

PART IV:

BIODIVERSITY AND WILDLIFE

Chapter 10: Legal Protection of Biodiversity in Namibia

Manfred O. Hinz and Oliver C. Ruppel

1 Introduction

This 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 and policy pertinent to the protection of biodiversity. Chapter 23 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 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 unclassified species is much higher.² The coinage of the term biological diversity can be attributed to Lovejoy,³ Norse and McManus⁴ 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

1 This Chapter is substantially based on the publications by Hinz / Ruppel (2008b); (2010); Hinz *et al.* (2012) and Hinz (2013c).

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.

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 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

8 Ruppel (2009h and j).

9 McNeely *et al.* (1990).

10 Blaikie (2004).

11 Paing *et al.* (2006:1).

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. The number of described species in Namibia varies depending on the consulted sources.¹⁴ For its Red List, The IUCN counts 3,157 described species for Namibia, of which 257 are endemic.¹⁵ The 2021 IUCN Red list¹⁶ reveals that the number of species known to be threatened within those species that have been assessed to date counts a total of 131 (critically endangered, endangered and vulnerable categories only) species in Namibia (15 mammals, 34 birds, 5 reptiles, 43 fishes, 2 Molluscs, 31 plants and 2 other inverts). 13 animal species are listed as critically endangered (including among others the black rhino), 32 as endangered, and 55 as vulnerable.

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 See the Namibia Biodiversity Database at <http://www.biodiversity.org.na/index.php>, accessed 30 May 2021.

15 GRN (2014e:3).

16 IUCN Red List version 2021-1: Table 5; http://www.iucnredlist.org/about/summary-statistics#Tables_5_6, accessed 28 May 2021.

Table 1: Threatened Species in Namibia as per the IUCN Red List

	Animals						Plants
	Mammals	Birds	Fishes	Reptiles	Molluscs	Other Inverts	
critically endangered	1	4	7	0	0	1	3
endangered	4	17	11	0	0	0	4
vulnerable	10	12	25	5	2	1	24
Total threatened species	131						

Source: Table compiled by the authors based on IUCN Red List version 2021-1: <https://www.iucnredlist.org>, accessed 28 May 2021.

Five major threats have been identified as threats to biodiversity:¹⁷

- **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.
- **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.

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’¹⁸ between groups; land ownership by ancestors or lineages rather than individuals; relatively sparse human populations; and many other factors.¹⁹ 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

17 IBES (2018:153); and WWF (2020:13).

18 Tamasang (2018).

19 McNeely *et al.* (1990:18).

awareness of conservation issues, including those dealing with biological diversity. Still, devastation continues.

Naturalists, including interested amateurs and trained biologists, and other non-governmental activists 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.

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.²⁰ 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 5, 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

20 Barnard (1998:283ff.).

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.²¹

There was no consensus regarding biodiversity among the nations of this world until the 1992 Earth Summit in Rio. It was at this Summit, 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 invaluable 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 (CBD), 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 on 18 March 1997. Accordingly, Namibia is obliged to ensure that its domestic legislation is in conformity 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 fifth national report under the CBD.²²

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 follows:²³

[W]here 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.²⁴

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

22 GRN (2014h).

23 Article 2 of the CBD.

24 Glazewski *et al.* (1998:281).

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.

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 obliged²⁵

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.

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.

The CBD has so far been extended by two Protocols. The Cartagena Protocol on Biosafety to the Convention on Biological Diversity, an international treaty governing the movements of living modified organisms (LMOs) resulting from modern biotechnology from one country to another was adopted in 2000 and entered into force on 11 September 2003. The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS) which was adopted in 2010 and entered into force on 12 October 2014 provides a legal framework for the effective implementation of one of the three objectives of the CBD, namely the fair and equitable sharing of benefits arising out of the utilisation of genetic resources thereby contributing to the conservation and sustainable use of biodiversity. Namibia ratified the Cartagena Protocol in 2005 and acceded to the Nagoya Protocol in 2014.²⁶

Due to the fact that trade in wild animals and plants crosses borders between countries, the effort to regulate it requires international cooperation to safeguard certain

25 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 (UNGA Res. 61/195), which applies to specifically defined groups of people and not to all traditional communities – and certainly not to all that could be called *local*.

