

Chapter 9: Pollution Control and Waste Management

Katharina Ruppel-Schlichting

1 Introduction

Despite the fact that Namibia is a large country with a sparse population where the amount of solid waste generated is relatively low, major environmental challenges in Namibia, just as in Southern Africa in general are related to pollution control and waste management. Pollution can be defined as “the presence in or introduction into the environment of a substance which has harmful or poisonous effects.”¹ A similar though more detailed definition of pollution is for example provided by the Solid Waste Management Policy of the City of Windhoek, which defines pollution as²

any change in the environment caused by –

- (a) any waste, substance or matter; or
- (b) noise, odour, dust or heat, emitted from or caused by any activity, including the storage or treatment of any waste, substance or matter, building and construction, and the provision of any service, whether engaged in by any person or an organ of state if that change has an adverse effect on public health or well-being or on the composition, resilience and productivity of a natural or managed ecosystem (both short term and long term), or on material useful to people, or will have such an adverse effect in the future.

The term waste is closely related to pollution but not identical. The characteristic of a failure to use for its proper purpose is inherent to the term waste, which has thus been defined as³

any substance or matter whether solid, liquid or any combination thereof, irrespective of whether it or any constituents thereof may have value or other use, and includes –

- (a) any undesirable, rejected, abandoned or superfluous matter, material, residue of any process or activity, product, by-product;
- (b) any matter which is deemed useless and unwanted;
- (c) any matter which has been discarded, abandoned, accumulated or stored for the purposes of discarding, abandoning, processing, recovery, reuse, recycling or extracting a usable product from such matter; or
- (d) products that may contain or generate a gaseous component which may originate from residential, gardening, business, commercial, trade, industrial, educational, agricultural, medical, building and demolition activities, and any other activities, and further includes industrial waste, hazardous waste and health care risk waste.

While pollution does not necessarily need to be caused by waste it can also be caused by other pollutants. Waste – if handled correctly – does not necessarily cause pollution.

1 See Oxford Dictionary for Advanced Learners.

2 See CoW (2009) in the introductory definitions section.

3 Ibid.

As from a legal and statutory point of view, many provisions that apply to pollution also apply to waste, whereas in many cases specific statutes deal with waste.

Pollution control and waste management are essential in environmental protection as pollution and waste are a threat to human health, plant and animal life and ecological systems. Ensuring proper waste management is crucial to a broad spectrum of human rights such as the rights to life, health, food, water and sanitation and to a clean and satisfactory environment to name but a few. Preventing and managing pollution must thus be considered as a priority issue, especially in the light of the rising quality of life, high rates of resource consumption patterns and industrialisation.

A 2018 World Bank Report on waste⁴ provides the following alarming figures: The world generates 0.74 kg of waste per capita per day, with waste generation rates fluctuating widely from 0.11 to 4.54 kg per capita per day depending on income levels and urbanisation rates. An estimated 2.01 billion tonnes of municipal solid waste were generated in 2016, and this number is expected to grow. For the Sub-Saharan Africa region consisting of 48 countries and home to 1.03 billion people in 2016, the report anticipates that with more than half of the world's population growth to occur in the said region by 2050, waste generation will nearly triple by 2050. In 2016, the Sub-Saharan Africa region generated 174 million tonnes of waste at a rate of 0.46 kilogram per capita per day. As per the report, Namibia has a waste generation rate of 0.55 kilogram per capita per day with one of the highest waste collection rates in the region.⁵

The aforementioned facts call for an efficient legal framework in order to limit pollution and waste to an absolute minimum. Ecosystems can only be protected and utilised optimally where an efficient legal framework is supported by an effective administrative system. Against this background integrated pollution control acknowledges that the environment functions as a whole which requires a holistic approach which integrates legal, institutional and scientific instruments.

Pollution control and waste management are regulated by both national and international law. A wide variety of legal norms are applicable in this field of significant importance for environmental conservation. The following sections will provide a broad overview of those sets of law and policy that govern pollution control and waste management in Namibia.

2 International Law

A broad range of Multilateral Environmental Agreements (MEAs) are pertinent to pollution control and waste. Because pollution knows no boundaries, a rich body of international law conventions deals – directly or indirectly – with transboundary pollution.

4 Kaza *et al.* (2018:17); for figures on previous years see Hoornweg / Bhada-Tata (2012:x).

5 Kaza *et al.* (2018:78).

Among the prominent relevant conventions to which Namibia is a party are the Stockholm Convention on Persistent Organic Pollutants (2001), the United Nations Framework Convention on Climate Change (1992) and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989).

