change, biodiversity, movement of hazardous waste, marine environment and international trade and environment.

The enactment of framework environmental management legislation in Africa with provisions of general principles of environmental management such as polluter pays and precautionary principles has provided a comparative basis in the teaching of these principles, as they are applied at the international and the national level. This approach creates an inseparable link between international environmental law and national environmental law.

The teaching of international environmental law should also provide space to deal with regional and sub-regional environmental legal instruments in Africa. Various protocols or agreements relevant to sustainable environmental management have been created under regional African organisations or groupings such as the Southern Africa Development Community (SADC) and others. For instance, Article 5 of the SADC Treaty contains the objectives of the SADC, namely to promote sustainable and equitable economic growth and socio-economic development and to achieve sustainable utilisation of natural resources and effective protection of the environment.The diversity of approaches in the contents and the teaching of environmental law in African universities are also influenced by the different legal cultures in Africa.

Making environmental law a compulsory course enables students to appreciate the enormity of environmental problems at the global, regional and national level and the role of law in the sustainable utilisation of natural resources and environmental management. This will facilitate the coming into being of a critical mass of lawyers who are conversant with environmental law; it will also increase the number of judges, magistrates, prosecutors, legal practitioners and councillors, able to understand sustainable development.

Several universities in Africa offer LLM programmes and other post-graduate diplomas in environmental law. Some of the universities offering such programmes in Africa are the University of Cape Town (South Africa) and the University of Nairobi (Kenya). The University of Nairobi[21] offers an LLM in Environmental and Natural Resources Law which covers the following:

- Law on trans-boundary Natural Resources;
- The Marine Environment and the Law;

21 http://www.uonbi.ac.ke/faculties/; last accessed January 2009.

- Natural Resources Law;
- Law and Pollution Control;
- Physical Planning and Development Law;
- International Environmental Law;
- Public Property and the Public Trust Doctrine;
- Legal Regulation of Power and Energy Sectors; and
- International Maritime Law.

The University of Cape Town also offers an LLM, co-ordinated by the School for Advanced Legal Studies under the Faculty of Law.[22] Six courses on various aspects of marine and environmental law were on offer at the time this paper was researched. These courses include:

- Environmental Law;
- International Environmental Law;
- International Law of the Sea;
- Coastal Zone Law;
- Marine Resources Law; and
- Marine Pollution Law.

The University of Stellenbosch in 2011 offers a new module on Aspects of Environmental Law in its general LLM Programme.[23] This module will provide an overview of and insight into the relatively new and fast developing legal discipline of environmental law, both from an international law as well as from a South African domestic law perspective. It will be set against the backdrop of both global and local environmental challenges, including climate change, water scarcity and deteriorating water quality, loss of biodiversity, waste management and pollution control. As such the course will cover principles and sources of international environmental law including select conventions such as the UN Framework Climate Change Convention, the Kyoto Protocol, the Shared Water Courses Convention and the SADC Water Protocol, the Convention on Biodiversity, the Convention on Trans-boundary Movement of Hazardous Waste and others. South African aspects will include environmental rights in the Bill of Rights, the National Environmental Management Act (NEMA) including environmental assessment law, natural resources laws (protected areas, forests, trees, plants and marine fisheries) as well as waste management and pollution control laws.

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22 http://www.advancedlaw.uct.ac.za/; last accessed January 2009.

23 The author of this Chapter is the co-convener of this module. Prominent co-lecturers are Professors Jan Glazewski and Andre Rabie.

8 Environmental Law Research in Africa

Research in African universities has been plagued by a myriad of problems, many derived from a lack of adequate financial resources. Another reason has been the fact that there is a shortage of lecturers, forcing those already engaged to shoulder an unusual heavy load of teaching and therefore denying them time for research. Research-wise, African universities still need to deliberate on a research agenda. Such research agenda, among other things, needs to identify areas of research, modalities of research partnership and funding. It is important that the research is demand driven, concentrating on basic and applied research programmes that are critical for environmental management. Critical to any research activity is the publication and dissemination of the findings. The 2010 establishment of the IUCN e-Journal provides African environmental lawyers with a forum to share their findings and to disseminate literature for students and researchers.

The South African Association of Environmental Law (ELA) follows the objective to promote and assist in the development and application of environmental law in southern Africa. The organisation attracts members from different environmentally-relevant disciplines. ELA is therefore an ideal forum for networking and the sharing of information and knowledge in the field of environmental law. The organisation endeavours to keep up with the needs of its members and is therefore open to suggestions and recommendations on the type of assistance that the organisation could offer to its members and to others. The organisation is operated by a Secretariat (hosted at the Faculty of Law of the North-WestUniversity - Potchefstroom Campus) and an Executive Committee with representatives from different regions in South Africa and a number of ad hoc members.[24] ELA also publishes the South African Journal of Environmental Law and Policy.

8.1 The University of Namibia (UNAM) and the Environment

In 2008 the UN Resident Coordinator and UNDP Resident Representative in Namibia, Mr. Simon Nhongo complimented the University of Namibia for "providing leadership in the progression toward climate change and environmental sustainability". He said the university's environmental initiatives such as solar heaters in the hostels, and the use of airplays (non-fuel consuming vehicles) on its campus were a manifestation of the university's commitment to fight climate change. Speaking at the same occasion, UNAM Vice Chancellor Prof Lazarus Hangula said climate change was high on the university's agenda, adding that it has been incorporated in many relevant courses run by the various faculties of the university.

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24 http://www.elasa.co.za/about.html; last accessed 10 November 2010.

> These include undergraduate courses in the Department of Biology such as Ecosystem Ecology, Conservation Biology, Management of Natural Resources and in the Department of Geography and Environmental Sciences such as Climatology and Environmental Studies just to cite a few examples. Our Law students also learn international and national Environmental Law, as part of a year-long course. At postgraduate level, the MSc. in Biodiversity Management and Research Programme in the Biology Department has a module on International Conventions and Environmental Legislation and their Applications.[25]

In addition to that, the University has been hosting the Zero Emission Research Initiative (ZERI). ZERI activities cover eight African countries Lesotho, Malawi, Senegal, Swaziland, Tanzania, the Gambia, Zambia and Namibia.[26]

8.2 The Faculty of Law at UNAM

Shortly after Independence, the University of Namibia (UNAM) was established by an Act of Parliament on August 31, 1992 as recommended by the Commission on Higher Education. With regard to its motto "Education, Service and Development", the University's programmes are designed to meet national human resource requirements through quality teaching, research, consultancy and community service. The provision of facilities for legal education was one of the more important recommendations in the Turner Report (Higher Education in Namibia: Report of a Presidential Commission, Windhoek 1991), which stated, inter alia:

