

# Chapter 14: Fisheries Related Statutory Law and Policy in Namibia

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## 1 Introduction

This chapter gives a brief overview of the legislative framework that governs the marine resources, the inland fisheries resources, and the aquaculture sector. Some general remarks are provided before discussing the policy framework and the statutory framework separately for each sector.

Namibia has one of the most productive marine fishing grounds in the world due to the highly productive Benguela Current System. The system has relatively low biodiversity mainly due to the variable nature of the marine environment. The high primary production, due to the upwelling system forced by the trade winds allowing continuous nutrient-rich, cold water from the deep to fertilise these waters, causing Sulphur eruptions leading to unfavourable marine conditions influencing the fishing industry and marine aquaculture activities along the Namibian coast. These Sulphur eruptions occur due to anaerobic decomposition of organic matter. The high concentration of dinoflagellates (a certain phytoplankton species) can also lead to further problems as these release toxins in the water that can affect the edibility of shellfish that could be harmful to people when consumed. These conditions are called “red tides” due to the colouration of the water. Very low oxygen levels or even anoxia conditions are perennially present in the sub-thermocline waters that do impact on the functioning of the ecosystem. However, fish species have adapted to these extreme conditions either physiologically or behaviourally.<sup>1</sup>

The marine fisheries play an important role in employment, export, production and government revenue, creating around 16,000 jobs and approximately N\$ 10 billion annually in FOREX earnings between 2012 and 2016.<sup>2</sup> The demersal trawl fishery targets hake and monk, midwater trawl fishery adult horse mackerel and the purse seine fishery sardine and juvenile horse mackerel. Other important fisheries are the large pelagic species such as tuna, swordfish and sharks and the benthic species targeted are rock lobster and deep-sea red crab. The line fishery is made up of two sub-sectors, namely the commercial line fishery and the angling subsector. The latter consists of a recreational and a subsistence component. The subsistence fishery along the Namibian coast is insignificant mainly due to the absence of large settlements along the arid coastline. Hake is the most valuable and horse mackerel the most abundant of the commercial species targeted by the fishing industry.

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1 MFMR (2013:7).

2 MFMR (2017:7).

The Ministry developed, with the input from stakeholders, the following strategic objectives for the marine resources for the period 2017 to 2022:

- Encourage scientific advice on the sustainable management of the marine ecosystem;
- strengthen compliance with fisheries legislation;
- develop a blue economy policy and legal framework;
- strengthen the development of aquaculture;
- improve the contribution of value-added exports to the national economy;
- increase employment creation and the contribution to the national economy; and
- enhance organisational performance.

The main objective of Government immediately after Independence was to rebuild the severely depleted stocks. To achieve this, the Ministry implemented a rigorous management system that included a fishing right allocation system, a Total Allowable Catch (TAC) and a quota allocation system based on scientific research surveys. Further management approaches were a Monitoring, Control, Surveillance Programme, including a Vessel Monitoring System to ensure compliance by fishing companies and a depth limiting threshold of 200 m where trawlers are not allowed to fish to protect nursery areas.<sup>3</sup>

Inland Fisheries is very complex and intertwined with many livelihood activities of the floodplain communities and which is very difficult to manage especially on the Zambezi, Chobe, Kwando and Kavango Rivers, where channels meander through large floodplains sometimes inaccessible for patrol boats. A range of different fishing gear is used by the fishers targeting different fish species and at different times of the flood season. It is also a multispecies fishery with a wide range of fish species with different life-history cycles. Many of the underlying factors causing the deterioration of the fish stocks are not controlled by the Ministry of Fisheries and Marine Resources such as overgrazing of the floodplains, irrigation schemes, illegal entries of fishers into Namibian fishing grounds, siltation of rivers due to erosion factors and the sharing of all major fisheries with neighbouring countries. A KAZA (Kavango Zambezi Trans-frontier Conservation Area) Fisheries sub-working group was established to facilitate cross border initiatives related to fisheries including research protocols, co-management regimes, and joint patrols.

Inland fish play a major role in the daily livelihoods of hundreds of thousands of people in Namibia despite the fact that Namibia is considered the driest country in sub-Saharan Africa.<sup>4</sup> Where the marine fish are considered important in economic terms for the country, the inland fish contribute towards food security and the livelihoods for the poor riverine communities, especially women and children. The largest fishery is

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3 FAO (2013).

4 Dirkx *et al.* (2008:4).

along the Zambezi and Chobe Rivers with associated floodplains, the ephemeral lake, Lake Liambezi with some fishing on the Kwando and Linyanti Rivers in the western parts of the Zambezi Region. Other fisheries are those on the Kavango River in the Kavango East and Kavango West Regions and the seasonal fishing in the iishana in the Ohangwena, Omusati, Oshana and Oshana Regions. The iishana are shallow, often vegetated depressions with low gradients in which water accumulates or moves depending on the amount of rainfall. These are seasonally flooded, mainly from the southern parts of Angola, bringing fish with the floods. Manmade dugouts are present filled with water, some perennially that also provide shelter for fish during the dry periods.

