

**REPUBLIC OF KENYA**



**Ministry of Environment and Forestry**

**IMPLEMENTATION PLAN FOR THE BAN OF  
SINGLE USE PLASTICS IN PROTECTED AREAS**

**February 2020**

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## Acronyms & Abbreviations

<b>CoG</b>	Council of Governors
<b>CUE</b>	Council of University Education
<b>DPP</b>	Directorate of Public prosecution
<b>EMCA</b>	Environmental Management & Coordination Act
<b>EPR</b>	Extended Producer Responsibility
<b>EPS</b>	Expanded polystyrene
<b>HDPE</b>	High Density Polyethylene
<b>ICTA</b>	Information and Communication Technology Authority
<b>KALRO</b>	Kenya Agriculture, Livestock Research Organisation
<b>KAM</b>	Kenya Association of Manufactures
<b>KEBS</b>	Kenya Bureau of Standards
<b>KEFRI</b>	Kenya Forest Research Institute
<b>KEPSA,</b>	Kenya Private Sector Alliance
<b>KFS</b>	Kenya Forest Service
<b>KMFRI</b>	Kenya Marine & Fisheries Research Institution
<b>KWS</b>	Kenya Wildlife Service
<b>LDPE</b>	Low Density Polyethylene
<b>MEF</b>	Ministry of Environment & Forestry
<b>MFA</b>	Ministry of Foreign Affaires
<b>MoE</b>	Ministry of Education
<b>MoEAC</b>	Ministry of East African Community and Regional Development
<b>MoTW</b>	Ministry of Tourism & Wildlife
<b>NACOSTI</b>	National Commission for Science, Technology and Innovation
<b>NEMA</b>	National Environment Management Authority
<b>NPS</b>	National Police Service
<b>NT</b>	National Treasury
<b>PET</b>	Polyethylene Terephthalate
<b>PP</b>	Polypropylene
<b>PS</b>	Polystyrene
<b>SUP</b>	Single Use Plastics

## Background

Plastic is a lightweight, 'cheap' and hardy material that can be utilized in a wide range of applications. Plastics can potentially be reused and/or recycled perpetually with minimal or no leakage into the environment as they do not corrode or rust. However, large amounts plastics have continued to leak and accumulate in the terrestrial or aquatic environments as they are mostly non-biodegradable but breakdown into small fragments known as micro-plastics.

The increasing demand for plastic products coupled with poor waste management measures has led to a buildup of plastic waste in the environment including ecologically sensitive areas to levels that may surpass our ability to cope unless there is a rethinking of the way plastics are manufactured, used and managed.<sup>1</sup> Nearly 50% of global plastic waste is made up of plastic packaging designed to be used only once before being thrown away or recycled thus referred to as disposable or single use plastics (SUPs)

Plastic production has grown rapidly over the last 50 years from 15 million tons in 1994 to 311 million tons in 2014. Nondegradable plastics account for 73% of litter in any aquatic habitat, 50% of which is disposed after single use. Plastic waste is an emerging contaminant that is not readily biodegradable but persist in the environment for long periods. It is estimated that there are 5 trillion pieces of plastics floating around the world's oceans. These plastics contain hazardous chemicals used during polymer production. Plastic kills over 100 million marine animals and harms over 600 marine species every year globally (UNEP, 2018)

The main types plastic polymers used today include; polyethylene (PE), polypropylene (PP), Polyvinyl Chloride (PVC), polystyrene (PS), polyurethane (PUR) and polyethylene terephthalate (PET). Packaging is the world's largest plastic sector accounting for about 25% of the market where about one million plastic bottles are purchased every minute (UNEP, 2018).

Single use plastics are beneficial in many ways but are difficult to manage at the end of life. Most SUPs are dumped into the environment and are not recycled. Research shows that less than 10% of the nine billion tons of plastics the world has ever produced has been recycled. In the business as usual scenario, it is projected that there will be 12 billion tons of plastic litter lying in landfills, dumps and the environment by 2050. By then the plastic industry will account for about 20% of the world's total oil consumption. Measures to regulate the production and use of disposable plastics are necessary to curb any further rise in the accumulation of these items in the environment thus reducing and eliminating the environmental degradation associated with them.

Therefore, the presidential directive to ban the use of SUPs in protected areas is timely as it will help to address the problem through avoidance and prevention.