> We have been impressed by the argument that in Namibia, law is a developmental subject; much of the current legal system was distorted by the tenets of apartheid. Although the ideology is now outlawed by the Constitution, a massive effort is needed to revise the legal system to make it a suitable expression of the Constitution.[27]

On 19 November 1991, the Cabinet of the Republic of Namibia approved the establishment of the Faculty of Law at UNAM. The year 1992 became the year of planning; the year 1993 the year of implementation. The Law Faculty Sub-Committee of the Office of the Vice Chancellor - Designate was put in place. It was chaired by the Founding Dean of the Faculty, Prof. Walter J Kamba. The late Advocate Kozonguizi, then the Ombudsman, served as its convener. The membership came from a wide spectrum, with representatives from all sectors of the legal fraternity. The deliberations of the Sub-Committee led to a comprehensive report on how the future faculty should be shaped. After consultations with national and international experts, the report was eventually submitted to the Vice Chancellor of UNAM and approved for implementation by the University by the end of 1992. The Faculty of Law was officially inaugurated by the Chancellor of the UNAM, H.E. President Dr. Sam Nujoma, on 18 February 1994. The Faculty admitted its first students in 1994.[28] The departments of Public Law and

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25 http://www.unam.na; last accessed 8 February 2009.

26 Ibid.

27 Turner Report.

28 2008 the Faculty of Law had a total of 483 students. Until today the numbers are growing constantly.

Jurisprudence, Private and Procedural Law, and Commercial Law were established in 2000. Today the Faculty of Law holds the generic responsibility in Namibia for academic and professional legal training for the B Juris and LLB degrees, professional qualifications for admission as legal practitioner, human rights and capacity building.

8.3 Teaching Environmental Law at UNAM

The Faculty of Law of UNAM holds the generic responsibility for academic and professional legal training for the B Juris and LLB degrees, professional qualifications for admission as legal practitioner and capacity building. The faculty serves as a national and regional resource centre for research, identifying the relationships between Namibian law and other elements in society within the overall objective of playing a meaningful role in the development and adaptation of the law to the rapidly changing socio-economic conditions in the country, and in Southern Africa. The curriculum for the LLB degree offers environmental law as a year-long compulsory module, taught in two hours per week lectures. With this course the Faculty of Law covers, inter alia, the wide areas of environmental and sustainable development; nature and concepts of (international) environmental law; policy and regulation issues; environmental protection and management etc. According to the faculty prospectus, this environmental law module covers, amongst others:

- Concept and Scope of the Environment and its law;
- Foundations and Functions of International Environmental Law;
- Sources of international and national Environmental Law;
- International institutions;
- Principles of International Environmental Law;
- Compliance and dispute settlement;
- Criminal aspects of Environmental Law;
- Sectoral and trans-sectoral regulation (national and international).

Upon completion of the module, students should be able to:

- Demonstrate an understanding in a system of complex and interlocking statutes, common law, treaties and conventions, regulations and policies;
- Employ skills that seek to protect the natural environment through management, conservation and sustainable development;
- Know the national legislation concerned with environmental protection and civil and criminal liability;
- Compare and contrast the setup of international organisations that are concerned with environmental protection.

8.3.1 Regional Trade Policy Course – Trade and Environment

In cooperation with the World Trade Organisation (WTO) the University of Namibia was the host to three rounds of the Regional Trade and Policy Course (RTPC) in 2005, 2006 and 2007. During these RTPCs, government officials from more than 25 African countries had the chance to receive training in International Trade Policy over the past three years at UNAM (and before over the years 2002 – 2004 in Nairobi). The courses were co-delivered by officials from the WTO Secretariat and academics and trade policy specialists from the region. From 2009 the RTPC is held at the University of Swaziland for the next three years. In the RTPC module Trade and Environment the lectures emphasise the interface between trade and environment and pertinent case law (US Gasoline, Shrimp Turtle etc.). It examines the role that environmental standards play in trade round negotiations, discusses issues like environmental goods, eco-labelling etc.

Environmental provisions under the WTO are limited to the adoption of product-related measures as "necessary to protect human, animal or plant life or health," or "relating to the conservation of exhaustible natural resources." What was seriously discussed in the module Trade and Environment is that

> afailure of the Doha Trade negotiations would strengthen the hand of all those who argue that economic growth should proceed unchecked, meaning that economic growth is supreme and need not take account of the environment. Trade, and indeed the WTO, must be made to deliver sustainable development.29

8.3.2 Environmental Law in the Masters Course Biodiversity Management and Research

The Masters Course Biodiversity Management and Research is an interdisciplinary, international 2-year-course which, offered by the HumboldtUniversity in Berlin (HU) and the University of Namibia (UNAM). The course is subdivided into a one-year, taught course and a one-year practical course during which the students have to conduct their own research projects. Successful participants of the course obtain the degree Master of Science (MSc.). The master's course deals with the basics of life in southern Africa with special reference to the natural-spatial circumstances and to the biological diversity in relation to changes in the ecosystem through human impact. The aim of the course is to impart students with knowledge of the ecological function and importance of biodiversity. The student is expected to learn scientific methods and techniques related to their research project in order to individually design, implement and assess approaches to solve scientific problems and questions. The course contributes to the increase of the often criticised small number of local experts and, with a certain number of international lecturers, to a wide range of different views and approaches towards scientific questions. Furthermore, the co-operation with experts in Germany and southern Africa established a connection to contemporary science of current

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29 WTO Director-General Pascal Lamy, in an address to the UNEP Global Ministerial Environment Forum in Nairobi on 5 February 2007.

interest, which is very important for the second year (research project) of the course. A law module is prescribed for the MSc. The aim of this law module is to give an overview of international environmental legislation as well as domestic environmental law. The module emphasises environmental treaties, their drafting, negotiations, conclusion and regimes. Principles and problems of Biodiversity protection through law are discussed critically in the light of conservation of land resources, conservation treaties (land), species protection and the Convention on International Trade in Endangered Species (CITES). Matters relating to the implementation, human rights and trade related problems are highlighted. The Biodiversity Convention (CBD), desertification and wetlands are as important as conservation of marine resources, fishing, oil pollution, UNCLOS, regional treaties, liability approach. Biodiversity and intellectual property is to be viewed in the light of genetic resources and traditional knowledge, the WIPO and WTO regimes. TRIPS, GMOs, the Cartagena Protocol on Biosafety, the developments of climate change and its effects on biodiversity are legally discussed within the relevant national legal framework and international conventions and protocols. A comparison of environmental law and policy in Namibia, SADC, the EU and Germany is part of this course.