Very little fishing is taking place in the rest of the country. The annual value of inland fish in Namibia is approximately N\$ 109 million that is five times more than trophy and game hunting on communal lands.<sup>5</sup> However, inland fisheries are usually under-reported due to the difficulties encountered to monitor fish landings. Inland fisheries also have a much lower environmental footprint compared to agriculture. Very little waste is generated, especially with small-sized fish species that are consumed whole including intestines and bones. This makes small-sized fish extremely nutritious contributing immensely to the nutrient source for poor riverine communities.

Inland fisheries are still gender-segregated with the gillnet fishery male-dominated while the vendors are female-dominated. Nearly all vendors at the Katima Mulilo fish market are women, some heading households stressing the importance of fish as an income source for women-headed households. Worldwide inland fish play a critical role in the daily activities of women and around 35 million of the total estimated 60 million people in inland fish and its value chain are women.<sup>6</sup>

The fishery in the Zambezi Region changed dramatically with the flooding of Lake Liambezi in 2009. This highly productive lake stimulated a major bream fishery causing an influx of fishers from across the region. Most of the fish harvested were exported to neighbouring countries (mainly Zambia) as far as the Democratic Republic of the Congo. This demand inflated the local market fish prices and suddenly fishing had become a lucrative undertaking, though conflicting with the policy principles that stipulate that subsistence fishing is preferred over commercial fishing. Once the Lake Liambezi dried out, the supply of bream declined drastically, but the fish prices did not follow the same trend probably putting more pressure on the poor who cannot afford these escalated fish prices.

The Kavango River is a much smaller river compared to the Zambezi River that makes it more vulnerable to overfishing. The fish exploitation further intensified after the Angolan war ended and people started to settle next to the river. Although there is no formal fish market along this river, a small informal market is present in Rundu and

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5 Forsythe *et al.* (2018:26).

6 FAO (2018:110).

at some sites next to the gravel road between Nukurenkuru and Divundu where fishers are selling their catches. Recent studies also point towards a decline in fish catches driving fishers to more destructive use of fishing gear and methods to ensure a reasonable catch.

The Cuvelai System an ephemeral system that floods seasonally depending on the rainfall pattern for that particular year do have fish, mainly catfish and small minnows that inhabit the iishana and pools in the region. Fish harvesting in this area is seasonal, linked to the flooding of the iishanas that flow from Angola where the Cuvelai Systems has more permanent water bodies.

The Kunene River is subject to very little harvesting of fish as the Ovahimba People do not eat fish and therefore do not harvest any fish from this river. Some people from the Omusati Region do some fishing at localised areas along the river.

The Lower Orange River does not have a history of fish utilisation although this changed recently with the inflow of temporary workers from the north to some of the irrigation schemes next to the river. The legislation does not allow the use of any nets in this river.

The central regions of Namibia do not have any natural open water sources except for the two sinkholes in the north, Guinas and Otjikoto, and the many state dams that were constructed for water consumption and irrigation. Some small-scale fisheries are present in some of these dams where communities do some fishing for own consumption and to sell some surplus catches. These state dams are important for the recreational fishery with some international competitions being held at some of these dams. The recreational fishery is also an important source of revenue in the Zambezi and Kavango Regions with annual international competitions held in those rivers. These competitions usually attract large numbers of anglers from across the region and even from countries abroad.

In the Aquaculture Act No. 18 of 2002, aquaculture is defined as the “farming or the ranching of aquatic organisms”. Marine aquaculture and inland aquaculture are used to differentiate between organisms farmed in the marine environment (sometimes called mariculture) and in the freshwater environment. The history of aquaculture started in the early 1800s with the introduction of carp, bass and the Mozambique tilapia (all exotic species to Namibia) into cattle dams and state dams, although these introductions could probably not be seen as actual aquaculture practices as very little fish farming was done. The private sector became more involved in this sector during the mid-1980s, mainly in the marine aquaculture sector.<sup>7</sup> By the mid-1990s, marine species farmed ranged from oysters, mussels to seaweed. The freshwater species farmed were mainly tilapia species and catfish. These were largely stocked in farm dams and some state dams around the country with no commercial farms operating. The slow growth of the aquaculture sector is attributed to the focus of government to

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7 GRN (2001b:4).

develop and recover the rich wild capture marine fish in the Benguela Current just after Independence. The lack of open freshwater bodies and the low winter temperatures, especially in the south of the country further slowed the progress in the inland sector. On the marine side, high infrastructure cost in unsheltered bays along the coast is the main reason for the slow growth in this sector. The highly productive Benguela Current provides opportunities especially for filter-feeding organisms, but this high productivity is also the cause of Sulphur outbreaks that brings its own challenges for the marine aquaculture sector.