### **Current status on dealing with marine litter plastics in Kenya**

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<sup>1</sup> UNEP (2018) Single Use Plastics:

Kenya has been engaging with plastics pollution for over 10 years. These engagements could be considered in 3 phases namely the 1. polythene bags ban, 2. PET bottles agreement with private sector, 3. the ban on single use plastics in conservation areas and 4. provision of incentives to the private sector.

### **Polythene bags ban**

On 28th February 2017, the Cabinet Secretary, Ministry of Environment and Natural Resources while exercising powers conferred under section 3 and 86 of the Environmental Management and Coordination Act (EMCA Cap 387), issued the Gazette notice No. 2356, banning the use, manufacture and importation of all plastic bags used for commercial and household packaging. The gazette notice notified the public that this ban will take effect from 6th month from the date of the notice. The plastic bags ban came into effect on 28th August 2017.

Kenya has since attained over 80% success in ban enforcement. But challenges have been experienced with enforcement since some of our neighbors still use polythene bags and the same are illegally imported to Kenya. Research data has revealed a decline in polythene bags collected along the coastal area. This shows that the polythene bags ban intervention had a direct impact in reducing the amount of marine litter reaching the oceans.

### **Framework of Cooperation with Private Sector on PET plastic bottles**

Polyethylene terephthalate (poly(ethylene terephthalate)), commonly abbreviated as PET is a thermoplastic polymer resin of the polyester family. It is commonly used in making clothing (polyester fabric), containers for liquids and foods among other uses. Globally, over 60% PET is used for production of synthetic fibres and 30% for containers/bottles production.

Polyethylene Terephthalate (PET) is popularly used for packaging food and beverages, pharmaceutical and personal care products due to its inert, moisture barrier material and shatterproof nature. PET is also light weight and is therefore easier to transport. PET is 100% recyclable and is ranked the most recycled plastic in the world.

Despite its positive properties, concern has been raised regarding the pollution associated with the improper disposal of PET bottles. In October 2017, the PET task force, a partnership between KAM, the Ministry of Environment and Forestry (ME&F) and the National Environment Management Authority (NEMA) was established. It was envisioned that through this task force, both the private sector and government would support each other in management of waste PET bottles.

Through a series of consultative meetings with the Ministry of Environment and Forestry, a Framework of Cooperation (FoC) document was developed. This document was signed on 17<sup>th</sup> May 2018 between the Ministry of Environment and Forestry, KAM and NEMA. The purpose of this Framework of Cooperation is the implementation of the take back schemes and Extended Producer Responsibility for the PET bottles.

Under this Framework of Cooperation, Parties agreed to collaborate and KAM to establish and implement a structured and sustainable “Take Back Schemes” and Extended Producer Responsibility schemes for PET bottles. KAM’s obligations under this FoC included to:-

- Establish and implement the agreed Take Back and Extended Producer Responsibility schemes for PET Bottles.
- Undertake clean-up activities on PET waste Bottles before the schemes are fully implemented in partnership with the ME&F and relevant agencies.
- Conduct awareness campaigns to support the established schemes implementation, re-cycling and up-cycling.
- Support research to meet mutually agreed measures to be undertaken under this Framework of Cooperation.

The Ministry of Environment and Forestry obligations under this FoC include;

- Foster collaborations between the PET Sub sector under KAM and the County Governments in the disposal, collection and recycling of PET waste bottles.
- Promote and engage in national public education and awareness campaigns on responsible use and disposal of PET bottles based on best practices.
- Facilitate inter-governmental relations amongst county government and government agencies to support the objectives of the Framework of Cooperation.
- Formulate necessary environmental policy, legislation and measures to support the goal of the Framework of Cooperation.

The Parties established a National PET Management Committee as a joint public-private partnership committee to support implementation and monitoring of the proposed goal and objectives established under the Framework of Cooperation. The Committee reports to the Cabinet Secretary of the Ministry of Environment and Forestry.

The Committee membership is made up of:

1. Representatives of the Ministry of Environment and Forestry.
2. Representatives of the National Environment Management Authority.
3. Representatives of the Council of Governors.
4. Representatives of the Ministry of Industrialization.
5. Representatives from the Kenya Association of Manufacturers (including PETCO).