9 Concluding Remarks

Environmental law education and the recent trends in research and teaching of environmental law in Africa and Namibia are in line with the Rio Declaration on Environment and Development which urges governments to cooperate to strengthen endogenous capacity-building for sustainable development with an emphasis on scientific and technological advancement. With the assistance of UNEP and IUCN the capacity in environmental law in Africa is already evolving and with the efforts of the universities it will gain increasing competence.

Numerous research projects at UNAM during the past years focussed on issues related to climate change and poverty, the exploitation of natural resources, mining and nuclear energy, the interrelationship of international trade, globalisation and foreign investment, to name but a few.

It is hoped that the University of Namibia, more specifically its Faculty of Law, will continue to emphasise high standards in teaching and research of environmental law in future. After all, environmental law research at UNAM emanated not only ina number of LLB and LLM dissertations[30] but also produced books, articles and international conference contributions, which are all reflected in this book publication.

[30] Cf. *inter alia* Alberts (2010); Ambunda (2010); Anyolo (2010); Groenewaldt (2008); Kasper (2010); Mapaure (2010a); Mayumbelo (2006); Mungunda (2010); Namwoonde (2010); Petrus (2008); Savage (2008); Shipila (2010); Takaendesa (2010).

Chapter 13

THE OMBUDSMAN AND THE ENVIRONMENT

Katharina Ruppel-Schlichting

In 1982, the United Nations General Assembly requested the Lusaka-based United Nations Institute for Namibia (UNIN), to prepare a comprehensive document on all aspects of socio-economic reconstruction and development planning for an independent Namibia.[1] This document recommended the creation of an institution based on the model of the Ombudsman, which has its origin in Sweden.[2] At the beginning of the nineteenth century, the Swedish Parliamentary Ombudsman was instituted to safeguard the rights of citizens through a supervisory agency independent of the Executive. The tasks of Ombudsmen- making government accountable – have meanwhile been developed to a sophisticated level. Today, such institutions have been adopted in many countries all over the world and in many countries of southern Africa.[3] In some countries there have also been developments of Ombudsman schemes in the private sector. Within the Southern African Development Community (SADC), all member states have institutions that keep an eye on the proper execution of power and the protection of human rights, even though not all these countries use the term Ombudsman.[4]

Usually, the Ombudsman is established per constitutional stipulation as an official, appointed by Government or Parliament. This official is charged with representing the interests of the public by investigating and addressing complaints reported by individual citizens. The major advantage of an Ombudsman is that he/she examines complaints independently of those state institutions that are charged with irregular conduct. In Namibia, the Office of the

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1 UNIN (1986). UNIN was established in 1976 by the United Nations Council for Namibia. The document was prepared in cooperation with the South West Africa People's Organisation (SWAPO), the Office of the United Nations Commissioner for Namibia and the United Nations Development Programme.

2 UNIN (1986:970).

3 Cf. Kasuto / Wehmhörner (1996).

4 Ombudsmen are established in Angola, Botswana, Lesotho, Malawi, Swaziland, Zambia, Zimbabwe, Namibia, Mauritius, and the Seychelles. In Mozambique, the institution of an Ombudsman was established by constitutional amendment in 2005, which is in the process of being realised. In Tanzania similar functions to those typically held by an Ombudsman are performed by the Permanent Commission of Enquiry. In South Africa, the title Ombudsman was changed to 'Protector-General', Madagascar has established an institution of a public protector (*Défenseur du Peuple*) and the Democratic Republic of Congo constitutionally provides for five institutions to support democracy, including the National Observatory for Human Rights. (*L'Observatoire National des Droits de l'Homme*) as well as a Commission for Ethics and Anti-corruption (*La Commission de l'éthique et de la lutte contre la corruption*).

Ombudsmanwas constitutionally established, at Namibian Independence on 21 March 1990. Since then, two Acting Ombudsmen, one Deputy Ombudsman, two Ombudsmen and one Ombudswoman have been at the helm of the Office.[5]

1 Legal Foundations

The intention behind this institution – the Ombudsman – is to protect and maintain the respect of the state for the rights of the individual citizen, to promote the rule of law, and to promote and advance democracy and good governance.[6] The Namibian Bill of Rights in Chapter 3 of the Constitution contains a provision dealing with the enforcement of fundamental human rights and freedoms. Article 25(2), reads as follows:

> Aggrieved persons who claim that a fundamental right or freedom guaranteed by this Constitution has been infringed or threatened shall be entitled to approach a competent Court to enforce or protect such a right or freedom, and may approach the Ombudsman to provide them with such legal assistance or advice as they require, and the Ombudsman shall have the discretion in response thereto to provide such legal or other assistance as he or she may consider expedient.

However, the really relevant legal provisions with regard to the Ombudsman are to be found in Chapter 10 of the Namibian Constitution as well as in the Ombudsman Act[7]. They include provisions on the establishment and on his/her political independence; appointment and term of office; functions and powers of investigation, amongst others.

According to Article 91 of the Constitution, the mandate of the Ombudsman in Namibia relates to three widely-defined categories:[8] human rights, administrative practices, and the environment. Moreover, the Ombudsman contributes proactively towards education and development.[9] Before the Namibian Constitution Second Amendment Act[10] came into force, the Ombudsman's mandate also included the fight against corruption. However, with the

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5 The Office, currently headed by Ombudsman John Walters, just celebrated its 20th anniversary.

6 Kasuto / Wehmhörner (1996:118).

7 No. 7 of 1990.

8 For more details on the mandates of the Ombudsman see Ruppel / Ruppel-Schlichting (2010).

9 The Office of the Ombudsman provides for outreach programmes and specific human rights education, in order to enhance public education. These programmes are carried out in collaboration with NGOs, community leaders, local authorities, etc. The Office of the Ombudsman has also conducted several awareness campaigns, and continues to do so. Such campaigns take the form of public lectures, community meetings, or the distribution of newsletters and brochures, to name but a few. Furthermore, during April 2006, in collaboration with NGOs, civil society organisations and the Council of Churches in Namibia, the Ombudsman established the Ombudsman Human Rights Advisory Committee. The latter Committee consists of 20 members of the afore-mentioned institutions, who together create a forum for dialogue on all aspects of human rights. For more detail on specific awareness campaigns undertaken by the Office of the Ombudsman, see Walters (2008:122f.).

10 No. 7 of 2010.

amendment, the word corruption was removed from the list of functions of the Ombudsman in Article 91 in order to avoid a duplication of functions between the Office of the Ombudsman and the Anti-Corruption Commission of Namibia, which was established by the Anti-Corruption Act[11], and inaugurated in early 2006. Thus, corruption-related complaints are now to be followed-up by the Anti-Corruption Commission (ACC).

Generally speaking, the Ombudsman in Namibia investigates complaints concerning violations of fundamental rights and freedoms, and about the administration of all branches of Government. Violations are rectified by attempting a compromise between the parties concerned, or by bringing the matter to the attention of the authorities, by referring the matter to the courts or by seeking judicial review.