## 2 The Policy Framework

### 2.1 Namibia's Marine Resources Policy: Towards Responsible Development and Management of the Marine Resources Sector (2004)

The Namibian Marine Resources Policy "Towards Responsible Development and Management of the Marine Resources" was approved in 2004. The main objective of the marine resources sector is to utilise the marine resources in a sustainable manner and to develop industries that will contribute to the country's economy and overall development. The policy outlined the following four main strategies to attain the main objective:

- Maintaining an appropriate legislative, institutional and administrative framework;
- conservation and responsible management of marine resources;
- support for domestic catching, processing and marketing; and
- enhanced participation for Namibians in all aspects of the marine resources sector.

The Government's approach to resource management is to control catches of the different marine stocks through annual total allowable catches (TACs), by-catch restrictions and the introducing of closed seasons and areas. This approach was followed by Government due to the depleted state of many fish stocks at Independence and to rebuild these stocks to a sustainable level and to explore the potential of any new fisheries to contribute to the national economy. The main stocks commercially exploited by the industry are hake, pilchard, horse mackerel, rock lobster, linefish, monk, orange roughy, deep seas red crab, cape fur seal, mullets and anchovy.

The processing of marine resources remains export-orientated with value addition a priority, especially for commercial stocks such as hake, pilchard, rock lobster, crab, monk, and horse mackerel. Exploratory rights will be allocated to enhance the development of potentially new fisheries and in the process expanding the export and local markets that will provide additional jobs in the fishing sector.

The Namibian Government is in favour of joint ventures with foreign partners in the exploitation, processing and marketing of the marine resources and in the process creating foreign investment opportunities, the transfer of knowledge to Namibian counterparts while benefitting from the rich marine resources.

The state of the marine resources is depended on a pristine environment. The policy highlights the importance of protecting the marine environment and mentions threats to the environment such as domestic and industrial wastes, discharged hazardous and toxic substances, oil pollution and mirco-pollutants. This is supported by the Prevention and Combating of Pollution of the Sea by Oil Act 6 No. of 1981. This particular Act prohibits the discharge of oil from ships, tankers or any other offshore installations. The Act is applicable to the marine environment and gives the Government the mandate to deal with such spills. Pollution prevention is inter-sectoral and a collaborative approach needs to be followed to treat any pollution effectively and prevent any harm to the resources.

The fisheries legislation provides guidelines on the following areas:

- Sustainable utilisation of marine resources through the allocation of fishing rights and fishing quotas and the issuing of fishing licences with certain conditions;
- management and conservation measures through the setting of TACs, by limiting fishing effort and specifying fishing gear such as minimum mesh sizes and grid selectivity, restrictions on by-catch and closure of certain areas or seasons. Transboundary fishing activities are similarly managed;
- compliance and Enforcement through enforcement officers and specifying their powers and through the setting up of a Fisheries Observers Agency to assist with scientific data collection and to report on the fishing activities on fishing vessels;
- offences and Penalties by specifying penalties for violating the Marine Resources Act; and
- regulatory powers for the Minister to make regulations to implement the Marine Resources Act.

The Namibian Government adheres to the principle of optimum sustainable yield of all marine resources according to the Namibian Constitution. The Government is committed to responsible fisheries according to international best practices. The rich marine resources should benefit Namibia and Namibian citizens. Government will further ensure equitable involvement of women in the marine sector. The precautionary approach to fisheries management shall be applied and the marine sector shall be self-sustaining and will not be supported through public sector subsidies.

## 2.2 Namibia's Inland Fisheries Policy: White Paper on the Responsible Management of the Inland Fisheries of Namibia (1995)

This White Paper deals with the policy of the Namibian Government on the sustainable management of the inland fisheries resources in the country. The policy is based on the following principles:

- The approach is to allow the sustainable utilisation of these resources while protecting the biodiversity on the Namibian inland fish;
- different management approaches are formulated for the different aquatic ecosystems due to the diverse nature of these systems;
- the interest of the subsistence households depending on these resources to supplement their diets is protected against the commercialisation of the resource;
- the management of the resource is conducted through the control of the fishing effort through gear restrictions and preference is given to passive fishing gear over active fishing gear and traditional fishing gear to modern fishing gear;
- control and law enforcement are to be carried out by police officers and law enforcement personnel already employed by other line Ministries with the assistance of traditional communities and the traditional authorities. A limited number of staff will be appointed to act as fisheries extension and law enforcement officers from the Ministry of Fisheries and Marine Resources;
- local community members should share in the income generated by commercialisation or any use of communal resources;
- future research policies on inland fish and the founding of a multi-disciplinary research station to eventually serve the region is addressed; and
- regional co-operation on inland waters and related matters between countries that share the basins is emphasised.