With regard to transboundary pollution the legal and policy framework of the Southern African Development Community (SADC), to which Namibia is a party, also contains some relevant provisions. The SADC Protocol on Shared Watercourse Systems for example provides that permits must be acquired before discharging any and all types of wastes into shared waters, provided that the intended discharge will not have a detrimental effect on the watercourse system; member states must furthermore take all measures necessary to prevent the introduction of alien aquatic species into a shared watercourse system which may have detrimental effects on the ecosystem; and agreements should be reached on water control and utilisation in shared watercourse systems including the regulation of the flow and drainage.⁶ In the Revised Protocol on Shared Watercourses, the prevention, reduction and control of pollution has been expanded to include lists of substances, which may not be introduced into the waters of a shared watercourse, and calls for the joint setting of water quality objectives. The SADC Protocol on Health contains a provision on environmental health, which seeks for cooperation among member states in addressing regional environmental health issues and other concerns, including toxic waste, waste management, port health services, pollution of air, land and water, and the degradation of natural resources.⁷

But not only MEAs, also judgements of international judicial bodies shape the body of international environmental law related to pollution and waste. One example includes one of the most prominent international environmental law cases, namely the *Trail Smelter Arbitration (US v Canada)* which deals with trans-boundary pollution.⁸ Another relevant dictum refers to the WTO's Dispute Settlement Body dealing with imports of re-treaded tyres (*EC v Brazil*).⁹

6 See Article 2 of the SADC Protocol on Shared Watercourse Systems.

7 Article 23 of the Protocol on Health.

8 *Trail Smelter Arbitration (1938/1941)* 3 RIAA 1905 Arbitral Tribunal: US and Canada. The smelter in Trail, British Columbia, operated by the Consolidated Mining and Smelting Company (COMINCO) and had processed lead and zinc since 1896. Smoke from the smelter caused damage to forests and crops in the surrounding area and also across the Canada-US border in Washington. The smoke from the smelter distressed residents, resulting in complaints to COMINCO and demands for compensation. The dispute between the smelter operators and affected landowners could not be resolved, resulting in the case being sent to an arbitration tribunal. Negotiation and resulting litigation and arbitration was settled in 1941.

9 WT/DS332 Panel and Appellate Body Report adopted on 17 December 2007. See http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds332_e.htm, accessed 30 January 2014. In 2005, the EC requested consultations with Brazil regarding its imposition of measures that adversely affected exports of re-treaded tyres from the EC to the Brazilian market. The EC challenged the ban as a violation of WTO rules, whereas Brazil claimed that the imports of re-treaded tyres led to a faster accumulation of waste tyres and defended the measure as necessary to protect health and the environment.

3 National Law and Policy

The following sections shall provide an overview of the most relevant legislation dealing with pollution control and waste management. As a starting point it can be stated that Namibia's legal framework dealing with the aforementioned substantive matters is still fragmented, and sectoral rather than integrated. Although many steps have been taken in recent years to enhance environmental protection by means of pollution control and waste management, legal enforcement and implementation in this field is yet to be improved with respective laws and regulations waiting for amendments and/or coming into force.

At this stage, the Environmental Management Act (EMA) together with the Environmental Assessment Policy and the Environmental Impact Assessment Regulations, other relevant sectoral legislation as well as the National Solid Waste Strategy and respective provisions issued by local and regional authorities form the basis of Namibia's approach to pollution control and waste management as will be outlined in the following.

3.1 Pollution under the Constitution

The Namibian Constitution does not provide for an environmental clause directly relevant to pollution. However, the provisions generally relevant for environmental protection, namely Article 91(c), which assigns to 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; and Article 95(1), which commits the state to actively promote and maintain the welfare of the people by adopting policies aimed at the maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis. In particular, Article 95(1) requires Government to provide measures against dumping or recycling of foreign nuclear and toxic waste on Namibian territory.

3.2 Common Law Aspects of Pollution

Common law provides a broad range of principles related to pollution control and waste management. The branches of criminal law, the law of delict and the law of nuisance all highly relevant in the context of pollution and waste.

An actionable delict can be given in cases of pollution provided that¹⁰

- there has been an act or omission;
- the act or omission has been wrongful;
- fault, in the form of either intention or negligence is present;
- harm to person or property has been suffered in the form of quantifiable monetary damages (patrimonial loss); and
- there is causation in that the act or omission of the defendant has caused the harm.

The law of nuisance with its three distinct types of nuisance, namely public nuisance, private nuisance and statutory nuisance may be applied in the context of pollution and typically result in an interdict (to refrain from establishing a threatening nuisance or from continuing an existing nuisance) or in an action for damages.¹¹ In many cases national statutory law such as the Environmental Management Act (EMA) or specific waste legislation does, however, offer more specific provisions to address environmental concerns than the body of common law principles.

3.3 Framework Legislation: The Environmental Management Act No. 7 of 2007 (EMA)

Pollution control and waste management within the EMA (which is in force since 6 February 2012) are predominantly anchored within its Section 3 on the principles of environmental management, which guide the implementation of EMA and any other law relating to environmental protection, serve as the general framework for environmental plans and as guidelines for any organ of state when making any decision in terms of the EMA or any other law relating to the protection of the environment. In fact, all of the principles stipulated in Section 3(2) apply to pollution and waste, at least to some extent. However, of particular relevance are the principles (h) to (j) of Section 3(2), which provide as follows:

- (h) the option that provides the most benefit or causes the least damage to the environment as a whole, at a cost acceptable to society, in the long term as well as in the short term must be adopted to reduce the generation of waste and polluting substances at source;
- (i) the reduction, re-use and recycling of waste must be promoted;
- (j) a person who causes damage to the environment must pay the costs associated with rehabilitation of damage to the environment and to human health caused by pollution, including costs for measures as are reasonably required to be implemented to prevent further environmental damage.

10 For more details see Glazewski (2014:20-7 to 20-24).

11 Ibid.

Section 5 EMA empowers the Minister of Environment (Forestry) and Tourism to declare a site to be a waste disposal site and provides that waste or dispose may not be discarded or caused to be discarded except at a disposal site. Contraventions are an offence and fines not exceeding N\$ 500,000 or imprisonment for a period not exceeding 25 years or both may be imposed.