The mandate of the Committee include:

- To monitor the implementation of this Framework of Cooperation.
- To prepare and submit quarterly progress reports to the Cabinet Secretary of Environment and Forestry. The progress report of the activities under this Framework of Cooperation will be developed and signed by the duly authorized representatives of the Parties.

Since its inception, the National PET Management Committee develops and submits M&E reports each quarter as required by the FOC. In addition, the Ministry of Environment and Forestry provides written feedback to KAM on the submitted quarterly reports highlighting areas of improvement.

The PET engagements between ME&F and KAM has led to increased investment in plastic recycling and upsurge in volumes of PET bottles recycled. Kenya is now recycling over 2000 tonnes of PET per year.

In addition, the PET engagement has compelled the private sector to develop a plastics action plan to guide their operations, which was launched on 4<sup>th</sup> December 2019. The Action plan reiterates the need for mandatory extended producer responsibility scheme to raise required resources to promote PET waste management.

In response to the demand by the private sector, which is reiterated in the Plastics Action Plan, the ME&F is developing an Extended Producer Responsibility Regulations. The regulations require all producers, converters, importers and distributors of products to bear responsibility to ensure proper disposal emanating from introduction of their products in the market. It is expected that enactment of the EPR regulations will result in increased collection and recycling of plastics and hence a reduction of marine litter reaching the ocean.

### **Incentives for plastic recycling**

The government has provided incentives to promote cleaning of plastics from the environment. The 2019/20 national budget statement provided the exemption from VAT for all services offered to plastic recycling plants and supply of machinery and equipment used in the construction of these plants. The government also reduced corporation tax from 30% to 15% for the first five years for any investor operating a plastic recycling plant. Further, the government deleted the provision for charging Excise Duty on plastic shopping bags to align it with the Environmental Management and Coordination Act which banned them from use.

This gesture by the government has the capacity to encourage new investment in plastic recycling plants, create jobs and support environmental conservation as aspired under the Sustainable Development Goal (SDG) No 12 “Ensure sustainable consumption and production patterns”. This gesture is in tandem with the other efforts by government of strengthening legal and policy framework, providing incentives to the private sector as well as establishment of EPR schemes. This initiative is expected to enhance collection and recycling of plastics and hence reduction of plastics being drifted to our oceans.

### **Ban on single use plastics**

After banning the polythene bags in February 2017, the Ministry of Environment and Forestry also felt the need to upscale this initiative by addressing pollution by other plastics especially the single use plastics with a priority on PET bottles. In September 2017, it extended a ban on the

use of the disposable PET bottles in Karura Forest and the National reserves and Game Parks, a move aimed at conserving and protecting animals and nature within this ecosystem. This helped to minimize pollution in the parks. However, this restriction was not legislated.

His Excellency the President of the Republic of Kenya while addressing the opening plenary of day 3 of the Women Deliver 2019 Conference at the Vancouver Centre in Vancouver, Canada, on 4<sup>th</sup> June 2019 issued a directive to ban the use of single use plastics in protected areas including National Parks, beaches, forests and conservation areas with effect from 4<sup>th</sup> June 2020. This directive was legislated on 5<sup>th</sup> June 2019 by the Cabinet Secretary for Tourism and Wildlife, through Gazette Notice No.4858, which stated as follows.

*“ In exercise of the powers conferred under section 116,2 (d) of the Wildlife Conservation and Management Act, 2013, I give notice of the ban of use of plastic bottles, straws, and related products within the protected areas in the national parks, national reserves, conservation areas and any other designated wildlife protected areas. The ban shall take effect from 4<sup>th</sup> June, 2020. “*

The Wildlife Management and Conservation Act 2013 provides for the protection of wildlife species, their habitats and eco systems, and lists measures for the protection and management of endangered and threatened species and adoption of a system of zoning that caters for the protection of nesting, breeding and foraging areas. Therefore, the ban is in line with the provisions of this act. The prohibition through Gazette 4858 buttresses and codifies the earlier one by the Ministry of Environment and Forestry in 2017 and expands the products and scope to other protected areas around the country.