26 See <https://www.cbd.int/countries/?country=na>, accessed 20 October 2015.

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 30,000 species of animals and plants, whether they are traded as live specimens, fur coats or dried herbs. CITES was 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 181 parties.²⁷ Namibia acceded to the Convention in 1990, and the Convention came into force for Namibia in March 1991.²⁸ The commercialisation of goods and services derived from native biodiversity, referred to as biotrade, has become reasonably well established in Namibia. Over the last years, exports of indigenous natural plants have contributed to the GDP with an estimated earning for exports of the devil's claw of N\$ 20-30 million per annum.²⁹ These developments in the biotrade sector have prompted Government to enhance its revenue collection by introducing differentiated rates on the export of all natural resources. In his national budget speech for the financial year 2015 / 2016, the Minister of Finance has proposed an export levy on the export of unprocessed minerals and other natural resources, aimed at the promotion of domestic value-addition in the primary commodity and natural resources sectors.³⁰

One issue in Namibia under the CITES convention has been 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 then Ministry of Environment and Tourism in collaboration with the jewellery industry of Namibia, has designed a control system for worked 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.³¹

Major foundations of biodiversity protection on the African continental level are contained in the Revised African Convention on the Conservation of Nature and Natural Resources, which 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. The revised Convention has entered into force on 23 July 2016. Namibia signed the revised Convention in December 2003, while no instrument of ratification

27 For more information on CITES as well as the text of the Convention, see: <http://www.cites.org/>, accessed 14 January 2022.

28 See <https://cites.org/eng/disc/parties/chronolo.php>, accessed 20 October 2015.

29 See Venture Publications (2014:34).

30 GRN (2014c:22).

31 See <https://cites.org/eng/app/appendices.php>, accessed 30 May 2021.

has been deposited as of yet. 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. To 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 cooperation, which shall spell out the objectives and scope of, and institutional mechanisms for, cooperation 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.

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.³² Apart from this, environmental policies and their translation into law are, in general (and this applies in all parts of the world), faced with the economic interests of sections of society that are not easy to harmonise with each other.³³

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

33 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. See also Jürgens *et al.* (2018).

4.1 The Constitution

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.³⁴ 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 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.”³⁵ 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.³⁶

4.2 Statutory Law

Sectoral legislation covering the protection of biodiversity is wide ranging in Namibia. A myriad of legislative instruments provide for the equitable use of natural resources

34 Ruppel (2010h).

35 On the environmental mandate of the Ombudsman see Chapter 27 in this publication.

36 Ruppel (2008a).

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.³⁷ The Ordinance was amended by the Nature Conservation Amendment Act.³⁸ 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.³⁹ 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 Act⁴⁰ 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.

The Access to Biological and Genetic Resources and Associated Traditional Knowledge Act⁴¹ has been passed by Parliament but still has to come into force on a

37 No. 4 of 1975.

38 No. 5 of 1996.

39 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.

40 No. 7 of 2007.

41 No. 2 of 2017.

date set by the Minister. The objective of this piece of legislation is to regulate access to genetic resources and associated traditional knowledge and innovation, practices and technology associated with biological and genetic resources and traditional knowledge. Furthermore, the Act strives to protect the rights of local communities over biological resources and associated traditional knowledge. Moreover, the Act provides for a mechanism for fair and equitable benefit sharing. The Act applies to biological and genetic resources, the derivatives of biological or genetic resources, associated traditional knowledge, benefits arising from the use of biological and genetic resources, their derivatives and associated traditional knowledge, and the discovery or commercialisation phase of bioprospecting. The responsibility of ensuring fair and equitable sharing of the benefits arising from the utilisation of genetic resources and associated traditional knowledge vests in the State. Access to biological and genetic resources is subject to an access permit issued by the Ministry and to written prior informed consent of the concerned right holders. The Act also recognises general rights of local communities and provides for the protection of community intellectual property rights. Non-registration of any traditional knowledge does not render it unprotected as community intellectual property rights.

The Controlled Wildlife Products and Trade Act,⁴² which came into force in 2012, provides for the implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Among others, the Act establishes a technical committee that performs duties and has certain powers as per CITES; furthermore, the Act defines certain offences and penalties related to wildlife crimes. As per Section 9 of the Act, Regulations⁴³ came into force in 2011, which deal with a system of permits and procedures required for import, export, re-export or re-import of any species listed in the Appendices of CITES, including live specimens as well as parts and derivatives.