According to Section 27(1) of the EMA, the Minister of Environment (Forestry) and Tourism may list activities, which may not be undertaken without an environmental clearance certificate. Article 27(2) exemplarily lists various fields in which an environmental clearance certificate may be required. The most relevant ones with regard to waste and pollution are the areas of (b) water use and disposal; and (i) waste and sewage disposal and chemical treatment. A list of activities, which may not be undertaken without an environmental clearance certificate has been drafted by the (then) Ministry of Environment and Tourism and published by respective notice in the Government Gazette.¹² Specific activities beneficial with regard to pollution control and waste management that may not be undertaken without environmental clearance certificate have been listed relate to activities in the following sectors:

- Energy generation, transmission and storage activities;
- waste management, treatment, handling and disposal activities;
- mining and quarrying activities;
- forestry activities;
- land use and development activities;
- tourism development activities;
- agriculture and aquaculture activities;
- water resource developments;
- hazardous substance treatment, handling and storage;
- infrastructure; and
- other activities, including the construction of military demonstration and testing sites as well as cemeteries, camping, leisure and recreation sites.

As to waste management, treatment, handling and disposal activities, the list of activities requiring an environmental clearance certificate stipulates the following:

- The construction of facilities for waste sites, treatment of waste and disposal of waste;
- any activity entailing a scheduled process referred to in the Atmospheric Pollution Prevention Ordinance of 1976; and
- the import, processing, use and recycling, temporary storage, transit or export of waste.

The Ministry of Environment, Forestry and Tourism as per Article 56 of the EMA has the competence to make regulations relating various issues of environmental concern,

12 See Government Gazette No. 4878 (2012), Notice No. 29.

including the requirements for listing or delisting of activities in terms of Section 27; what constitutes an activity for purposes of listing or delisting in terms of Section 27; and to the disposal of certain types of waste. Most importantly, the Ministry of Environment, Forestry and Tourism under Section 56 of the EMA has drafted regulations regarding Environmental Impact Assessment.¹³

3.4 Sectoral Legislation

As stated above, the legal framework relating to pollution control and waste management is varied and patchy. This is not only problematic in terms of the variety of laws which sometime reflect overlaps and regulatory gaps. Another major concern is the multitude of administering bodies involved. Where some of the laws and policies are administered by the Ministry of Environment, Forestry and Tourism, others mandate action from the Ministry of Health and Social Services; the Ministry of Agriculture, Water and Rural Development; the Ministry of Works, Transport and Communication; the Ministry of Mines and Energy, the Ministry of Trade and Industry, the Ministry of Fisheries and Marine Resources and the Ministry of Regional and Local Government and Housing. In other cases, local authorities are responsible for enforcing certain laws. The collection and disposal of waste is the responsibility of local and regional authorities.

3.4.1 The Public and Environmental Health Act No. 1 of 2015

In 2014, the Minister of Health and Social Services introduced the Public and Environmental Health Bill¹⁴ in order to promote public health and wellbeing; prevent injuries, diseases and disabilities; protect individuals and communities from public health risks; encourage community participation in order to create a healthy environment; and to provide for early detection of diseases and public health risks. In 2015, the Public and Environmental Health Act No. 1 of 2015 has been passed by Parliament and came into force in 2020.¹⁵

13 See Government Gazette No. 4878 (2012), Notice No. 30.

14 See Government Gazette No. 7338 Government Notice No. 230. The Act is available at https://laws.parliament.na/cms_documents/public-and-environmental-health--686af27f65.pdf, accessed 21 May 2021.

15 The Act will come into force on a date set by the Minister in the Government Gazette. However, Part 3 of the Act was brought into force temporarily by the State of Emergency COVID-19 Regulations, Proclamation 9 of 2020 (GG 7159) issued pursuant to Article 26(5) of the Namibian Constitution, subsequent to the declaration of a State of Emergency in the whole of Namibia, following a worldwide outbreak of the disease known as Coronavirus Disease 2019 (COVID-19), in Proclamation No. 7 of 2020 (GG 7148).

The Act contains several provisions relevant for environmental protection. With a view to water and food safety, the Act formulates a duty of local authorities to provide and maintain as far as may be reasonably possible, a sufficient supply of potable water for drinking and domestic purposes.¹⁶ Part 9 of the Act addresses integrated waste management and stipulates among others that in order to prevent environmental pollution and public health risks, local authorities must ensure that all waste generated is collected, disposed of and recycled in accordance with the requirements of all laws governing the management of the different waste streams.¹⁷ Health nuisances are addressed in Part 10 of the Act, in which specific health nuisances are identified, including among others polluted sources of water supply, the accumulation or deposit of refuse, which is injurious or dangerous to health and other conditions which are offensive, injurious or dangerous to health. According to Section 68, the Minister may require the preparation of public and environmental health plans. A long list of the fields in which the Minister may make regulations, including waste management, is contained in Section 77 of the Act.¹⁸

3.4.2 The Soil Conservation Act No. 76 of 1969

The Soil Conservation Act dates back to 1969 and was made applicable in Namibia with effect from 1 April 1971 by Act 38 of 1971. This Act is another important legal document with regard to pollution as it covers the prevention and combating of soil erosion, the conservation, improvement and manner of use of the soil and vegetation, and the protection of water sources.¹⁹ As per the Act, the Minister has the power to declare directions applicable with reference to land conservation and may order construction of soil conservation works. Soil Conservation Committees may be established under this Act to advise the Minister, owner or occupier of land on all matters relating to soil conservation.

