

PLASTIC POLLUTION IN NAMIBIA

Introduction

In Namibia, as is the case with the rest of the world, efforts aimed at addressing the problem of marine litter and pollution are increasing as the risk continues to wreak havoc on the world's oceans and coastal areas (Shigwedha and Shikongo, 2021). The [Abidjan Convention](#), a treaty for cooperation in the conservation, management, and development of the marine environment and coastal areas of the Atlantic Coast in west, central, and southern Africa, is now assessing the situation of marine litter in these African regions. To fulfil their commitments under the Convention (particularly Article 4), Contracting Parties must work with relevant international, regional, and sub-regional organizations to develop and implement approved pollution-fighting methods, procedures, and measures. These initiatives should be backed up by national legislation. From 2019 the Convention has sponsored workshops for representatives of member nations to discuss information on the situation of marine litter in their respective countries. Namibia hosted one such workshop at the beginning of 2020. The data obtained from the workshops will be used to develop suggestions for marine litter prevention and management in these locations. For example some solid waste disposal sites in Namibia are distinguished by the presence of plastic bags and packaging littered throughout the landscape (see [here](#) and [here](#)). This is unsightly in a country that prides itself on its clean and healthy landscapes, is a negative factor for the promotion of tourism, poses a danger to domestic stock and wildlife, and is a health hazard, to marine life and particularly in malaria areas where mosquitos breed in water caught in plastic bottles.



Image source: [John Cameron](#) on [Unsplash](#)

Naude Dreyer, a marine activist and the founder of Ocean Conservation Namibia has stated that “most of the garbage here originates from ships and the fishing industry. It is not caused by Namibians throwing trash on the beach. When it comes to littering, Namibians are generally not awful” (Shigwedha & Shikongo, 2021).

Although generally speaking the Covid 19 pandemic has resulted in an increase in marine plastic pollution due to personal protective equipment such as disposable masks and latex gloves finding their way into the ocean (see [here](#) for example), according to Dreyer's observations, in Namibia the pandemic appears to have lowered the overall mass of litter at beaches. She emphasised however that Namibia's coastline features good clean-up activities, with individuals and organizations working hard to keep the coast clean.

Impacts

Tourism

Tourism is an important sector in Namibia. It is the third largest contributor to the country's Gross Domestic Product (GDP), it generates a significant amount of jobs and is a valuable foreign exchange earner for the economy. The aesthetic value and attractiveness of beaches and shorelines are adversely affected by the presence of visible marine litter. In addition marine litter can pose health and safety issues to divers, recreational boaters, fishermen, and other coastal visitors, in addition to being unattractive and inconvenient. Medical/personal hygiene items (e.g. disposable diapers and sanitary products) contaminate the water and pose a health risk to swimmers and other users. Therefore, plastic pollution in Namibia does pose a threat to the tourism industry, which directly impacts communities reliant on tourism revenues.

Subsistence farmers/marine life

In terms of terrestrial impacts, livestock animals can become entrapped in plastic waste, or ingest it, both of which can prove fatal. This affects subsistence farmers whose livelihood depends mostly on their animals. The worst impacts however are seen in the marine environment. A study was conducted between April 2018 and December 2019 assessing entanglement occurrence within colonies of Cape fur seals at two locations along the Namibian coastline, Pelican Point in Walvis Bay and Cape Cross (Curtis, 2020). 217 examples of entanglement by plastic materials were discovered, with photographic surveys revealing 17 percent more entanglements than in situ scans. Pelican Point and Cape Cross had entanglement rates of 0.14 percent and 0.04 percent, respectively. Fishing-related materials accounted for 52 percent of observed occurrences of entanglement, with adolescents being the most commonly afflicted, and entangling objects caused 'severe' injuries in 5% of recorded seals.

National Regulatory Responses

Regulations Relating to the Exploitation of Marine Resources No. 241 of 2001

In its [Regulations Relating to the Exploitation of Marine Resources](#), the Namibian government has made it illegal to discard fishing gear. A fisherman in Namibia "may not leave any fishing gear or other non-biodegradable object used for harvesting marine resources on or in the sea or on the sea beach following the conclusion of harvesting without the Minister's written authorisation." If a fisher loses or abandons his or her fishing gear, he or she will be responsible for all collection costs, and if the State recovers the gear, the fisher will be liable to the State. However, considering the outcome of the study conducted by Curtis regarding entanglement of seals, questions must be raised around the effectiveness of the regulations. In that study the rate of entanglement was found to be substantially higher at Pelican Point than at Cape Cross, most likely due to the proximity to human population. The most common source of entanglement has been identified as fishing gear entanglement.