The Ministry of Environment and Forestry, Ministry of Interior and Coordination of National Government and Ministry of Devolution and the ASALS in collaboration with the Ministry of Tourism and Wildlife were identified to implement the ban. The Ministry of Environment and Forestry consulted diverse lead agencies and the private sector players such as KEPISA, KAM and PETCO Kenya to agree on implementation of this ban. There is consensus that the following items constitute single use plastics, which are the subject of the ban: –

1. Cotton buds
2. Cutlery, plates, straws and stirrers
3. Sticks for balloons and balloons
4. Food containers (some fractions of plastic polymer)
5. Cups for beverages (some fractions of plastic polymer)
6. Beverage containers (PET bottles)
7. Cigarette butts
8. Bags
9. Crips packets, sweet wrappers, bread bags and confectionery wrappers
10. Wet wipes and sanitary items.

The Ministry of Environment and Forestry informed the private sector players of these categories of products and requested them to provide feedback on polymers in each category that may not be categorized as single use plastics. The private sector players were expected to sensitize their

membership about this development. This action plan has been developed based on input from private sector players including KEPSA and KAM.

### **Goal**

The overall goal of the action plan is to keep single use plastics out of all protected areas. The specific objectives of the action plan are to;

1. Promote mindset change and public participation on use and management of single use plastics
2. Prohibit the use of and littering by SUPs in all protected areas
3. Promote development and uptake of innovative and sustainable alternatives to SUPs.
4. Propose incentive schemes for private sector players
5. Strengthen management of postconsumer SUPs to eliminate their drifting into protected areas
6. Upscale enforcement of the ban

### **The Protected Areas in Kenya**

According to the Wildlife Conservation and Management Act 2013;

A “protected area” means a clearly defined geographical space, recognized, dedicated and managed through legal or other effective means, to achieve long-term conservation of nature with associated ecosystem services and cultural values;

A “conservation area” means a tract of land, lake or sea with notable environmental, natural features, biological diversity, cultural heritage, or historical importance that is protected by law against undesirable changes;

Under Section 54 of the Environmental Management and Coordination Act the Cabinet Secretary may declare any area, land, sea, or river to be a protected natural environment for the purposes of promoting and preserving specific ecological processes, natural environment systems, natural beauty or species of indigenous wildlife or the preservation of biological diversity in general

### **Categories of Protected areas**

The following are considered as protected areas in Kenya:-

1. National parks.
2. National reserves and wildlife sanctuaries.
3. National monuments. e.g. The Kaya forest.

4. Biosphere reserves- Are reserves that conserve the diversity and integrity of biotic communities of plants and animals within natural ecosystems and safeguard the genetic diversity of species.
5. World heritage sites. e.g Sibiloi national park.
6. Ramsar sites. - Kenya is a member of the Ramsar Convention of 1990. These sites are preserved as wetlands of International importance and includes Lake Nakuru, Lake Naivasha, Lake Elmentaita, Lake Baringo and the Tana River Delta.
7. Beaches.
8. Protected forests.

### **Legal Provisions Addressing Waste Management in Kenya**

Some of the legal provisions addressing waste management in Kenya are;

1. The Constitution on Kenya 2010 – provides that every Kenyan has a right to a clean and healthy environment and obligates the state to eliminate processes and activities that are likely to endanger the environment. Every person has an obligation to cooperate with state organs and other persons to protect and conserve the environment. The constitution also calls on Counties to implement specific national government policies on natural resources and environmental conservation including waste management, soil and water conservation and forestry.
2. The National Environmental Policy 2013- has an objective to ensure sustainable management of unique terrestrial and aquatic ecosystems through the use of innovative environmental management tools such as incentives, disincentives, total economic valuation, indicators of sustainable development, Strategic Environmental Assessments (SEAs), Environmental Impact Assessments (EIAs), Environmental Audits (EA) and Payment for Ecosystem Services (PES) and the polluter pays principle. To achieve a clean and healthy environment the policy seeks to discourage and eliminate unsustainable patterns of production and consumption while instituting intensified awareness creation on the impacts of using non-biodegradable materials such as single use plastics.
3. Environmental Management and Coordination Act. 1999(EMCA)-
  - Defines a pollutant as including any substance whether liquid, solid, or gaseous which may directly or indirectly alter the quality of any element of the receiving environment or is hazardous or potentially hazardous to human health or the environment,
  - Pollution is described as the process of emitting, or depositing wastes so as to adversely affect beneficial use, cause conditions which are hazardous or potentially hazardous to public health