The main objective is to guarantee the sustainable utilisation of the inland fish for the benefit of the present and future Namibians. Furthermore, the management systems in place will be based on sound scientific knowledge and the responsibility of the management is vested at local level rather than at a centralised institution. A consultative and transparent process is followed through the involvement of local communities and the traditional authorities. The National Policy on Community Based Natural Resources Management<sup>8</sup> recognises the rights of local communities and encourage the biodiversity conservation and in the process empowering communities to manage and benefit from natural resources including fisheries.<sup>9</sup> Due to the importance of fish as a

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8 GRN (2013).

9 MFMR (2013:2).

protein source for poor communities, the utilisation of the resource is conducted on subsistence principles rather than a commercialised approach due to the vulnerability of the fish populations. A healthy fish population depends on well-functioning ecosystem services; therefore, a holistic approach is followed through the management of the fish, the river systems and the floodplain environments, including the maintenance of the hydrology of these aquatic ecosystems. Namibia shares all perennial rivers with neighbouring countries; therefore, all fisheries border international boundaries. Collaboration with neighbouring countries sharing a particular fishery is therefore critical to ensure the sustainable utilisation of these valuable resources.

The goal is to obtain an optimal sustainable yield which is defined as the level at which maximum yield can be achieved without causing irreversible damage to the species composition or genetic diversity of the ecosystem. Maximum sustainable yield, on the other hand, is focusing only on production levels without taking into account the genetic diversity, species composition or the integrity of the aquatic system. This may lead to the decline of certain preferred fish species being replaced by undesirable fish species, negatively influencing food security and driving the ecosystem towards an unbalanced state. The policy focusses mainly on the perennial rivers and the ephemeral Cuvelai System as these regions are the key fisheries areas with very little happening regarding a fishery in the state dams in the rest of the country. Management of these systems is focused on monitoring fishers' behaviour and their catches and not through a quota system due to the variability of fish production owing to a dynamic flood regime.

Fishing methods and fishing gear used can be classified into traditional and modern gear and these can further be classified into passive or active methods or gear types. Traditional gear is defined as gear manufactured by the local population in an artisanal manner making use of natural materials available from the local environment. Active gear types are dragged, moved or pushed in the water to catch fish while passive gear types are placed in the water and only moved once fish are recovered. The fishing gear type that fishers use depends on the water level of the river and the fish species group they are targeting. Some traditional gear will target catfishes, some will target the mormyrids when used in rapids, or some will target some small minnow fish species. The large mesh size gillnets target the large bream species and the small mesh size gillnets the silver catfish or the striped robber. Longlines are used for catfish species or some will use drift baiting for tigerfish. The recreational fishers use different types of bait or artificial lures and target the large bream species, tigerfish and catfish. During artificial lure competitions, fishers will even go for the small minnows as the aim is to catch as large a diversity of fish species as possible. The policy emphasises the importance of research and the development of competent Namibian fisheries scientists and technical personnel. Government will acquire the necessary equipment to facilitate the research in the country.



Fish are one of the ecosystem services delivered by freshwater ecosystems. However, the productivity of inland fish depends on the health of the freshwater ecosystem that is also impacted by the aquatic habitat conditions and land use activities within the catchment. The threats of alien aquatic species introductions into Namibian waters and the transfer of species between watersheds are highlighted in the policy document. Unfortunately, inland fish must compete with perceived more important sectors such as agriculture, electricity generation or transport services and do only receive limited consideration when competing with these sectors. Inland fish have a major role to play in Namibia in food security and livelihood resilience, especially with the predicted impacts climate change may have on food security in poor rural communities, especially on women and children.

### 2.3 Namibia's Aquaculture Policy: Towards Responsible Development of Aquaculture (2001)

Catches from the global capture fisheries have plateaued and with an expected 9 billion people in 2050 that will need to be fed, aquaculture could be one way of closing this deficit. This, however, needs to be done responsibly with science-based support. The aquaculture industry in Namibia (both marine and freshwater) is small compared to other countries in Africa. The main objective of the Namibian policy on aquaculture is the responsible and sustainable development of aquaculture to achieve socio-economic benefits for all Namibians and to secure environmental sustainability. The Government of Namibia is obligated to protect the environment and prevent irresponsible aquaculture practices that can damage the aquatic environment to the disadvantage of present and future generations. This policy is guided by the Code of Conduct on Responsible Fisheries and will maintain the highest standards of ethical practices as provided in the FAO Technical Guidelines for Aquaculture Development and the Holmenkollen Guidelines.