Customs and Excise Act 20 of 1998

The Minister of finance in 2019 made amendments to the [Customs and Excise Act 20 of 1998](#) containing an environmental levy of N\$0.50 on all plastic bags, carrier bags and flat bags which was [gazetted on 2 August 2019](#).

Environmental Management Act 7 of 2007

Section 3 of the [Environmental Management Act 7 of 2007](#) contains principles of environmental management of which section 3(1)(i) promotes the 3 R's namely recycling, reuse and reduction. Most plastic manufacturers rely on this section stating that the plastic bags are made from re-used materials and that plastic bags can be reused.

Nature Conservation Ordinance, No. 4 of 1975

In 2017, the Ministry of Environment Forestry and Tourism presented an [amendment to Regulations](#) under the [Nature Conservation Ordinance, No. 4 of 1975](#), which bans plastic bags in game parks and nature reserves

Regulating Plastic Pollution in Namibia's Coastal Towns

Namibia has 4 major coastal towns which are Swakopmund, Walvis Bay, Henties Bay, and Luderitz, and smaller spots to camp and visit such as Mowe Bay, Torra Bay, and Elizabeth Bay. Since 2018 the Swakopmund municipality through the Local Council of the Municipality of Swakopmund has tried to manage plastics in particular single-use plastic bags in its town (Council of Swakopmund, 2015 and Hikuafilua, 2018). These initiatives find legal basis in a number of existing environmental legal instruments and policies as set out in Table 1 below.

Table 1: Legal Framework on Pollution and Waste Management in Namibia

Applicable Legislation	Provision and Requirements
<p>1. Constitution of the Republic of Namibia (1990)</p>	<p>Articles 91(c) and 95(l) are the two clauses contained in the Namibian Constitution that are of relevance to sound environmental management practice. General principles for sound management of the environment and natural resources in an integrated manner have been created in order to give effect to articles 91(c) and 95(l) of the Namibian Constitution. Namibia's Environmental Assessment Policy of 1994 was based on the creation of these broad concepts. The Environmental Management Act (Act No. 7 of 2007) was passed in 2007 to give statutory force to this Policy. As the state organ responsible for the management and protection of its natural resources, it was gazette as the Environmental Management Act (Act No. 7 of 2007).</p>
<p>2. Local Authorities Act, No. 23 of 1992 as amended</p>	<p>The Act provides for the determination of local authority councils for the purposes of local government; the establishment of such local authority councils; and the definition of the powers, duties, and functions of local authority councils; and incidental matters.</p> <p>Local and regional governments are responsible for waste collection and disposal. The Act also empowers local governments to enact bylaws to protect waste management within their territories.</p>
<p>3. General Environmental Standards Municipal Solid Waste Management Facilities / Systems</p>	<p>The landfill site must be 100 meters away from a river, 200 meters away from a pond, 200 meters away from highways, habitats, public parks and water parks, and water supply wells, and 20 kilometres away from airports or air bases, according to the Environmental Standards for Municipal Solid Waste. However, after receiving a No Objection Certificate from the Civil Aviation Authority/Air Force as the case may be, a landfill site may be established at a distance of 8 km to 20 km from the Airport/Airbase. The landfill site must not be located near flood basins that have been recorded for the past 100 years, coastal regulation zones, wetland, important habitat regions, or sensitive environmentally vulnerable areas.</p>
<p>4. Pollution Control and Waste Management Policy, 2003</p>	<p>The purpose of this policy is to regulate and prevent the release of pollutants into the air and water, as well as to establish a general waste management system.</p> <p>The policy lays the groundwork for a variety of administrations in the country to deal with pollution and waste management.</p>
<p>5. Environmental Management Act, No.07 of 2007</p>	<p>Assuring that the significant environmental repercussions of operations are carefully studied and addressed in a timely manner. To support the long-term management of the environment and the efficient use of natural resources by adopting environmental decision-making principles.</p>
<p>6. Public Health and Environmental Act, No. 1 of 2015</p>	<p>The objectives of the Public Health and Environmental Act are to;</p> <ul style="list-style-type: none"> • Promote public health and wellbeing • Prevent injuries, diseases and disabilities