2 Basic Characteristics of the Ombudsman in Namibia

To ensure that citizens have an avenue, open to report complaints, free of red tape, and free of political interference, the Namibian Ombudsman is politically independent, impartial, fair, and acting confidential in terms of the investigation process.[12]Negotiation and compromise between the parties concerned are the main objective when handling complaints.[13]

Different acts or non-actions can give rise to complaints under the competence of the Ombudsman. They include the failure to carry out legislative intent, unreasonable delay, administrative errors, abuse of discretion, lack of courtesy, oppression, oversight, negligence, inadequate investigation, unfair policy, partiality, failure to communicate, maladministration, unfairness, unreasonableness, arbitrariness, inefficiency, violation of law or regulations, abuse of authority, discrimination, and all other acts of injustice.

Complaints may be submitted to the Office of the Ombudsman by any person, free of charge and without specific formal requirements. The Office of the Ombudsman cannot investigate complaints regarding court decisions, however. Neither can the Office assist complainants financially or represent a complainant in criminal or civil proceedings. Authorities that may be complained about include government institutions,[14] parastatals,[15] local authorities and – in the case of the violation of human rights or freedoms – private institutions and persons.[16] In 2009, complaints were brought against several Ministries, the Namibian Police, Prison Service,

11 No. 8 of 2003.

12 Tjitendero (1996:10). As to the characteristics of a classical Ombudsman in general see Gottehrer / Hostina (1998).

13 Article 91(e) of the Constitution and Section 5(1) of the Act.

14 Including Ministries, the National Assembly, the National Planning Commission, and the Attorney-General.

15 Including NamPower, Telecom, NamWater, NamPost, and the Namibian Broadcasting Corporation.

16 Gawanas (2002:104).

and others.[17] A statistical analysis of cases taken up by the Ombudsman's office during the period 2007–2009 shows, that among those objections against government institutions, around 65% were directed against the Ministry of Justice and the Namibian Police, and about prison-related matters.[18]

In order to effectively fulfil his or her functions, the Ombudsman has to be impartial, fair, and independent. Independence is probably the most fundamental and indispensable value for the successful functioning of the Ombudsman's Office.[19] This is emphasised in Article 89 of the Constitution, which explicitly provides that "[T]he Ombudsman shall be independent and subject only to this Constitution and the law" and that

> [N]o member of the Cabinet or the Legislature or any other person shall interfere with the Ombudsman in the exercise of his or her functions and all organs of the State shall accord such assistance as may be needed for the protection of the independence, dignity and effectiveness of the Ombudsman.

The underlying rationale for independence is that an Ombudsman has to be able to conduct fair and impartial investigations, be credible to both, complainants and the authorities that may be reviewed by the Office of the Ombudsman.[20] There are several factors, which, taken as a whole, serve to secure the independence of the institution. These factors are related to the positioning of the institution within the legal framework; the method of appointing and removing an incumbent from office; accountability; funding and personnel issues; enforcement mechanisms, and the investigation process.[21]

In terms of functional and political autonomy, it is essential that the Ombudsman is independent of the institutions or organisations he/she reviews.[22] If this were not the case, there would be an increased risk of serving the interests of the reviewed organisation, and complaints would not be dealt with in an impartial manner based on examination and analysis of the facts and the law. Provision for the independence of the Ombudsman from the organisations s/he reviews is made in Article 89(2) of the Constitution. Legislative control is only permissible by way of the Ombudsman's appointment, reappointment or removal from office, with strict preconditions attached to the latter and as regulated by Article 94.

In Namibia, the establishment of the Office of the Ombudsman rests on two pillars. The first of these, the legal authority, is found in the Constitution. Yet, the Constitution also authorises the

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17 Office of the Ombudsman (2010:29ff.).

18 Ibid:29.

19 See Ruppel-Schlichting (2008:277).

20 UNDP (2006:12).

21 Ruppel-Schlichting (2008:277).

22 An example of the independence of the Ombudsman in Namibia is associated with a Government directive that prohibits offices, ministries and agencies to advertise in one specific newspaper. The Ombudsman, however, does not follow this directive, demonstrating his independence. To reach the public, the Ombudsman considers it necessary to approach the public in all newspapers. Interview with Ombudsman J Walters with OC Ruppel, 12 August 2008. See also Blaauw (2009:18).

legislative body to enact statutory law to amplify the Ombudsman's powers and responsibilities. This law has duly taken the form of the Ombudsman Act. By integrating the institution of the Ombudsman into the Constitution, which is the supreme law of the land,[23] the permanence and authority of the institution is underlined – since any constitutional amendment is subject to strict conditions. This creates stability for the office, and lends credibility to itin terms of public perception. Thus, the Ombudsman is free to investigate cases without fear that the office's activities will be hampered by political considerations, that it will easily be closed down or restricted in its tasks.

The Ombudsman is appointed by the President on the recommendation of the Judicial Service Commission.[24] The latter consists of the Chief Justice, a judge appointed by the President, the Attorney-General, and two members of the legal profession.[25] The appointment process is initiated by the Judicial Service Commission's recommendation and followed by the formal act of proclamation by the President. The two-stage appointment process intends to make sure that the Ombudsman is independent of any agency. Were the Ombudsperson not independent of the agency being reviewed, he/she could be subject to pressures that would reduce the credibility of the institution. All appointments of Ombudsmen to date have observed this constitutional two-stage appointment process.[26] With regard to the appointment of an acting or deputy Ombudsman, respective provisions are contained in the Ombudsman Act.[27] Strict selection criteria in terms of personal qualifications are applied to warrant that the Ombudsman is not subject to further control:

> The Ombudsman shall either be a Judge of Namibia, or a person possessing the legal qualifications which should entitle him or her to practise in all the Courts of Namibia.[28]

The Ombudsman enjoys a fixed, long term of office – which is another way of securing independence from actual political developments. Article 90(2) of the Constitution provides that the Ombudsman holds office until the age of 65. However, the retiring age may be extended by the President to the age of 70. No further provision is contained in the Act as to the term of office, which implies that, regardless of the age at the time of appointment, the Ombudsman theoretically holds office until the age of 65 or 70, respectively. The Ombudsman Act, however, states that the appointment of the Ombudsman is required to be in accordance with such terms and conditions as the President may determine. Many legal systems providing for the establishment of the institution of Ombudsman have a time restriction on the term of office, combined with the possibility of an extension. Especially in the light of the independence of the institution, a long, fixed term of office, subject to a time limit with the option of

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23 Article 1(6), Namibian Constitution.

24 Article 90(1), Namibian Constitution.

25 Article 85(1), Namibian Constitution.

26 So far, three Ombudsmen have taken office: the late Fanuel J Kozonguizi in 1992, Bience Gawanas in 1996, and John Walters in 2004.