The Government is therefore compelled to practice and promote responsible aquaculture and to facilitate sustainable development and management of aquaculture ventures within the national water bodies. The policy highlights the following principles:

- Both marine and freshwater aquaculture are to be governed by the same basic management principles;
- the Government is to ensure 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;
- preference is to be given to Namibian citizens and to ventures beneficially controlled by Namibian citizens to benefit from the utilisation of Namibia's natural resources for aquaculture development;

- women, being the majority in Namibia, should be fully involved in the aquaculture development process;
- aquatic farming communities, voluntary aquaculture producer organisations and individual aquaculturists are to be encouraged to develop responsible aquaculture at the farm level;
- there should be broad and balanced participation by Namibians in aquaculture, and access to resources available for aquaculture will be equitable;
- aquaculture ventures should be self-sustainable; and
- as SADC Marine Fish Co-ordinator, Namibia should strive to serve as a model for the development of strategies for coastal aquaculture.

Both commercial and small-scale aquaculture will be supported as both these do have important roles to play in the socio and economic arenas in Namibia. Small-scale aquaculture will mainly focus on the freshwater ecosystems (but not exclusively) while commercial aquaculture is more likely to feature in the marine environment due to the rich Benguela current that supports one of the most productive marine ecosystems in the world. The Fifth National Development Plan (NDP5) for the period 2017/2018 to 2021/2022 promotes investment in marine aquaculture and considers marine aquaculture as a viable economic option. This should be done through the demarcation of suitable areas for marine aquaculture and the development of infrastructure and to facilitate services.<sup>10</sup> Namibia's Vision 2030 states that freshwater aquaculture does not have the potential to provide large economic activities in the country.<sup>11</sup> Small-scale aquaculture with low investment and running cost near the perennial rivers or large floodplains could be viable as a subsistence protein source for poor communities.

The Government will designate certain areas, when necessary, as aquaculture zones. These areas could be in communal areas, watersheds or specific coastal areas. The rationale of having designated aquaculture zones is to facilitate and regulate the development of this sector and to guarantee appropriate standards to protect the sector and the environment against any harmful activities. In the same sense, the policy mentions the classification of sensitive aquatic environments as exclusive zones where aquaculture activities will be prohibited. This is a further proactive step to protect the environment.

Environmental assessments must be performed before aquaculture activities can commence, especially those outside of the aquaculture zones. This will be done in consultation with the Ministry of Environment and Tourism and other relevant authorities. The cost of the assessment will be borne by the proponent. All international laws and conventions will be respected and will form part of the assessment. These are the Convention on International Trade in Endangered Species (CITES), the Convention

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10 GRN (2017a:27).

11 GRN (2004a:136).

on Wetlands of International Importance (RAMSAR), the International Council for the Exploration of the Seas (ICES) and the Code of Conduct for Responsible Fisheries.

Responsible aquaculture is critical as farming with aquatic organisms can have irreversible negative impacts on the environment. The introduction of alien species is probably one of the most serious threats to the ecosystem. These alien species can threaten food security and can serve as a vector for the introduction of parasites and diseases. Alien fish species can also decrease the genetic diversity through the hybridisation process reducing the survival rate of these species. There is this notion that alien species have characteristics better suited for farming with a higher quality end product compared to native species, which is not always justified. Eutrophication from aquaculture ponds is also of major concern influencing ecosystem services when the functioning of these ponds fails or are not functioning at optimum levels. The carbon footprint of aquaculture is also much higher than captured inland fisheries when considering the construction and the running of the farm, transport, fish feed and the use of antibiotics. A permanent threat to the success of marine aquaculture along the Namibian coast is the presence of harmful algal blooms and Sulphur eruptions that can cause damage to farmed organisms or even pose health risks to consumers. Preventative measures must be in place to minimise these risks and to safeguard people from these hazards.

### 3 The Statutory Framework

#### 3.1 The Marine Resources Act No. 27 of 2000

The Marine Resources Act No. 27 of 2000 provides for the conservation of the marine ecosystem for the responsible utilisation, conservation, protection and promotion of marine resources on a sustainable basis. This Act replaces the Fishing and Factory Owners' Committee Ordinance, the Sea Birds and Seals Protection Act, Sections 42 and 43 of the General Law Amendment Act, and the Sea Fisheries Act. According to Section 64(2) of the Marine Resources Act regulations made under previous legislation remain in force. The Act provides the Minister with the authority to determine the general policy regarding the conservation and sustainable utilisation of the marine resources for the benefit of the Namibian people. The territorial sea and exclusive economic zone are determined by the President through gazette proclamation. The Minister may designate any staff or official of any Ministry as a fisheries inspector<sup>12</sup> with designated powers<sup>13</sup> to enforce the law as determined by the Act and regulations. The

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12 Section 41.