16 Sections 51.

17 Sections 51 to 55.

18 As outlined, the Act has not yet been brought into force, except of Part 3 as a temporary measure in connection with the COVID-19 pandemic. Thus, the only Regulations issued under the Act so far are related to COVID-19. It is expected, that once the Act comes into force, more regulations also relevant for waste and pollution will be drafted by the Ministry.

19 Section 2.

3.4.3 The Hazardous Substances Ordinance No. 14 of 1974

This ordinance provides for the control of toxic substances and thus also relevant for pollution control. It covers the control of hazardous substances, as well as their manufacture, sale, use, disposal, dumping, import and export.

3.4.4 The Atmospheric Pollution Prevention Ordinance No. 11 of 1976

The Atmospheric Pollution Ordinance of 1976 pertinent to the prevention of air pollution with particular focus on public health contains detailed provisions on air pollution. The Ordinance deals with administrative appointments and their functions; the control of noxious or offensive gases; atmospheric pollution by smoke; dust control; motor vehicle emissions; and general provisions. As per the Ordinance, control areas can be established in order to control noxious or offensive gases or atmospheric pollution by smoke. So far, the Ordinance has been of minor practical relevance.

3.4.5 The Atomic Energy and Radiation Protection Act No. 5 of 2005

The Atomic Energy and Radiation Protection Act provides for protection of the environment of current and future generations against harmful effects of radiation. The Act regulates the control of the production, processing, handling, use, holding, storage, transport and disposal of radiation sources and radioactive materials, and radiation sources and nuclear materials. An Atomic Energy Board is established under the Act as well as a National Radiation Protection Authority. According to Section 43 of the Act, the Minister may make for the purpose of protection against environmental pollution, or of people against exposure to radiation, and for the purpose of ensuring the safety and security of radiation sources make regulations prescribing the requirements with which radiation sources and any facilities or equipment used in connection therewith must comply.

3.4.6 The Minerals Prospecting and Mining Act No. 33 of 1992

This Act makes provisions for various types of licences relating to mining operations such as exclusive and non-exclusive prospecting licences, mining claims, mineral licences, reconnaissance licences, mineral deposit retention licences, and mining licences.²⁰

20 For more details see the Chapter 18.

The Act contains some relevant provisions for pollution control related to mining activities in the country. The Act not only provides that a holder of a licence claim must take all reasonable steps necessary to prevent or minimise any pollution of the environment,²¹ it also requires that the holder of a mineral licence must prepare an environmental impact assessment indicating the extent of any pollution of the environment before any mining activities can be carried out as well as an estimate of any pollution likely to be caused by the respective mining activity.²² The application for a mining licence must *inter alia* contain particulars “of the manner in which it is intended to prevent pollution, to deal with any waste, to safe guard the mineral resources, to reclaim and rehabilitate land disturbed by way of the prospecting operations and mining operations and to minimize the effect of such operations on land adjoining the mining area.”²³ Under specific circumstances, the Minister has the power to reserve land from mining operations. Should the Minister for instance consider it necessary in terms of the protection of the environment or natural resources, he or she may declare that a mining activity may only be carried on with the special permission of the Minister.²⁴ The Act furthermore provides that mineral licence holders are liable for any damage to land, water, plant or animal life caused by spilling or pollution and must take all such steps as may be necessary to remedy such spilling, pollution, loss or damage at his or her own costs.²⁵

3.4.7 Water Related Legislation

For obvious reasons, pollution control also plays a major role in Namibia’s legislation related to water. Considering that Namibia is an arid country, which is dependent on limited groundwater and surface water, pollution control of this scarce natural resource must be of primary concern. Pollution of surface and groundwater by mismanagement of solid waste or other mechanisms has widespread and long-term impacts which must be avoided. Major sources of water pollution include human and animal faecal material arising from inadequate sewage works or deposited directly on land or in water; poorly managed or situated landfill sites; and pollution by agricultural and health pesticides. Selection and monitoring of waste disposal sites is another crucial factor. Waste disposal sites should not be situated next to flowing waters or Oshanas, so to avoid leak pollutants into the water or overflow during rains.

National water related legislation addresses water pollution through various channels. First of all, the EMA, the Environmental Assessment Policy and related

21 Section 41(1)(e).

22 Section 50(f)(i).

23 Section 91(f)(iii).

24 Section 122(2)(b).

25 Section 130.

regulations contain various provisions relevant for the protection of water resources from pollution. Water resource developments that may not be undertaken without environmental clearance certificate include the abstraction of ground or surface water for industrial or commercial purposes; any water abstraction from a river that forms an international boundary; construction of canals and channels including the diversion of the normal flow of water in a riverbed and water transfer schemes between water catchments and impoundments; the construction of dams, reservoirs, levees and weirs; the construction of industrial and domestic wastewater treatment plants and related pipeline systems; or irrigation schemes for agriculture excluding domestic irrigation.