27 Section 2.

28 Article 89(4), Namibian Constitution.

reappointment or extension seems to be relatively more acceptable, than an indefinite term of office. However, experience has shown that the possibility of one person holding the office for decades remains theoretical. Before the expiry of the Ombudsman's term of office, the Ombudsman can only be removed from his office subject to the tight requirements of Article 94 of the Constitution. The President, acting on the recommendation of the Judicial Service Commission, is empowered to remove the Ombudsman from office only for specified causes, e.g. incapacity, or gross misconduct. This guarantees that the Ombudsman will not be removed for political reasons or just because the results of investigations have offended those in political power in the legislative body.

Following the principle of immunity from liability and criminal prosecution that is granted to heads of state, it is considered appropriate to grant immunity to an Ombudsman for acts performed under the law. The Southern African Conference for the Institution of the Ombudsman in its resolutions and recommendations provides that

> [t]he Ombudsman and members of his/her staff should not be personally liable for anything that they do in the due course of their duties, provided that liability be attached to the Institution for the Ombudsman and his/her staff for wilfully committing or omitting anything in bad faith.[29]

Namibia's Ombudsman Act provides for a limitation of liability in respect of anything done in good faith under any provision of the Act.[30] This applies to the Ombudsman[31] as well as to his/her deputy and other office staff. According to Section 2(4) of the Ombudsman Act, the Ombudsman is not permitted to perform remunerative work outside his or her official duties without the permission of the President.

3 The Environmental Mandate of the Ombudsman

Besides the Ombudsman's mandates on human rights and maladministration, the environmental mandate is of specific importance with regard to the legal implications of environmental concerns in Namibia. This mandate, according to Article 91(c) of the Constitution, inter alia, relates to the over-utilisation of natural resources, the protection of ecosystems, and to the maintenance of the beauty and character of Namibia.

The power to investigate complaints concerning environmental issues contains unique provisions, which go beyond the traditional powers and functions of an Ombudsman institution. The environmental mandate of the Ombudsman is a progressive and innovative step towards environmental protection which may have model rule character. However, the provision could be given a more vital role within the Ombudsman's activities. Two major points may by listed for

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29 The Conference was held in November 1995 in Swakopmund, Namibia. For the resolutions and recommendations, see Kasuto / Wehmhörner (1996:6).

30 Section 11 of the Ombudsman Act.

31 The Ombudsman holds a diplomatic passport *ex officio*.

the fact that the Office of the Ombudsman to date is not dealing with many complaints under the environmental mandate: On the one hand, the imbalance can be traced back to the nature of topics/complaints, with some occurring more frequently than others; on the other hand, despite the fact, that the Office of the Ombudsman endeavours to raise publicity for the institution and to take the office to the grassroots level,[32] the awareness of the potential of the Ombudsman in environmental matters is very low. Many people are still unaware of the availability of the institution in environmental matters.[33] The lack of sufficient specifically trained staff[34] and financial resources as well as the heavy work load are further challenges for the Ombudsman's activities in environmental matters. Nevertheless, the Ombudsman's environmental mandate is a progressive step towards environmental protection in Namibia and it is hoped that because of the multi-functionality of the Office this mandate can be invested with the much-deserved and needed importance in future.

Although the categories of maladministration and violation of human rights play the most vital role in the work of the Office of the Ombudsman,[35] environmental concerns deserve equal attention. The imbalance as to complaints by specific mandates can clearly be pointed out when consulting relevant data of the recent years.[36] In 2009, a total of 1 608 complaints were received by the Office of the Ombudsman. A statistical analysis of complaints according to the Ombudsman's mandates shows that 1 064 of these complaints related to maladministration, 165 to human rights violations, 30 to corruption, and only 6 referred to environmental matters. The remaining 343 complaints covered miscellaneous issues.[37] In 2008, a total of 1 542 complaints were brought to the Office of the Ombudsman, of which 872 related to maladministration, 138 to human rights violations, 35 to corruption, and only 3 referred to environmental matters. The remaining 494 complaints covered miscellaneous issues.[38] The

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32 Tours all over the country are recurrently undertaken by the Office of the Ombudsman to expose the office to the population and to enhance publicity; alongside the main Office of the Ombudsman in Windhoek, the institution maintains branches in Keetmanshoop and Oshakati.

33 Many cases of environmental concern do, regrettably, still not find their way to the Ombudsman Office. The case of the Epupa dam might serve as a prominent example. In this case, a hydropower scheme was proposed by NamPower (the Namibian parastatal for the bulk supply of electrical power) for the lower KuneneRiver in north-western Namibia. The case drew local and international attention, when the Himba community opposed the project in 1998. However, in this case, it was not the Office of the Ombudsman that was approached with a complaint by the communities' Chief. For further reference see Daniels (2003:52).

34 However, several training measures on environmental issues, such as workshops on environmental law in Namibia, have been performed recently in order to train staff of the Office of the Ombudsman in environmental matters. Further projects of this kind are on the Ombudsman's agenda in the near future.

35 Walters (2008:121ff.).

36 Cf. Office of the Ombudsman (2006, 2007, 2008, 2009 and 2010).

37 Office of the Ombudsman (2010:27).

38 Office of the Ombudsman (2009:18).

respective statistics for 2007 present a similar picture.[39] The few investigations on environmental issues in 2009 touched on waste disposal at the Windhoek Central Prison, and the oxidation pond system and the management of the solid waste disposal side in Okahandja.[40] In an earlier case in relation to a Malaysian textile company, Ramatex, which allegedly had failed to maintain sound environmental practices and contaminated some soil and groundwater in Windhoek, a complaint was brought to the Office of the Ombudsman by Earthlife Namibia, an environmental NGO.[41] But still, many cases of environmental concern do - regrettably - not find their way to the Ombudsman's Office.

The Namibian Constitution, as well as a multitude of statutory enactments and policies underlines the importance of environmental matters and the Ombudsman is endowed with the constitutional power, to play a significant role within the wide field of environmental protection.

4 Investigation, Enforcement and Reporting Procedures

Section 4 (a) of the Ombudsman Act provides that

> [W]hen the Ombudsman performs his or her duties and functions in terms of the Act the Ombudsman may in his or her discretion determine the nature and extent of any inquiry or investigation.

The investigative powers and procedures are described in Article 92 of the Constitution and Section 4 of the Act:[42] The Ombudsman may determine the nature and extent of any inquiry or investigation and has

> …the right to enter at any time…any building or premises…, except any building or premises or any part thereof used as a private home, and to make such enquiries therein or thereon, and put such questions to any person employed thereon…in connection with the matter in question….