- Section 50 (c) calls on the authority to identify potential threats to biological diversity and devise measures to remove or arrest their effects
  - Section 51 (b) calls for the selection and management of protected areas so as to promote the conservation of various terrestrial and aquatic ecosystems
  - Section 54 empowers the cabinet secretary of environment to declare any area, land, sea, or river to be a protected natural environment for the purposes of promoting and preserving specific ecological processes, natural environment systems, natural beauty or species of indigenous wildlife or the preservation of biological diversity in general
  - Section 55 (5) provides that any person who releases or causes to be released into the coastal zone any polluting or hazardous substances shall be guilty of an offence
  - Section 86 (1) calls on the authority to identify materials and processes that are dangerous to the environment and human health
  - Section 86 (2) prescribe the standards for wastes, their classification, and analysis and formulate and advise on standards of disposal methods and means for such waste
  - Section 87 on the prohibition against dangerous handling and disposal of wastes provides that;
    - (1) No person shall discharge or dispose of any wastes whether generated within or outside Kenya in such a manner as to cause pollution in the environment or ill health to any person
    - (2) Every person whose activities generates wastes shall employ measures essential to minimize wastes through treatment, reclamation and recycling
4. Waste Management Regulations of 2006-
- Section 1 prohibits littering and calls for waste segregation by generators
  - Section 6 on cleaner production principles calls for the elimination of toxic raw materials, adoption of a life cycle approach to identify and eliminate potential negative impacts of the product, enabling recovery and reuse of products where possible, reclamation and recycling and incorporation of environmental concerns in the design, production and disposal of a product.
5. Draft National Sustainable Waste Management Policy, 2019-
- Section 3.1.1 calls for the adoption of the Waste Management Hierarchy which prioritizes waste prevention, reduction, reuse, recycling and composting
  - Section 3.1.2 calls for source reduction, formulation of a National Zero Waste Strategy that prioritizes; waste prevention, education and awareness programs, economic instruments to promote waste prevention at industrial level, formulation of regulations that require producers to use eco-friendly raw materials and generate less waste, use cleaner production technologies and manufacture eco-friendly products, packaging and labels that promote circularity
  - Require all producers, manufacturers, processors, and importers to declare the life cycle environmental impact of their products and packaging
  - Sustainable Packaging Regulations to reduce waste from packaging materials and labelling guidelines requiring all producers to inform sellers and consumers of the

- provides for the government to develop a strategy to phase out single use plastics.
6. Draft National Sustainable Waste Management Bill,2019-
    - Assigns waste management duties to national and county government, public and private entities as well as individual citizens
    - Section 6 (2) provides for the formation of a Waste Management Council whose roles include; identification of waste reduction, material reuse and recycling strategies in relevant sectors and development of a National Strategy to reduce land-based pollution to the marine environment
    - Section 9 (2) proposes development of regulations on the closure of open/uncontrolled dumpsites
    - Section 11 calls for the establishment of take-back/return schemes for products and packaging
  7. Draft Plastic bag control and Management Regulations of 2018
    - Section 6.4 provides that an application for authorization to manufacture, export, import or use plastic flat bags for industrial use shall submit a recycling plan
    - Section 9 on criteria for exemption provides that a packaging may not be eligible for exemption if it constitutes an over-packaging, or if there exists any other reasonably feasible non-plastic alternative packaging material
    - Section 10 on the recycling plan under section 6, calls on the producers to develop and maintain a plan that supports collection and recycling of plastic packaging. Such a plan can be executed individually or jointly
  8. Draft Extended Producer Responsibility Regulations. (2020)-has provided for all producers of products to join an Extended Producer Responsibility scheme and form Producer Responsibility Organizations (PROs) to manage their products at the post-consumer stage. The regulations will provide a list of products that shall subject to extended producer responsibility obligations which will be updated regularly to provide for new developments in the market

Despite all these provisions, single use plastics are still a menace in the environment especially in the protected areas. This necessitated the need for a more proactive and sustainable approach to manage the single use plastic menace in the environment.

### Categories of Single Use Plastics

The Table below provides different categories of single use plastics

Plastic polymer	Products
LDPE Low Density Polyethylene	Bags, trays, containers, food packaging film
PS Polystyrene	Cutlery, plates & cups
EPS	Hot drink cups, insulated food packaging,

Expanded polystyrene	protective packaging for fragile items
PP Polypropylene	Microwave dishes, ice cream tubs, potato chip bags, bottle caps
PET Polyethylene Terephthalate	Bottles for water and other drinks, dispensing containers for cleaning fluids, biscuit trays
HDPE High Density Polyethylene	Milk bottles, freezer bags, shampoo bottles, ice cream containers

Source: UNEP (2018) Single Use Plastics

### Proposed alternatives to the banned single use plastics

The table below shows the banned single use plastics in conservation areas and proposed alternatives.