The latest achievement in specific national water legislation was the promulgation of the Water Resources Management Act No. 11 of 2013. The Act has been passed by Parliament, signed by the President and published in terms of the Namibian Constitution.²⁶ The Act repeals both, the Water Resources Management Act No. 24 of 2004 and the Water Act No. 54 of 1956 as a whole. However, the 2013 Water Resources Management Act has not yet come into operation, as the Minister has not yet determined a date for the Act to come into operation as required by Section 134 of the Act. As the Water Resources Management Act of 2004 has never come into operation ever since its promulgation, the only applicable law at this stage is the rather out-dated Water Act of 1956.

The Water Act of 1956 contains specific provisions with regard to the prevention of water pollution in Section 22. As a general rule, the person who has control over land on which any thing was or is done which involved or involves a substance capable of causing water pollution, must take steps to prevent any public or private water on or under that land, including rain water, or the sea from being polluted. Steps to prevent water pollution may also be taken by the Minister.²⁷ Emergency action may be taken in cases of pollution incidents by the Director-General of Water Affairs and Forestry.²⁸ Water pollution is an offence as per Section 23 of the Water Act. Moreover, the Minister may make regulations with regard to the prevention of water pollution, the Minister may for example draft regulations relating to the prevention of wastage or pollution of public water and private water, including underground water, of pollution of sea water, and of damage to the environment caused by water.²⁹

One of the fundamental underlying principles of the 2013 Water Resources Management Act is the “prevention of water pollution and implementation of the principle that a person disposing of effluent or waste has a duty of care to prevent pollution”. A further principle governing the Act is that “a polluter is liable to pay all costs to clean up any intentional or accidental spill of pollutants”.³⁰ To this end, the Act devotes an

26 See Government Notice No. 332 of 2013, Government Gazette No. 5367.

27 Section 22A.

28 Section 22B.

29 Section 26.

30 Section 3(k) and (l).

entire part to water pollution control.³¹ Part 13 of the Act contains general provisions relating to water pollution and related liability and prohibits the discharge of wastewater, effluent or waste without licence and sets forth specific requirements for such licence.³²

Besides the part on water pollution control, also other provisions are particularly relevant in terms of the protection of water resources: Water protection areas may be determined according to Sections 85 to 87 in order to³³

protect and enhance any water resource, riverine habitat, watershed, ecosystem or other environmental resource that is at risk of significant changes to resource quality, depletion, contamination, extinction or disturbance from any source, including aquatic or terrestrial weeds.

Provisions are made for water related emergency or pollution threats in Sections 88 and 89. The Minister may furthermore require water services providers and bulk water users to develop and adopt water services plans, including water conservation and water demand management strategies.

The Prevention and Combating of Pollution of the Sea by Oil Act No. 6 of 1981 amended by the Prevention and Combating of Pollution of the Sea by Oil Amendment Act No. 24 of 1991 provides for the prevention and combating of pollution of the sea by oil and determines liability in certain respects for loss or damage caused by the discharge of oil from ships, tankers or offshore installations. The general message of this Act is that the discharge of oil from a ship, tanker or offshore installation is prohibited. As a general rule the Act provides that the owner of any ship, tanker or offshore installation is liable for any loss or damage caused elsewhere than on such ship, tanker or offshore installation, in the area of Namibia by pollution resulting from the discharge of oil from such ship, tanker or offshore installation. According to Section 4 of the Act, the Minister is empowered to take steps to prevent pollution of the sea where oil is being or is likely to be discharged.

3.4.8 The Pollution Control and Waste Management Bill

A Pollution Control and Waste Management Bill has been prepared in 1999³⁴ with the aim to ensure a more effective instrument drawing together the waste management and pollution control functions from all ministries involved. However, this draft piece of legislation has been in preparation for more than twenty years. Apparently, the Ministry of Environment and Tourism was in the processes of reviewing and harmonising both, the EMA as well as the Pollution Control and Waste Management Bill with a

31 Part 13.

32 Section 70.

33 Section 85.

34 The Bill is available at <https://bit.ly/3bUWe6M>, accessed 25 May 2021.

particular focus on potentially conflicting provisions within both legal instruments.³⁵ It is not clear at this stage, whether the Bill will ever be signed into law. With current activities to amend the EMA being underway,³⁶ it is likely that more detailed provisions related to the management of hazardous waste will be integrated into the amended EMA and that with the coming into force of the Public and Environmental Health Act in 2020, the Pollution Control and Waste Management Bill might become obsolete.

3.5 National Solid Waste Management Strategy (2018-2028)

Following a baseline assessment and a stakeholder consultation process in 2017, the National Solid Waste Management Strategy (2018-2028) was finalised with the vision “to become the leading country in Africa in terms of standards of solid waste management by 2028”.³⁷ In very general terms, the strategy aims to improve the management of waste and hazardous substances in Namibia. The baseline assessment identified various priorities, which have in the following been addressed in the Strategy. These priorities include waste disposal, which, under the current solid waste management is one of the major environmental problems in the country. It has been captured among others, that Namibia, at the time of the baseline assessment, only had two hazardous waste disposal sites (Windhoek and Walvis Bay); illegal dumping and litter, especially in areas where no formal waste collection system is in place; there is a lack of awareness with regard to solid waste; and, most importantly in the context of this chapter, it has been stated that “the legal framework for solid waste management is weak, and an approach for the step-by-step tightening of standards is needed. In particular, minimum standards for waste disposal need to be adopted and implemented.” Based on these priorities, the following objectives have been formulated for the Strategy:³⁸

- To strengthen the institutional, organisational and legal framework for solid waste management, including capacity development;
- to install a widespread culture of waste minimisation and to expand recycling systems;
- to implement formalised solid waste collection and management systems in all populated areas, including under the administration of Regional Councils;
- to enforce improvements in municipal waste disposal standards; and
- to plan and implement feasible options for hazardous waste management; (includes healthcare waste management).