13 Section 13.

Act makes provision for the establishment of a Fisheries Observer Agency<sup>14</sup> to appoint and train fisheries observers that will observe harvesting, handling and processing of marine resources and related operations on any fishing vessel. The Minister will determine the policy of the agency and will approve their annual plan, budget and report.

A Marine Resources Advisory Council<sup>15</sup> is established which will advise the Minister in relation to any matter on which the Minister is required to consult the council under this Act. The minister may refer any matter to the advisory council for investigation or advice. The Act further stipulates the conditions under which commercial harvesting of marine resources will be allowed. Commercial harvesting of marine resources is subject to a right,<sup>16</sup> an exploratory right<sup>17</sup> or fisheries agreement. Certain conditions are attached to these rights and may include a period of validity as specified by the Minister. An exploratory right may only be granted to one person to explore the potential of harvesting a marine resource for which no right has been granted. The Minister may from time to time determine a total allowable catch on the basis of the best scientific evidence available and advice from the Advisory Council.

The Minister may with consultation with the advisory council determine fees payable in respect of the harvesting of marine resources. These funds will be paid into the Marine Resources Fund<sup>18</sup> and the Fisheries Observer Fund.<sup>19</sup> These funds will be utilised to fund the activities of the Fisheries Observer Agency and for research, development, training and education relating to marine resources.

The Act stipulates several management and control measures relating to prohibited fishing gear and fishing methods, closed areas and closed seasons, marine species that are protected and those that may be harvested and measures to limit the amount of harvesting capacity.<sup>20</sup> The Act makes provision for the establishment of marine reserves<sup>21</sup> for the protection or regeneration of marine resources. The Minister may declare an area a marine reserve after consultation with interested stakeholders. This Act was amended in 2015,<sup>22</sup> providing for the sovereign exercise of ownership by the state over marine resources and amending the provisions relating to the total allowable catch and allocation of quotas.

Regulations relating to the exploitation of marine resources were made under Section 61(1) of the Marine Resources Act. These regulations outline the forms and procedures for granting rights or exploratory rights, allocating quotas and issuing licenses and the requirements for fishing for recreational purposes. It further stipulates the

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14 Section 8.

15 Section 24.

16 Section 33.

17 Section 34.

18 Section 45.

19 Section 43.

20 Section 47.

21 Section 51.

22 Act No. 9 of 2015.

conservation measures relating to fishing gear used for commercial purposes, the clearance of fishing vessels, measurement of meshes of fishing nets and any attachments to trawl nets. The regulation lists protected marine species that are not allowed to be killed, disturbed, or injured. A pristine environment is critical for optimum marine resources yield and the regulation highlights the way fishing gear, non-biodegradable objects and waste should be handled on fishing vessels as well as onshore. Other topics referred to in the regulations are documents to be carried on board a fishing vessel, the handling of by-catch and the fees payable by the company, compliance control relating to the role of inspectors and their functions and offences and penalties.

Regulations relating to Namibian Islands' Marine Protected Area were made under Sections 51 and 61(1) of the Marine Resources Act. The regulations outline the delimitation and co-ordinates of the different islands, the restrictions and prohibitions in the buffer zones of the Namibian islands' marine protected areas as well as in the different zones.

### 3.2 The Inland Fisheries Resources Act No. 1 of 2003

This Act is to provide for the conservation and protection of aquatic ecosystems and the sustainable development of inland fisheries resources and to provide for the control and regulation of inland fishing. It further makes the Minister responsible for the development of the policy and must consider the social, economic and environmental factors with the best scientific knowledge for the conservation and utilisation of the inland fisheries resources. The Minister must consult the regional council, the local authority or the traditional authority in that particular area before developing or amending the policy. There is an Inland Fisheries Council that the Minister can consult on any Inland Fisheries Resources matters with the constitution of this council as described in this Act.<sup>23</sup> A fishing license must be obtained when engaging in recreational fishing using a rod and reel and when using a gillnet.<sup>24</sup> The number, length and mesh size of the gillnet, the way a gillnet is allowed to be used and conditions of these licenses are specified. Bag limits are prescribed for recreational fishing with minimum lengths for the fish species targeted. However, no bag limits are prescribed for the gillnets or any other fishing gear. Amendment of the Act was done through Government Notice No. 296 of 2016 that prohibits the use of monofilament gillnets and only allows for the use of multifilament gillnets in Namibian inland waters. The Act further provides the Minister with the power to close certain areas or for certain time periods for any fishing related areas if the Minister feels that the fish resource needs protection. The Minister by Government Notice No. 297 of 2016 under Section 22(1) of this Act

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23 Section 3.