No.	Proposed Single Use Plastics to be Banned	Alternatives
1	Disposal cutlery, forks, knives, spoons, chopsticks, straws and beverage stirrers	cutlery - Wooden/metallic or paper without plastic lining and locally available alternatives i.e. coconut husks and bamboo
2	PET bottles	Reusable plastic/glass bottles Drinks to be taken or served in designated places
3	Non-woven plastic carrier bags	Reusable woven carrier bags
4	Cigarettes with plastic filters (butts)	Cigarettes with non-plastic butts (smoking permitted only in designated areas)
5	Plastic cotton bud sticks	Wooden cotton bud sticks
6	Expanded Polystyrene (EPS) beverage containers	Use reusable beverage containers
7	Crisps packets, sweet wrappers and confectionery wrappers	Use paper wrappers
8	Sanitary items such as diapers (does not include sanitary pads)	Use reusable diapers/towels.
9	Wet wipes	Hand sanitizer or hand washing with water and soap, use tissue paper.
10	Lollipop sticks	Paper lollipop sticks
11	Single use plastic dental flosser	Dental Lace plastic-free dental floss
12	Single use toiletries packaged in plastics such as soap, lotions, shampoos etc.	Use refillable liquid soap containers

## Pathways of Single Use Plastics into the Environment

Plastic pollution in terrestrial, freshwater and marine environments has been identified as a global problem. Plastic materials resulting from mismanaged waste enters the environment through open dumping and may be carried away by storm water or blown into streams, rivers or directly into the oceans by wind. Waste water is a significant source of micro plastic pollution into aquatic ecosystems. These micro-plastics can travel vast distances or be deposited as sediment on the sea bed. Plastic debris accounts for 60-80% of marine litter, reaching 90-95% in some water bodies. 80% of the litter originates from land-based sources while the rest is ocean-based and includes fishing nets and ropes. Land sources includes illegal dumping (mismanaged plastic waste) and inadequate waste management measures.

Kenya's most important pathways into the environment for SUPs are: littering; (throw away culture, poor waste management habits); Storm water entrainment; wind and water currents /tides. The SUPs entry into the above path is by direct or indirect introduction as highlighted below:

- a) Direct introduction into the protected areas arises through a culture of littering by visitors & facilities within the protected areas. A typical example is the littering by road users using the Northern corridor (A103) as they traverse the Tsavo National Park
- b) Indirect introduction occurs primarily through drifting from areas outside the protected areas e.g. cities, towns, into the protected areas. Typical activities leading generating the drifting SUPs litter include: agriculture, tourism, construction, transport, domestic and uncontrolled landfilling (dumpsites such as Dandora, Mwakirunge & Kachock)

SUPs present a unique management challenge due to their volumes and mobility once they are released into the environment. Their dispersal through the various pathways identified above has implication on the mechanisms to the ban thus calling for a two prong approach of prohibiting their use in protected areas while taking action to reduce and possibly halt drift from upstream areas.

## Impacts and Mitigation options of Single Use Plastics

The table below presents the impacts of single use plastics to the environment and mitigation actions that could be undertaken.

IMPACTS	MITIGATIONS OPTIONS
<b>Environmental</b> <ul style="list-style-type: none"> <li>○ Soil and water contamination</li> <li>○ Entanglement of invertebrates, birds, mammals and turtles leading to starvation and even death</li> <li>○ Aesthetic values; eye sore</li> <li>○ Biodiversity loss</li> </ul>	<ol style="list-style-type: none"> <li>1. Curbing growth of single use plastics via bans, levy, tax etc.</li> <li>2. Ban of microbeads in personal care products and cosmetics</li> <li>3. Raising awareness among the public on the harm caused by</li> </ol>