Usually, the investigation process is started by a complaint brought before the Ombudsman by an individual. In this context, and with regard to the Ombudsman's independence, consideration needs to be given to whether the Ombudsman, apart from conducting an investigation on the basis of a complaint, may also conduct own-motion investigations. Such competence would indeed contribute to the independence of the Ombudsman in that he/she would not be tied down by incoming complaints only. Own-motion investigations can also be appropriate in cases where the persons affected are unable to make a complaint themselves, e.g. if affected persons would endanger themselves by submitting a complaint.[43]

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39 Office of the Ombudsman (2008).

40 Office of the Ombudsman (2010:20ff.).

41 See in this regard Ruppel (2008b:116ff.). Earthlife Namibiais described further down.

42 As to the adequacy of powers given to the institution, see Gawanas (2002:105).

43 UNDP (2006:25).

Although neither the Constitution nor the Ombudsman Act contains an explicit provision allowing the Ombudsman to conduct an investigation without having received a complaint, the Ombudsman may decide to undertake an own-motion investigation if such investigation is about issues and authorities that would be within the institution's competence if they had been brought by a complainant.[44] Own-motion investigations are acceptable and are indeed being conducted.[45]After having received a complaint, and after having decided on the question of jurisdiction, and whether to investigate, investigations are undertaken through fact-finding by collecting all necessary information with the goal to resolve complaints where possible and to achieve a remedy for the complainant and/or a restoration of rights that have been violated. In case the Ombudsman is of the opinion that any instance investigated by him or her can be rectified or remedied in any lawful manner, he or she gives notification of his or her findings and the manner in which the matter can, in his or her opinion, be rectified or remedied.[46]

Although the Ombudsman obviously has to adhere to the provisions of the Constitution and the Ombudsman Act, strict rules of procedure such as those that apply to court proceedings do not have to be applied by the Ombudsman. Instead, the Ombudsman uses his/her discretion to generate a speedy and informal resolution by applying techniques such as negotiation and compromise.[47] The powers of investigation described in Article 92 of the Constitution and Section 4 of the Ombudsman Act warrant self-determined investigation procedures.[48]

The Ombudsman, furthermore, has the right to access all documents relevant to the investigation, as well as the right to seize anything that he/she deems necessary in connection with the investigations.[49] The investigative powers of the Ombudsman also imply the right to require any person to appear before him/her in relation to a specific inquiry or investigation. Individuals may be compelled to appear and give testimony, or to produce information determined to be relevant to the investigation. In this regard, the Ombudsman even has the right to issue subpoenas.[50] These far-reaching powers of investigation and their anchorage in the afore-mentioned legal instruments emphasise the basic approach that the Ombudsman is empowered to conduct investigations without being dependent on any other body. However, litigation might become necessary to enforce the powers granted to the Ombudsman by the Constitution and the Ombudsman Act.

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44 For further reference see Ruppel-Schlichting (2008:283).

45 The recent investigation with regard to waste disposal at Windhoek Central Prison was initiated on the Ombudsman's own motion in the course of a routine visit at the prison; see Office of the Ombudsman (2010:20). Especially in cases of human rights violations, own-motion investigations have repeatedly been conducted.

46 Section 5(1)(b) of the Act.

47 Article 91(e)(aa), Namibian Constitution.

48 As to the adequacy of powers given to the institution, see Gawanas (2002:105).

49 Section 4(1)(b), Ombudsman Act.

50 Article 92(a), Namibian Constitution.

The investigation generally ends once the Ombudsman is satisfied that it has yielded all the relevant facts. As soon as the investigation process is completed, the Ombudsman notifies the person who laid the matter before him or her, and takes appropriate action or steps to call for or require the remedying, correction and reversal of matters such as: negotiation and compromise between the parties concerned; reporting the findings to the superior of an offending person; referring the matter to the Prosecutor-General or to the Auditor-General or both, or bringing proceedings in a court.[51]

The Ombudsman may in general not make binding orders. It could be argued that without such power, the Ombudsman cannot protect the rights under his or her mandate efficiently and the lack of such power might be interpreted as a weakness of the Ombudsman institution. On the other hand, the Ombudsman has extensive powers to inquire and investigate. If the Ombudsman would have the power to make binding orders, the institution would take the function of a court of last instance, which would – despite the fact that much more financial resources would be needed - not meet the basic rationale of such institution.[52] In case that complaint shows that the complainant was justified in bringing the complaint, the Ombudsman's main instrument is rather to make recommendations in order to solve problems or prevent them from reoccurring.[53] By using this method, government agencies are rather persuaded than forced to act, which in many cases may lead to a solution more effective and efficient.

The Ombudsman is not endowed with the coercive powers typical of formal justice systems. Rather, the institution follows the approach of alternative dispute resolution: an informal process in which conflicting parties revert to the assistance of a third party who helps them resolve their dispute in a less formal and often more consensual way than would be the case in court. The methods for dealing with grievances underline the Ombudsman's independence in terms of the broad variety of options available for conflict resolution. On the one hand, the Ombudsman can bring proceedings before competent courts if he/she deems it necessary;[54]on

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51 Article 91(e),Namibian Constitution and Section 5 of the Act.

52 See UNDP (2004:3). This Report on the Fourth UNDP International Round Table for Ombudsmen institutions in the ECIS Region makes the point convincingly, that the lack of power of making binding orders, considered by some as a weakness, in fact is the institution's strength for "[w]here any institution has the power to order others to do its bidding, another institution must have to power to review the decisions of the first institutions. In this case, if Ombudsmen were to have the power to issue binding orders, the courts would be the place where the Ombudsman's orders would be reviewed. Having the power to order that recommendations be implemented would change dramatically the dynamic of an Ombudsman institution…What was created to be a less formal and faster way of solving problems would likely become more formal and slower. The cost to the Ombudsman, the people and the state would be greater and the benefits would be fewer." Similar arguments were given by the European Ombudsman, Diamandouros (2006).

53 For these reasons, the sub-regional *Conference on the Ombudsman in southern Africa* in its concluding resolutions and recommendations held that "[T]he Ombudsman should not have enforcement mechanisms and/or powers". See Kasuto / Wehmhörner (1996: 5).

54 Article 91(e) of the Constitution provides for specific instances in which the Ombudsman can bring proceedings before the courts, e.g. in order to obtain an interdict to secure the termination of the

the other, the Ombudsman can opt for various alternative methods to resolve the disputes in question. Compared with the rights-based traditional adversarial attitude towards dispute resolution, the alternative interest-based approach to dispute resolution has expanded significantly within the past few years, not only in the field of human rights and administrative justice, but also in the private sector.[55]

Indeed, several arguments favour alternative dispute resolution above court proceedings. Normally, such alternatives are faster and less expensive. Generally, they also allow greater and more flexible control over the dispute. Moreover, the process is based on more direct participation by the disputants, rather than being run by lawyers, judges, and the state; and finally, in most processes, the disputants outline the process they will use and define the substance of the agreements. This type of involvement is believed to increase people's satisfaction with the outcomes, as well as their compliance with the agreements reached. By avoiding court proceedings, the relationship between the disputing parties is often less afflicted, which is a key advantage in situations where the parties need to continue interacting after settlement has been reached, such as in labour cases.