35 See Ngatjiheue (2015a).

36 See Shigwedha (2019).

37 GRN (2018b).

38 Ibid:9.

The Strategy is subdivided into four phases. In phase one and two, the framework and the core components are to be implemented, while major infrastructure is to be developed in phase three (2020 to 2023). The final phase (2023) is reserved for revision to re-assess priorities and update the Strategy. In the legal context, within the first objective (strengthening the institutional, organisational and legal framework for solid waste management, including capacity development) it has been set forth that that Waste Management Regulations are to be adopted by the Ministry early in the first phase (2017 to 2019). The regulations will include definitions and waste classifications; set the framework for implementation of the Strategy; include standards for waste disposal, including environmental monitoring at waste disposal sites; clarify roles of stakeholders such as municipalities and regional councils; clarify licensing requirements; clarify enforcement mechanisms and responsibilities, particularly at local level and particularly the responsibilities at regional councils; and serve as a framework for the implementation of commitments under international conventions. Moreover, it is planned that Hazardous Waste Management Regulations define types of hazardous waste; define the types of waste generators that must comply and set standards that must be taken for waste separation, storage, transport, treatment, disposal. It should be noted, that to date, such Regulations have not been gazetted, the consultative process was, however, finalised.³⁹ The issue of producer responsibility will only be addressed at a later stage. Strengthening enforcement will also form part of the development of the Waste Management Regulations, which will include “clarification of the enforcement mechanisms, including increasing penalties (if needed) and ensuring the roles of local enforcement officers include control of illegal dumping and littering. The regulations will ensure that the mechanisms for issuing penalties are clear, quick and fair.”⁴⁰

From an institutional perspective, it should be noted, that the Strategy provides for establishing a Solid Waste Management Unit within the Ministry of Environment, Forestry and Tourism to manage the effective implementation of the Strategy so that sustainable improvements in solid waste management will be achieved; and to furthermore “act as a focal point for ministries, institutions and particularly local authorities in relation to information on solid waste management and sharing of good practices.”⁴¹ Another important body established as per the Strategy is the National Solid Waste Management Advisory Panel, which is composed of representatives from several national ministries and other key stakeholders, which serves to provide advice to the Solid Waste Management Unit, discuss key challenges, develop action plans for solutions at national level, ensure co-operation in Strategy implementation, and to identify and assess potential funding mechanisms for solid waste management.

39 GRN (2020c:63).

40 GRN (2018b:16).

41 Ibid:21.

The coordination of the Solid Waste Management Advisory Panel with quarterly meetings to guide the implementation of the Strategy, inspections and engagements with Local Authorities as well as the gazetting of waste disposal sites considered to be compliant in terms of the Environmental Management Act of 2007,⁴² and the introduction of environmental levies, including a plastic bag levy were among the key activities implemented by the MEFT during the 2019/20 financial year.⁴³

3.6 Waste Management at Municipal Level: The Example of the City of Windhoek

The collection and disposal of waste is the responsibility of local and regional authorities. As stipulated by Section 94 of the Local Authorities Act No. 23 of 1992, a local authority council may, after consultation with the Minister responsible for Regional and Local Government and Housing make regulations by notice in the Gazette in relation to various areas relevant to pollution control and waste management, including the supply, distribution and use of water in its local authority area (including the protection from pollution of water);⁴⁴ the regulation, protection and use of a system of sewerage and drainage;⁴⁵ and “the provision, regulation and control for the removal or disposal of night soil, refuse, slop water, garden and stable litter and otherwise offensive or unhealthy matter”.⁴⁶ Local authorities do thus play an important role in waste management and pollution control. In the bigger cities, this mandate has resulted in an improvement of the waste situation in the country. However, within rural communities, the handling of waste remains a major concern.

In this section, waste management at the municipal level is discussed on the basis of an example, namely that of the City of Windhoek.⁴⁷ Despite the fact, that Windhoek

42 The first 11 waste disposal sites in terms of the Environmental Management Act are Kupferberg, Windhoek; Walvis Bay; Epukiro; Oshakati; Rundu; Oranjemund; Ruacana; Tsandi; Eeke Settlement; Okahao; and Ondangwa. A further seven Waste Disposal Sites were considered by the MEFT to also be eligible to be gazetted in terms of the Environmental Management Act. These were submitted to the Ministry of Justice for gazetting and include Keetmanshoop Landfill, Okombahe Dumpsite, Otjimbingwe Dumpsite, Swakopmund Landfill, Uis Dumpsite, Ongwediva Dumpsite and Oshakati Dumpsite.