IMPACTS	MITIGATIONS OPTIONS
<ul style="list-style-type: none"> <li>○ Ingestion by aquatic organisms causing physical damage, blockage, infection, starvation and even death</li> <li>○ Food chain contamination</li> <li>○ Aggravate disasters such as flooding</li> </ul>	<p>plastic pollution (Education and Outreach Programs) to modify behavior</p>
<p><b>Economic</b></p> <ul style="list-style-type: none"> <li>○ Negative impacts on tourism; reduced revenue</li> <li>○ Adverse impacts on fisheries; contaminated catch, damaged nets and vessels</li> <li>○ Negative impacts on shipping</li> <li>○ Negative impacts on recreational activities</li> <li>○ Impairment of marine environment</li> <li>○ Economic cost of clean-up or restoration</li> <li>○ Loss of value for material as a result of being used once</li> </ul>	<p>4. Discourage/prohibit the use of single use plastic bags</p> <p>5. Reducing plastic waste generation</p> <p>6. Preventing illegal plastic waste dumping</p> <p>7. Collection and removal of old or abandoned nets for recycling</p> <p>8. Reduce, recycle, reprocess, recovery</p>
<p><b>Health and Social impacts</b></p> <ul style="list-style-type: none"> <li>○ Carrier of pollutants; pesticide residue and organic pollutants such as PCBs and DDT that can bio accumulate in fish, birds and reach humans</li> <li>○ Leaching of toxic chemicals; carcinogenic</li> <li>○ Toxic emissions when burned; furans and dioxins</li> <li>○ Increased risk of vector borne diseases</li> <li>○ Loss of livelihoods</li> <li>○ Increased incidences of chronic diseases</li> </ul>	<p>9. Managing mismanaged plastic waste</p>

**Action Plan for Implementation of the Ban On Single Use Plastics (GAZETTE NOTICE 4858)**

Objectives

1. Promote mindset change and public participation on use and management of single use plastics
2. Prohibit the use of and littering by SUPs in all protected areas
3. Promote development and uptake of innovative and sustainable alternatives to SUPs.
4. Promote incentive schemes for private sector players
5. Strengthen management of postconsumer SUPs to eliminate their drifting into protected areas
6. Upscale enforcement of the ban

Objective	Activities	Actors	Indicators	Expected output	Time Q3	Q 4	Q 1	Q 2	Q 3	Q 4
Promote mindset change and public participation on use and management of single use plastics	Publicity on radio, social media, television	MEF, MTW, KFS, KWS, NEMA, Media houses,	No. of publicity releases No. of media platforms used	Single plastic issues publicized						
	Develop guidelines for mainstreaming plastic issues in the curriculum at all levels	MEF, MoF, NEMA, Curriculum development institutions	Guidelines, Reports,	Curriculum guidelines						
	Rejuvenate environmental related clubs in learning institutions to prioritize single use plastics	MEF, MoE, NEMA, WCK, clubs in learning institutions	No. of learning institutions with engaged clubs  Annual Reports	SUPs programme in clubs						
	Develop and disseminate	NEMA, MEF, MoTW,	No. of guidelines disseminated	SUPs Management						

Objective	Activities	Actors	Indicators	Expected output	Time Q3	Q 4	Q 1	Q 2	Q 3	Q 4
	SUP management guidelines	KFS, KEFRI, KWS, KEPSA, KAM	ed	guidelines						
	Develop and disseminate posters, brochures and fliers with clear pictures and graphics in English and Swahili language of SUPs banned	MEF, MoTW, MoE, NEMA, KWS, KFS, KEFRI	Posters, Brochures, fliers, Reports	Posters, brochures, fliers disseminated						
	Develop and place signage on SUPs management	MEF, MoTW, MoE, NEMA, KWS, KFS, KEFRI	No. of signage erected	SUPs signage erected						
	Run public campaigns to change consumer perception	MEF, MTW, KFS, KWS, NEMA, Media houses,	Adverts No. of roadshows	SUPs campaigns						
Prohibit the use of and littering by SUPs in all protected areas	Put notices at entry points	KFS, KWS, KEFRI, CG's	No. of Notices erected	Notices at strategic locations						
	Provide appropriate waste receptacles	KFS, KWS, CG's	No. of receptacles deployed	SUPs receptacles at strategic locations						
	Ban entry of single	KFS, KWS,	No. of occurrence	No entry of SUPs						