The proposed Protected Areas and Wildlife Management Bill, which is still under discussion,⁴⁴ seeks to protect all indigenous species and control the exploitation of all plants and wildlife. 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

42 No. 9 of 2008.

43 See Government Gazette No. 4773 (2011) Government Notice 144.

44 See <https://www.namibian.com.na/204116/archive-read/The-Wildlife-and-Protected-Areas-Management-Bill>, accessed 20 April 2021.

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 Ordinance⁴⁵ and the the Controlled Wildlife Products and Trade Act No. 9 of 2008 (as amended in 2017 and 2020).

Water-related legislation is manifold in Namibia and highly relevant to biodiversity conservation.⁴⁶ Although the new Water Resources Management Act was approved by Parliament in 2013, the rather out-dated Water Act No. 54 of 1965 remains in force until the new Act has been made operational by respective notice in the Government Gazette. 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.⁴⁷ The new Act which provides for the management, protection, development, use and conservation of water resources provides means with regard to the protection of biodiversity. One of the Act's fundamental principles has been defined as the "harmonisation of human water needs with the water requirements of environmental ecosystems and the species that depend on them, while recognizing that the water resource quality for those ecosystems must be maintained."⁴⁸ Water resource quality is subject to several provisions in the new Act and includes the physical, chemical and biological characteristics as well as the characteristics, condition and distribution of the aquatic biota. The Act specifically endows the Minister with the function to protect the international water resource quality, with the competence to declare certain areas as water protection areas and to reserve certain water resources from being abstracted or used in order to "reasonably protect and maintain aquatic and wetland ecosystems, including their biological diversity, and to maintain essential ecosystem functions."⁴⁹

The Marine Resources Act⁵⁰ 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,⁵¹ which in turn replaced the Sea Fisheries Act.⁵²

The Aquaculture Act⁵³ regulates and controls aquaculture activities and the sustainable development of aquaculture resources.⁵⁴ All aquaculture ventures will be subject to strict licensing. Section 27 is of most relevance for the protection of biodiversity. A

45 No. 4 of 1975.

46 See Ruppel / Bethune (2007).

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

48 Section 3(c).

49 Section 37.

50 No. 27 of 2000.

51 No. 29 of 1992.

52 No. 58 of 1973.

53 No. 18 of 2002.

54 Bethune *et al.* (2004).

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 aquatic organism or transfer any species of aquatic organism from one aquaculture facility to another or from any location in Namibia to another.

The Inland Fisheries Resources Act⁵⁵ 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. Major threats to forests in Namibia include the expansion of land for agriculture; the use of fuel wood 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.⁵⁶ The Forest Act⁵⁷ 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 that 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 Act⁵⁸ 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.

55 No. 1 of 2003.

56 Groenewaldt (2008).

57 No. 12 of 2001.

58 No. 7 of 2006.

4.3 National Biodiversity Strategy and Action Plan

Namibia's 10-year National Biodiversity Strategy and Action Plan for Sustainable Development through Biodiversity Conservation (2001-2010) was updated in 2012 / 2013. The second National Biodiversity Strategy and Action Plan (NBSAP2) covers the period 2013 to 2022.

The goal of the first Biodiversity Strategic and 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.⁵⁹ The action plan attempted 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. The strategic aims of this document included: 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.

NBSAP2 Vision reads as follows:

Namibia's biodiversity to be healthy and resilient to threats, and for the conservation and sustainable use of biodiversity to be key drivers of poverty alleviation and equitable economic growth, particularly in rural areas.

NBSAP2 has identified as leading threats to biodiversity: unsustainable water uses; expansion of urban areas and increasing industrialisation; threats and impacts of climate change; mining and prospecting; unsustainable land management practices; uncontrolled bush fires; alien invasive species; illegal harvesting and trade of wildlife and forest and plant resources; and human wildlife conflict. Five Strategic Goals have been formulated in NBSAP2 with regard to the protection of biodiversity, namely:

- To address the underlying causes of biodiversity loss by mainstreaming biodiversity across Government and society;
- to reduce direct pressures on biodiversity and promote the sustainable use of biological resources;
- to improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity; and
- to enhance the benefits to all from biodiversity and ecosystem services and the implementation of NBSAP2 through participatory planning.

With 17 strategic targets and 38 strategic initiatives the above goals are to be realised.

59 Barnard *et al.* (2000:13).