While the most common forms of alternative dispute resolution are mediation and arbitration, there are many other techniques and procedures applied by Ombudsman institutions. Typically, the Ombudsman explores options and attempts to achieve equitable solutions for all parties. The Ombudsman works through alternative dispute resolution methods such as negotiation, mediation, consultation, influence, shuttle diplomacy, and informal investigation.

Due to the fact that the Ombudsman may not issue binding orders, he/she cannot be taken to court to appeal the findings; neither can the findings and reports be subject for review or modification. However, courts may decide upon the question, whether or not the Ombudsman has jurisdiction in specific cases. A claimant can still take the case to the courts after having submitted a respective complaint to the Ombudsman, for one objective of establishing the office is to offer an alternative to litigation, but not to force an aggrieved to choose between the option to submit a complaint to the Ombudsman and the possibility of taking the alleged offender to court.

According to the Constitution and the Act, the Office of the Ombudsman is obliged to draft reports on his/her investigations.[56] These reports can be divided into two main categories: those that have to be drafted for single complaints, and those that contain all the activities of the Office within a specific period. When investigations are completed, the Ombudsman drafts a report containing findings on the complaint, as well as recommendations to solve the problems or to prevent them from happening again. Despite the final recommendations, such report

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offending action or conduct, Article 91(e)(dd) or to seek an interdict against the enforcement of legislation by challenging its validity, Article 91(e)(ee).

55 Ruppel (2007:1).

56 Provisions for reports to be furnished by the Office of the Ombudsman are contained in Article 91(g) of the Constitution as well as in Section 6 of the Ombudsman Act.

summarises the complaint, the facts found, the law governing the situation, an analysis of the facts in light of the law, as well as a finding on what the complaint alleged.[57] An annual report containing the Ombudsman's activities during the period ending on 31 December of the previous year has to be drafted and submitted to the Speaker of the National Assembly and subsequently to the National Assembly.[58] The annual reports contain information as to the scope of activities, complaints, investigations, management services and administration and on outreach and public education. The reports impressively reflect that the Office of the Ombudsman takes the task to protect and promote the values under his mandate through independent and impartial investigations very serious, as words are not minced in these annual reports. The annual reports contain specific case summaries and, statistical breakdowns, which draw a clear picture on the work performed by the office in several respects.

57 UNDP (2006:21).

58 Article 91 (g) of the Constitution and Section 6 (2) of the Act.

Chapter 14

Environmental Journalism in Namibia

Absalom Shigwedha

1 The Media in Namibia

The Namibian Constitution guarantees and protects the freedom of the press and other media, Article 21(1)(a). Namibia has several newspapers, amongst which are the English- and Oshivambo-medium *The Namibian*, the *Namibia Economist*; the German-language *Allgemeine Zeitung*, established in 1916; and the Afrikaans-medium *Die Republikein* (The Republican), published since 1977. Other Namibian newspapers include the SWAPO Party-newspaper *New Era*; the weekly *Insight Magazine* and *Informanté,* the latter being Namibia's first yellow press paper. The parastatal Namibia Press Agency (NAMPA) is the country's leading domestic news agency. It also works with the Pan African News Agency for receiving and distributing news and information within the country. The Namibian Broadcasting Corporation (NBC) is the successor to the South West African Broadcasting Corporation (SWABC). It is responsible for radio and television services.[1] Moreover, Multichoice Namibia and One Africa Television provide additional television services. Besides the various NBC radio language services, other stations like Radiowave, Radio Kudu, Radio Energy have been established.

2 Environmental Journalism

Environmental journalism entails the collection, verification, production, distribution and exhibition of information regarding current events, trends, issues and people that are associated with the interaction between nature and man. The environmental journalist should have an understanding of scientific language and practice, knowledge of historical environmental events, the ability to keep abreast of environmental policy decisions and the work of environmental organisations, a general understanding of current environmental concerns, and the ability to communicate all of that information to the public in such a way that it can be easily understood, despite its complexity. Environmental journalism supports the effective protection and management of the environment.

[1] The text is largely based on http://www.pressreference.com/Ma-No/Namibia.html; last accessed on 19 November 2010.

Environmental journalists very often advocate for change to improve the quality of the planet. With their writings they not only educate people informing the public about the serious problems pertaining to the environment. They also make use of the power of the media to improve general awareness on the earth and its natural resources. In this respect the media also plays an important role in educating the public on the sustainable use of natural resources, sustainable development and the need to achieve the Millennium Development Goals (MGDs).[2]

3 Challenges and Opportunities

Environmental journalists play an essential role in explaining technical, scientific environmental terms in a simple language that also ordinary people learn to understand. While reporting on environmental issues is very important, it is at the same time a challenging task. No doubt, in many developing countries environmental journalism is still new and does not receive greater coverage. Many environmental journalists struggle to come up with informative and balanced reporting and newspaper editors often fail to see the relevance of environmental reporting.

The African Network of Environmental Journalists (ANEJ) seeks to promote public understanding of environmental issues in Africa by improving the quality, accuracy, and intensity of environmental reporting. The organisation, whose motto is "the voice of the African environment", aims to increase the coverage of environmental issues in the media in Africa and to enhance the capacity of African journalists to report on environmental issues through workshops, networking, information sharing, and institutional development. Specific objectives include mainstreaming environmental journalism in Africa; enhancing the capacity of African journalists to deal with existing and emerging environmental challenges; disseminating relevant information on environmental issues in Africa; promoting web journalism on environment and sustainable development in Africa; influencing decision-making processes with regard to environmental policies in Africa; and disseminating information on the activities implemented by the United Nations Environment Programme (UNEP) and other relevant institutions, organisations, and governments.[3]

The emergence of environmental pages in some newspapers and the establishment of some magazines focusing on the environment in Namibia, such as *Green Bay* andConservation and Development in Namibia as well as environmental journalism competitions are encouraging initiatives. Journalists who are involved in environmental journalism in Namibia, should actually

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2 In September 2000 world leaders came together at United Nations Headquarters in New York to adopt the United Nations Millennium Declaration, committing their nations to a new global partnership to reduce extreme poverty and setting out a series of time-bound targets - with a deadline of 2015 - that have become known as the Millennium Development Goals; cf. http://www.un.org/millenniumgoals/bkgd.shtml; last accessed 19 December 2010.