	<ul style="list-style-type: none"> • Protect individuals and communities from public health risks • Encourage community participation in order to create a healthy environment • Provide for early detection of diseases and public health risks <p>Section 2 requires that a) “Every local authority must take necessary reasonably and applicably measures to maintain its local authority area at all times in a hygienic and clean condition” b) Prevent occurrence of a health nuisance, unhygienic condition, an offensive condition or any condition which could be harmful or dangerous to the health of a person within its local authority or the local authority area of another local authority”</p>
7. Hazardous Substances Ordinance 14 of 1974	This Ordinance provides for the control of toxic substance and thus also relevant for pollution control. It covers for the manufacturing, sale, use, disposal, dumping, importing and exporting of hazardous waste.
8. The Soil Conservation Act No.76 of 1969	This Act provides for the prevention and combating soil erosion, the conservation, improvement and manner of use of the soil and vegetation and the protection of water sources
9. Medicine and Related Substances Control Act 13 of 2003	Enforces disposal of undesirable medicines.
10. Namibia Integrated Health Care Waste Management Plan, 2010	Provide the information to allow health care facilities to establish a good healthcare waste management system consistent with the regulatory requirements of Namibia.
11. National Solid Waste Management Strategy, 2018	Provides coordination for funding, regulations, action plan for proper solid waste management and facilitate stakeholder collaboration.
12. Waste Disposal Site Siting Guidelines, 2017	Provide guidelines and specifications for Sanitary Landfills and Criteria for Site Selection.
13. Basel and Rotterdam Convention, Framework Convention on Climate Change	<p>Agreed to ensure environmentally sound management of hazardous waste and other wastes through the reduction of their movements, for the purpose of reducing their impacts on human health and environment. The Basel Convention makes specific reference to control of special HCW: sharps, pathological infectious waste, hazardous chemical waste, and pharmaceutical waste and includes the following waste categories:</p> <ul style="list-style-type: none"> • Clinical wastes from hospitals, health centers, and clinics. • Wastes from the production and preparation of pharmaceutical products. • Pharmaceutical waste. • Waste from the production, formulation and use of biocides and phyto-pharmaceuticals <p>Namibia has accepted the principal that the only legitimate transboundary shipments of hazardous waste are exported, where the country lacks the facilities or expertise to dispose of the waste</p>

	categories. This is applicable to the transportation of radioactive waste from Namibia to South Africa. Because suitable facilities are not available in Namibia, provided that the radioactive waste is labelled, temporarily stored and transported according to the United Nations (UN) recommended standards.
14. Stockholm Convention on Persistent Organic Pollutants	Emphasizes the restriction and elimination of on persistent organic pollutants (POPs), especially the disposal of industrial and medical chemicals. It also provides information for future establishments to re-use, reduce and recycle waste with environmentally friendly technologies e.g. autoclaving. It was adopted in 2001 and entered into force on May 17, 2004.

Swakopmund council presented the Single-Use Plastic Bag draft regulations in 2018 to the Ministry of Environment Forestry and Tourism, which are still under consideration (Bezerra et al, 2021). This proposed legislation aims to prohibit the distribution of plastic bags by business entities in Swakopmund. Paper bags are allowed as an alternative, but they must contain recycled content and be recyclable or compostable, and establishments must charge and disclose a 50 cent to one-dollar fee for each bag provided to customers, in order to encourage customers to bring their own bags and avoid using unnecessary ones. The adoption of this approach is in line with section 26 of the [Environmental Investment Fund Act, 2001 \(Act No. 13 of 2001\)](#) which allows for the Minister of Environment and Tourism to determine and impose levies with concurrence from the Minister of Finance and upon recommendation of the Board of the Environmental Investment Fund.

Conclusions and recommendations

Every solid waste disposal site in Namibia is distinguished by the presence of plastic bags and packaging littered throughout the landscape. This is unattractive in a country that prides itself on its clean and healthy landscapes. It is a deterrent to tourism, a threat to domestic animals and wildlife, and a health issue, especially in malaria-prone areas where mosquitos grow in water captured in plastic bottles. The complete impact of ocean plastics has yet to be determined in relation to Namibia. It is obvious that smaller particles known as microplastics (less than 5mm) can penetrate and proceed up the food chain and many maritime birds, including shearwaters, have been found with larger macro-plastics (>5mm) that are resistant to digestion in their stomachs.

There is a clear need to conduct studies on the full extent of marine plastic pollution in Namibia, including to ascertain the full extent of the economic, social, environmental and cultural impacts. In addition there is need to assess the effectiveness of the legal measures adopted in Namibia to prevent marine plastic pollution. The general impression is that there is not much marine plastic pollution in the coastal areas of Namibia. Instead there is an argument that most of the marine plastic pollution in Namibia comes from ships. There is need to ascertain the credibility of this observation.

Such information will clarify the conflicting positions and could assist policymakers to adopt adequate measures aimed at reducing the amount of plastic entering ecosystems in Namibia and increase the amount recycled. It is not in doubt that new approaches are needed to generate the necessary incentives to avoid marine plastic pollution including through adopting revised legislation that is consistent with the prevailing challenges.

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