24 Section 11.

declared the Zambezi/Chobe River System as a Fisheries Reserve where no fishing activities are allowed for the period 1 December to 28 February of every year. Furthermore, fisheries reserves can be established where no fishing activities are allowed or any activity that may interfere with the natural environment of the fish or any related ecosystem without the written permission of the Minister. Several areas along the Zambezi, Chobe and Kwando Rivers have been gazetted as fisheries reserves each with their management plan and rules and regulations (Government Notices No. 64, 65, 66 and 67 of 2020, No. 298 of 2016 and No. 276 of 2015).

Certain fishing methods are seen as destructive and are not allowed. These fishing methods are the use of chemicals, poison or any noxious substance, explosives, firearms and electrical devices and the use of light to attract fish during the night.<sup>25</sup> This Act prohibits the transfer of any fish species between any inland waters of Namibia or the introduction of any fish species into any inland waters without the written permission from the Minister. The import and export of any fish species are also regulated and permission for such transport is needed.

The Minister may declare any fish species as endangered that will provide special protection to such a species. Such a species may not be killed or injured, caught or removed from its environment without the written permission from the Minister.<sup>26</sup> This Act further gives the power to the Minister to designate any staff member in prescribed Ministries, regional council, local authorities or any person nominated by the traditional authority as an inspector. The powers of these inspectors are specified in Section 25 of the Act.

The Minister is allowed to make regulations that pertain to the conditions fishing can be undertaken, the fishing gear types allowed with specifications and the fishing methods used, the establishment of inland fisheries committees and their functions and duties, and the penalties for contravening these provisions.

The Inland Fisheries Resources Regulations of this Act (power is given to the Minister to make regulations accordance to Section 29 of the Act) are presented in the Government Notice No. 118 of 2003. Regulated fishing is defined as a rod, reel, line and hook or a net. For these regulated fishing gear, a licence must be obtained. Each regulated fishing gear has certain conditions on how these should be used by the licensee. Further specifications are prescribed for the rod, reel and hook and line such as no one is allowed to use a cluster of hooks and the nets have limitations on the length, depth, mesh sizes and how far apart they are allowed to be set in a water body. The different river systems have different minimum mesh sizes and no gillnets are allowed in the Lower Orange River. Fishing competitions need to be authorised by the Minister with all conditions of hosting such competitions listed in the regulations of this Act.

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25 Section 17.

26 Section 21.

### 3.3 The Aquaculture Act No. 18 of 2002

The Aquaculture Act is to regulate and control aquaculture activities, to provide for the sustainable development of aquaculture resources, and for related matters. It further gives the Minister the necessary power to determine the aquaculture policy of Namibia taking into account the economic, social and environmental situation in the country after considering the best scientific advice provided. The Minister must consult the advisory council when formulating the general aquaculture policy of Namibia. The Minister must further consult the regional council and the local authority and traditional authority when developing the policy in that particular area. The Act makes provision for the establishment of an advisory council, known as the Aquaculture Advisory Council, to advise the Minister in relation to any matter related to this Act and any matter that the Minister may refer to the advisory council for investigation on matters related to the Aquaculture Policy. The functioning, the constitution and the meeting schedule of the Aquaculture Advisory Council are stipulated in Part III of the Act.

No person is allowed to practice aquaculture without a license issued by the Minister in terms of Section 13 of the Act. The Minister must be satisfied that the applicant has met the following conditions:

- The applicant has the necessary approval or permit which may be required under the laws of the country relating to land or water use;
- the applicant has obtained an environmental clearance certificate where an environmental impact assessment is required according to the relevant laws; and
- a consent letter from the landowner should accompany the application if the applicant is not the owner of the site.

Furthermore, the Minister may also consider:

- Any objections received under Section 12(4) of this Act;
- whether a significant risk of pollution or other adverse impacts may affect the environment if the activity should go ahead;
- whether the site is not suited for the particular aquaculture activity planned or whether there is any risk of conflict with other activities or proposed activities; and
- any other matters applicable to the license that, in the opinion of the Minister, are relevant.

Section 13 of the Act mentions the necessity to obtain an environmental clearance certificate before commencing any aquaculture activity. The Environmental Management Act No. 7 of 2007 specifies the conditions for obtaining such a certificate. An environmental clearance certificate must be obtained:

- If the aquaculture facilities are not within a declared aquaculture development zone;

- if organisms are genetically modified changing the characteristics of those organisms;
- when importing, processing and transiting any genetically modified organisms or the releasing of these organisms into the environment;
- if any pest control is done;
- for the release of any organisms outside of their natural environment for biological pest control;
- for the introduction of alien species within Namibian waters;
- if water is abstracted either underground or surface water;
- for constructing any facilities in watercourses within flood lines or within catchments; and
- when altering a natural wetland system.