Objective	Activities	Actors	Indicators	Expected output	Time Q3	Q 4	Q 1	Q 2	Q 3	Q 4
	use plastics	CG's	s / violations	in protected areas						
	Restrict use of SUP in merchandise and supplies for facilities operating in protected areas	KFS, KWS, KAHC, CG's	No. of facilities embracing restricted use of SUPs	Reduced use of SUPs						
	Promote use of reusable alternatives e.g. bottles, mugs	MEF, MoTW, MoE, NEMA, KWS, KFS, KEFRI	No of reusable alternatives	Reduced use of SUPs						
	Green procurement e.g. buying in bulk to reduce plastic packaging	MEF, MoTW, MoE, NEMA, KWS, KFS, KEFRI	No. of entities embracing bulk purchase	Reduced use of SUPs						
Promote development and uptake of innovative and sustainable alternatives to SUPs.	Hold regional exhibitions on alternatives to single use plastics	MEF, MoTW, MoE, NEMA, KWS, KFS, KEFRI COG, Counties	No of regional exhibitions	No. of regional exhibitions						
	Media campaigns on alternatives to SUPs	MEF, MoTW, NEMA, KWS, KFS, KEFRI, COG	No. of media campaigns	No. and media houses involved						
	Provide	MEF,	No. of	No. of						

Objective	Activities	Actors	Indicators	Expected output	Time Q3	Q 4	Q 1	Q 2	Q 3	Q 4
	incentives to encourage use of alternatives	MoTW, NEMA, KWS, KFS, National Treasury	incentives gazette	incentives						
	Establish an online portal on SUPs and their alternatives	MEF, MoTW, MoE, NEMA, KWS, KFS, KEFRI	Online portal	Online portal						
	Promote research on SUPs and their alternatives	MEF, MoTW, MoE, NEMA, KWS, KEFRI, KALRO, KMFRI, KFS, NACOST I, CUE	No. of research publications	SUPs research database						
	Undertake baseline survey on SUPs	MEF, MoTW, MoE, NEMA, KWS, KEFRI, KALRO, KMFRI, KFS, NACOST I, CUE								
Promote incentive and disincentives schemes for private sector players	Private sector to provide items to be considered for incentives such as tax rebates,	MEF, KEPSA, KAM, National Treasury	No. of submissions from private sector	List of incentives						

Objective	Activities	Actors	Indicators	Expected output	Time Q3	Q 4	Q 1	Q 2	Q 3	Q 4
	excise duty									
	Award scheme for new innovations on alternatives to SUPs	MEF, MoTW, MoE, NEMA, KWS, KFS, NETFund	No. of awardees	No. of innovations awarded						
	Economic incentives to promote positive behavior e.g. deposit-refund schemes for disposal	MEF, MoTW, NEMA, KWS, KFS, KEPSA, KAM, NT	No. of economic incentives in place	Economic incentives in place						
	Disincentives to deter certain behavior e.g. charges & increased taxation for SUPs	MEF, MoTW, NEMA, KWS, KFS, KEPSA, KAM, NT	No. of economic disincentives	Economic disincentives deployed						
Strengthen management of postconsumer SUPs to eliminate their drifting into protected areas	Make public procurement to be SUP free	MEF, MoTW, all Ministries	No. of entities in compliance	Reduced procurement of SUPs						
	Implement the Extended Producer Responsibility Regulations	MEF, NEMA, KEPSA, KAM	No. of active ERP schemes	EPR schemes in place						
	Use of technology to warn against use of single	MEF, MoTW, MoE, NEMA, KWS,	No. of technological innovations	Technological innovations in place						

Objective	Activities	Actors	Indicators	Expected output	Time Q3	Q 4	Q 1	Q 2	Q 3	Q 4
	use plastics	KFS,ICT A								
Upscale enforcement of the ban	Promote multi agency and cross border collaboration	MEF, MoTW, MoEAC, NEMA, MFA	No of countries, agencies mobilized	Strengthened local and regional collaboration						
	NEMA to establish a register for all single use plastics manufacturers and importers	NEMA, KEPSA, KAM KEBS	Register	Register of SUPs manufacturers and importers						
	NEMA to issue licenses to manufacturers and importers of single use plastics where alternatives do not exist	NEMA, KEPSA, KAM KEBS	No. of licenses issued	No. of licenses issued						
	Prompt prosecution of offenders	NEMA, NPS, DPP, Judiciary	No. of prosecutions	Offenders prosecuted						
M&E										