3 See http://www.comminit.com/en/node/133330/307; last accessed 19 December 2010.

organise themselves, do networking as to how they can develop this field of journalism to greater heights.

In order to facilitate open discussion and information sharing on environmental, agricultural and sustainable development issues, the journalist branch organisation Media for Environment, Agriculture and sustainable Development (MEAD) has recently started the newsgroup Namibian Environmental Media Online (NEMO). NEMO is a discussion group for Namibian environmental journalists, scientists and policymakers.

It is hoped that in future, conservation organisations and UN agencies provide increased funds to train journalists in environmental reporting. This requires more efforts in terms of capacity building, networking, environmental information sharing and dissemination, and institutional development.

The United Nations Environment Programme (UNEP) is launching a major new award the Young Environmental Journalist Award Africa. Radio, television, print and online journalists aged 25 to 35 years from any African nation were encouraged to apply. The award is made possible through funding support from the Government of the United States of America. The prize is an all-expenses-paid trip to the USA, where the winner will follow a specially-designed green itinerary, interacting with leading environmental projects, green economy projects, scientists and public figures. The winner of the *Young Environmental Journalist Award* is expected to become a new voice for the environment, one that will help to shape opinion in Africa, and beyond, in the years to come.[4]

4 Environmental Reporting

As a developing nation and in need of funds to further develop the country and create job opportunities, the Namibian Government has allowed mining companies to prospect for Uranium. Uranium prospecting and mining has literally led to a uranium rush, making Namibia now one of the largest producers of uranium worldwide. Environmental journalism has emerged into a discourse about mining operations that damage the environment, catching the eyes of the Namibian media houses and the general public. "African civil society hits back at uranium mining," read a headline to an article by freelance Namibian journalist Brigitte Weidlich.[5]"Prospectors pose environmental challenges in Namib-Naukluft*",* was another headline to an article by the author of this chapter.[6] The article quoted the Director of Parks and Wildlife Management in Namibia's Ministry of Environment and Tourism, Ben Beytell, saying companies that prospect and mine for uranium in the Namib-NaukluftPark, pose a major challenge to this protected area. Further to this, he said that some of these companies were

4 See http://www.journalism.co.za; last accessed 19 December 2010.

5 *The Namibian,* 28 October 2008.

6 *The Namibian,* 17 October 2008.

trying to avoid official procedures. He noted that mines were also problematic to insects and reptiles as the noise from the mine stops them from calling each other for mating.[7]

While the government rightfully strives to develop the country, a balance should be struck, in an effort to achieve sustainable development at the same time. Development that ignores environmental concerns should not be allowed and the media is the appropriate platform to communicate this message. Some Namibian journalists are of the opinion that the local media is not yet active enough in the field of environmental journalism. Jacky Hindjou-Mafwila, an environmental journalist at the Namibian Broadcasting Corporation (NBC) stated that the role of the media in Namibia on environmental concerns still leaves much to be desired. This, she said, was due to the fact that journalists in Namibia are not trained or have little training in environmental reporting. Moreover editors do not understand the importance of environmental protection to the economy, which means that editors also need to be sensitised on the importance of environmental reporting.

Namibia's Minister of Environment and Tourism, Netumbo Nandi-Ndaitwah, in January 2011 – informed NBC Radio that her Ministry was satisfied with the establishment of MEAD-Namibia, as it will help strengthen environmental reporting in the country.

5 Freedom of the Media

It is well acceptable that environmental journalists establish good relationships (through searching for information) with environmental government officials and experts. Yet, journalists are not tools to be used and cannot be told what to write. They are professionals and government officials have to expect questions from the media and criticism.

When the Communication Act No. 8of 2009 came into effect on 16 November 2009, it replaced the 1992 Namibian Communications Commission ActNo. 4 of 1992 and amended certain relevant Sections under the 1992 Post and Telecommunications Act No. 19 of 1992, among others. This Act provides for the regulation of telecommunications services and networks, broadcasting, postal services and the use and allocation of radio spectrum. It establishes an independent Communications Regulatory Authority of Namibia and an Association to manage the internet domain ".na". The Act also provides to intercept such electronic communication as is deemed dangerous to the country's security. The Act came under heavy criticism from the media and other civil society organisations who argued that the interception clause opens ways of abuse by those in power and is deemed to silence the media. So far, however, Namibia has not experienced any instances restricting journalists on reporting on environmental matters.

7 Ibid.

6 Concluding Remarks

Environmental journalism is a key to sustainable development in Namibia. Environmental degradation and the depletion of vital resources are examples of the kind of complex topics that need to be incorporated in both the agendas of politicians and the media. People are suffering and dying from lack of clean water and inadequate sanitation and the media should play a more prominent role in telling these stories.

The media can influence the direction environmental policy and growth will take. Every development issue such as agriculture, industrial development, maternal and infant health, education, combating diseases such as HIV/AIDS, malaria etc., empowering women, eradicating poverty and hunger and ensuring environmental sustainability have a direct or indirect relation with the provision of water and sanitation within the households and communities across the country.

Factors such as climate change, desertification, flooding and erosion are environmental issues in Namibia that need to be brought into the media scene with more vigour. The media and the press should provide a more enabling environment for public debate. Insufficient coverage results from a number of factors, including lack of scientific and environmental knowledge, insufficient journalistic training on the subject, and pressures from powerful local interests and advertisers who support media outlets. To combat these barriers, it is necessary to create partnerships that extend from the local grassroots level to top policy makers.

After all, the role of environmental journalists should not be underestimated in future. Environmental journalists raise awareness and highlight environmental issues that require specific attention. They can function as societal watchdogs over private and public institutions, influence consumer behaviour and lead to more transparency and public participation. They can even promote environmental compliance and enforcement. All of this of course requires that their reporting is genuine, based on accurate, objective and sound information.

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ENVIRONMENTAL LAW AND POLICY IN NAMIBIA

Since Independence, environmental law has become an important branch of the law in Namibia. Over the past years new legislation has been passed and environmental law and policy has gained momentum practically and academically. Internationally environmental law has also emerged from a soft law instrument to a key negotiating platform in international diplomacy.

Key features of this work are

- National Environmental Law and Policy
- International Environmental Law
- Environmental Management
- Water Law
- Conservation of Biodiversity
- Mining and Energy Law
- Customary Law, Common Law and Criminal Law Aspects of Environmental Law
- Intellectual Property Rights and Traditional Knowledge
- Climate Change
- Environmental Justice and Human Rights
- International Trade, Sustainable Development and the Environment

This publication is expected to be valuable for students, researchers, academics, legal and environmental practitioners, judges, government officials and anyone interested in this field – be it from Namibia, Africa or beyond.

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