43 GRN (2020c:54).

44 Section 94(1)(a) of the Act. Such Regulations have for example been made by the City of Windhoek General Notice No. 16 by the Windhoek Municipality on Waste Management Regulations: Local Authorities Act, 1992 Government Gazette No. 4650 (2011) and the Town Council of Oranjemund, see General Notice No. 269 by the Oranjemund Town Council, Waste Management Regulations: Local Authorities Act, 1992 Government Gazette No. 5767 (2015); or the Ondangwa Town Council, see Waste Management Regulations: Local Authorities Act, 1992 General Notice No. 169 Government Gazette 5726 (2015).

45 Section 94(1)(b) of the Act.

46 Section 94(1)(c) of the Act.

47 For an analysis of the solid waste management system in Swakopmund see Kadhila (2019).

has been considered one of the cleanest cities in Africa,⁴⁸ environmental management in Windhoek is challenged by urbanisation as people from rural areas are increasingly populating Namibia's capital in search of jobs and a higher standard of living. Population pressure is, no doubt, one of the factors that contribute to waste production and pollution. The City of Windhoek is committed to the principles of sound environmental management and in the promotion of improved quality of life for all residents of Windhoek by rendering environmental practices aiming to ensure a healthy, clean and secure environment for all residents, while at the same time creating an environment for socio-economic and sustainable development.⁴⁹

Two documents form the foundation for waste management in the City of Windhoek, namely the Solid Waste Management Policy⁵⁰ launched in October 2010 and the Waste Management Regulations gazetted in 2011.⁵¹ The formulation process of the Solid Waste Management Policy started as early as 2005 with the objective to streamline waste management operations and guarantee an integrated approach towards all waste management activities within the city.

Underlying principle of the Solid Waste Management Policy is the waste management hierarchy, according to which waste prevention and minimisation are the primary focus, followed by reducing, reusing and recycling of waste and disposal only as a last resort. Further principles governing the Solid Waste Management Policy include the principles of sustainable development;⁵² sustainable consumption and cleaner production;⁵³ the polluter pays principle;⁵⁴ the duty of care principle;⁵⁵ and the best practical environmental option principle stating that any waste management activities must provide the most benefit for the least damage to the environment at an acceptable cost

48 See Tjirera (2020) for a discussion on cleanliness in Windhoek's colonial history.

49 See Hasheela (2009).

50 CoW (2010).

51 See General Notice No. 16 by the Windhoek Municipality on Waste Management Regulations: Local Authorities Act, 1992 Government Gazette No. 4650 (2011).

52 Defined as development that meets the needs of the current generation without compromising the ability of future generation to meet their needs.

53 Sustainable consumption is described as a concept based on the continuous improvement of processes; housekeeping, raw material input and products to increase efficiency, whilst reducing the potential impact to the environment and human health, while cleaner production encompasses two key features, namely that to purchase and use only what is required to satisfy human need favouring a good quality of life through decent but not decadent standards of living; and to looking at the "cradle to grave" cycle of a product in terms of performance when purchasing in order to make more "waste-wise" choices.

54 Which transfers the burden of the cost for integrated and therefore environmentally and socially responsible waste management to the polluter in terms of costs associated with the rehabilitation of the natural environment and human health caused by the pollution.

55 The duty of care principle requires every generator of waste to be responsible for the fate of their waste as soon as it has been generated.

both in the long and short term. The vision of the Solid Waste Management Policy thus states:⁵⁶

The vision of the SWM Policy encompasses the concepts of integrating all required waste management activities based on the minimisation of pollution and waste across various sectors, as well as the management of waste activities in accordance with the Principles of the Integrated Waste Management Hierarchy. Through the SWM Policy, the City of Windhoek aims to maintain control over all waste management activities within its area of jurisdiction, including industrial, business, institutional and household levels.

Specific objectives that have been laid down in the policy relating to legislative framework, political will and cooperative governance; waste minimisation, cleaner production and sustainable Consumption; optimisation of resources; integrated waste management planning; integrated waste information system; health care risk waste management strategy and plan; priority waste; capacity building through education and awareness raising; community participation in waste management activities; research and development; and best practice guidelines and standards.

The Solid Waste Management Regulations are the regulatory framework to enforce, promote and support the principles within the Solid Waste Management Policy. The regulations contain a detailed set of provisions dealing among others with the storage, collection, transportation, treatment and disposal of various kinds of wastes, including garden, bulky and household hazardous waste; builder's waste; industrial, business waste and recyclable waste; hazardous waste; and health care risk waste. Further provisions relate to disposal sites and the selling and recycling of waste, which must be performed in compliance with occupational health and safety law; environmental law; health law; labour law; and other relevant law. Chapter 5 of the regulations spells out certain prohibitions in terms of accumulating waste, littering, dumping, abandoned articles and certain prohibited advertising. According to provisions contained in Chapter 6 of the regulations, certain types of waste may only be collected by a waste contractor in possession of a valid licence, issued by the Council. The regulations stipulate that any person who contravenes or fails to comply with any provisions of the regulations commits an offence. Enforcement has been dealt with in Chapter 7 of the regulations. Waste inspectors are appointed by the Council to administer, implement and enforce any provisions of the regulations and any other waste management related regulations promulgated by the Council.

Solid waste generated in Windhoek is managed by the City of Windhoek's Solid Waste Management Division (SWM). One general and hazardous waste landfill site and satellite landfill sites are operated in Windhoek. While general and hazardous waste is disposed at the Kupferberg landfill site, the disposal of garden refuse and building rubble is possible at the satellite landfill sites (in Havana, Khomasdal, Pionierspark, Ludwigsdorf, Otjomuise, Eros, Okuryangava, Brakwater and Kleine Kuppe).