Further conditions of an issued license relate to quantities of the organisms, which may be retained or introduced at the site, the structures and equipment used and the maintenance process followed, the water quality, composition of feed used, types of manures or fertilisers used, the use of hormones, drugs, antibiotics, chemicals, the disposal of dead organisms, waste, the keeping of records and other conditions as the Minister may deem necessary.

The Act also specifies management and control measures that a licensee must adhere to. These specifications are on the reporting of disease or harmful organisms, the monitoring of the water quality, the introduction and transfer of aquatic organisms, the import and export of live organisms, the handling and marketing of aquaculture products and on aquaculture activities in conservation or other protected areas if authorised by the Minister.

All aquaculture products of the species specified in the license are the property of the licensee until sold or traded. These organisms remain the property of the licensee if these escape into the natural environment and the licensee can prove their identity.

Section 32 of the Act makes provision for the establishment of Aquaculture Development Zones with the purpose to:

- Attract, promote or increase the development of aquaculture facilities in areas which are particularly suitable for aquaculture;
- manage and control aquaculture in those areas;
- encourage the transfer of technology and the development of responsible aquaculture practices;
- generate or increase employment in aquaculture;
- protect aquaculture developments; or to
- ensure responsible planning of aquaculture.

The enforcement of this Act will be conducted by inspectors designated by the Minister. The Minister may designate any staff member in the Ministry as an inspector and the Minister may also designate with the concurrence of the Minister responsible for any other Ministry or a regional council or a local authority council a staff member by



notice in the Gazette as an inspector. The powers of these inspectors are outlined in Section 27 of this Act. Part VIII of this Act stipulates the offences and penalties. The Minister may make regulations in relation to any matter permitted or required in terms of this Act. Section 45 gives the Minister the power to exempt any person who conducts scientific research or experimentation or any person or category of persons whom the Minister considers appropriate on other grounds previously referred to from any or all of the provisions of this Act. The Minister may also amend or cancel such an exemption that was granted.

Government Notice No. 246 stipulates the regulations of the Aquaculture Act. These regulations specify that aquaculture products must conform to international standards due to Namibia's obligations as a member of the World Trade Organisation and the Office International des Epizooties (OIE, the World Organisation for Animal Health). Health measures included in the regulations are diseases outbreaks and reporting protocol, the use of approved drugs, antibiotics and other chemicals, quarantine measures, disease zoning to control the spread of infectious diseases and intra-national movements of live aquatic organisms.

Aquaculture activities, when poorly managed can have significant negative impacts on the environment and on other aquatic organisms. This translates into harmful social impacts, particularly within rural communities that depend on healthy aquatic environments for their daily livelihoods. Poorly managed aquaculture activities will also damage the export market, depriving the country of vital foreign revenue. The licensee must take all necessary precautions to prevent any organisms from escaping. This is especially true when introduced species are farmed with. Although farming with exotic aquatic species is not encouraged, permission can be given by the Minister for the introduction of such a species under special circumstances. Aquaculture farms do create waste that needs to be disposed of. Section 20 stipulates that waste should be disposed of or treated in accordance with the terms and conditions of the aquaculture licence.

The rules and regulations regarding the import and export of aquatic organisms are stipulated in the Government Notice 70 of 2010, "Regulations relating to Import and Export of Aquatic Organisms and Aquaculture Products". A licensee must adhere to certain conditions when importing aquatic organisms. The Minister may request a risk assessment to be carried out in accordance with the law or policy relating to environmental assessment. The Minister may only approve an import permit relating to aquatic species listed in Annexures I (List of freshwater and marine ornamental aquatic organisms approved for importation) and J (List of aquatic organisms whose importation is restricted or prohibited). The Minister may also approve the import of aquatic organisms for introduction or transfer if the licensee has a quarantine facility or has contractual access to a quarantine facility. All imported aquatic organisms and documentation will be inspected at the port of entry. These regulations further lay out the conditions of operating a quarantine facility especially for aquatic organisms listed in Annexure I

and for introduced species or species that will be transferred. Sections 15 to 20 lay down the conditions for the export of aquatic organisms or aquaculture products. A person intending to export aquatic organisms or aquaculture products listed in Annexure O (List of aquatic organisms and aquaculture products whose exportation is prohibited) will need special clearance from the Minister before such organisms or products can be exported. The Minister will approve an export permit once satisfied that the applicant has complied to all health requirements and all requirements as instructed by the importing and transit countries as well as all conditions that the Minister may deem necessary. Additional authorisation may have to be obtained as required by law. The import and export of aquatic organisms or aquaculture products can only be done at approved ports. The Minister may cancel or suspend any permit as mentioned in Section 22.