56 See Vision of the Solid Waste Management Policy, CoW(2010).

At the Kupferberg landfill site, the waste is dumped and subsequently compacted with a trash compactor and covered with sand or soil to prevent flies, rodent, dogs and people from searching through the waste after it has been dumped. To prevent leakage of water that might form from the decomposing waste and to keep contaminants from leaking and polluting into underlying groundwater, the base of the landfill site consists of liners.

A recycling initiative has been launched by the City of Windhoek in cooperation with a private enterprise called Rent-A-Drum in 2010.⁵⁷ The project encourages residents to separate their recyclables and has introduced the Clear Bag System (CBS) with which residents are required to separate paper, bottles, cans and plastics from the rest of their household waste for recycling. The collected recyclable waste is sorted, baled and transported to available markets. Most of the recyclables are sold to South Africa or exported overseas; only a small market for recyclable plastics exists in Namibia.⁵⁸

4 Concluding Remarks

Waste management is increasingly shifting into the public focus and is becoming an area of concern, interest and activity throughout the country. The regulatory framework developed by the City of Windhoek with its waste management hierarchy and integrated waste management approach is a commendable starting point for a cleaner environment on local level, provided that implementation and enforcement are effective. However, it is also being lamented that waste is becoming a serious concern in many towns, settlements, villages and in rural areas, especially in the northern parts of the country. Poorly managed waste not only affects the beauty of the country, thus negatively impacting the tourism industry. It is also becoming a serious threat for the environment with a negative effect on people's health.⁵⁹ This is also reflected in more studies on waste management in Namibia. A study on waste management in the three northern towns of Oshakati, Ongwediva and Ondangwa concludes that the general waste management practice in these towns⁶⁰

57 Rent-A-Drum is a privately owned Namibian company active in waste management in Namibia, which offers service to Namibian corporations, mines and smaller companies, including the citizens of Windhoek. Rent-A-Drum has branches in Oshakati, Walvis Bay, Swakopmund (where an new waste sorting plant has just recently begun operations), the Husab Mine, and Windhoek.

58 See Croset (2014:23); Rent-A-Drum recycles an average total of 1,800 tons per month. 22 different commodities are sorted before baling and dispatching the different commodities to different recycling plants in South Africa, see <http://www.rent-a-drum.com.na/about>, accessed 28 May 2021.

59 See Heinrich (2015).

60 Mughal (2014:11).

is not in the line with international solid waste management standards neither with the national laws of waste management. Waste is being treated as waste and people are not always aware of the benefits related to the proper waste management. There is limited understanding of the harm that waste can cause to the environment, diseases caused to people and to animals and also the potential benefits, such as income that can be generated from recycled goods and the reuse or selling of the used products.

Another study analysing waste management in Swakopmund concludes that.⁶¹

There is insufficient enforcement of an ISWM [integrated solid waste management] approach at municipal level. Accordingly, the 4Rs [reduce, reuse, recycle and recover] are not applied efficiently and effectively, despite having some reduce, reuse and recycling activities in the private sector... Environmental impacts associated with inappropriate MSW [municipal solid waste] disposal remain a challenge, despite efforts from the Municipality and various stakeholders involved in MSWM [municipal solid waste management].

Pollution control and waste management are serious environmental challenges for Namibia that need to be addressed by a sound and harmonised legal and policy framework, awareness raising through education and information, active involvement of the public and private sector, and, last but not least, by sufficient financial and human resources to ensure effective implementation and enforcement.

On a more positive note, waste does not only provide challenges, but more and more opportunities, especially when investigating the nexus between waste and energy. We live in an innovative age and recycling doesn't just have to be urban (plastics etc). Agricultural examples elsewhere *inter alia* relate to self-sustainable biogas plants. In order to make this work, however, further consolidated law and policy may be needed.

In 2004, it has been stated that⁶²

in Namibia today, poor waste management practices pose the most serious and challenging environmental problems associates with infrastructure development and urban land-use planning. Waste products are increasing all the time due to the increasing population, particularly in urban areas, coupled with an increased standard of living and industrialisation. This places enormous strain on existing waste management activities such as collection, transportation, storage, and disposal. It is necessary, therefore, to develop more effective waste management programmes and sage waste disposal practices. Small municipalities, town councils and village councils in Namibia lack effective waste management practices covering collection, transportation and disposal programmes, mainly due to a lack of sufficient resources. There is an increasing acknowledgement by the public and authorities of the importance of adequate and effective waste collection and disposal.

Since then, much has been achieved to improve environmental protection in the field of waste and pollution. The EMA, together with the National Solid Waste Management Strategy plays an important role in this regard. However, necessary amendments of the EMA are still underway, Waste Management Regulations as envisaged in the National Solid Waste Management Strategy have not yet been gazetted, while the Public and Environmental Health Act No. 1 of 2015 has come into operation in 2020. It remains to be seen, whether a coherent legal system of enforceable provisions, with

61 Kadhila (2019:123).

62 See MET (2006:85).

corresponding responsibilities not only for national and local and regional authorities but also for private producers will emerge from the pending efforts targeting to enhance pollution control and waste management and to strengthen the institutional, organisational and legal framework for solid waste management.