



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

STUDY ON PLASTIC VALUE CHAIN --- IN KENYA



SUSTAINABLE
DEVELOPMENT
GOALS

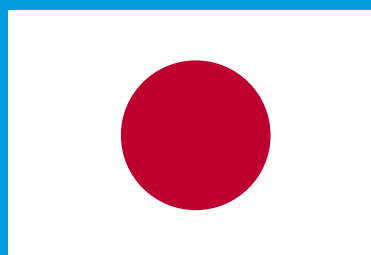
Acknowledgement

This country study on plastic value chain in Kenya was conducted by the consortium of cyclos GmbH and AHK Services Eastern Africa Ltd. under the UNIDO project “Study on available sustainable alternative materials to plastics, and innovative packaging and recycling technologies that meet market needs in Africa to reduce plastics leakages to the environment”.

The project is funded by the Government of Japan under the MARINE initiative to support G20 Osaka Blue Ocean Vision, which was shared as a common global vision in June 2019 at G20 Osaka Summit under Japan’s G20 presidency. The vision aims to reduce additional pollution by marine plastic litter to zero by 2050 through a comprehensive life-cycle approach that includes reducing the discharge of mismanaged plastic litter by improved waste management and innovative solutions while recognizing the important role of plastics for society.

The purpose of the UNIDO project is to provide stakeholders in and beyond Kenya with an overview of available options matching with local contexts and needs so that they could take necessary actions to reduce plastic waste leaking to the environment in their country. The country study in Kenya collected information on current legal, policy and institutional framework in relations to the plastic value chain including production of alternative materials and single use plastics, distribution, and waste management including available treatment paths.

Authors: Thilo Vogeler, George Warutere, Judy Chebet, Jana Brinkmann, Valerie Leisten, Stephan Löhle, Karin Ruf and Bronwyne Andabwa (the consortium of cyclos GmbH and AHK Services Eastern Africa Ltd.)



Disclaimer

The study was conducted from December 2020 to May 2021. Some of the information collected then might have been changed over the time as situations and initiatives progress. Although efforts are made to update the information, it may not be able to cover all the changes in the country.

Copyright © UNIDO 2021 All rights reserved.

This document has been produced without formal United Nations editing. The designations employed and the presentation of the material in this document do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations Industrial Development Organization (UNIDO) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries, or its economic system or degree of development. Designations such as “developed”, “industrialized” and “developing” are intended for statistical convenience and do not necessarily express a judgment about the stage reached by a particular country or area in the development process. Mention of firm names or commercial products does not constitute an endorsement by UNIDO.

The opinions, statistical data and estimates contained in signed articles are the responsibility of the author(s) and should not necessarily be considered as reflecting the views or bearing the endorsement of UNIDO.

Although great care has been taken to maintain the accuracy of information herein, neither UNIDO nor its Member States assume any responsibility for consequences which may arise from the use of the material.

This document may be freely quoted or reprinted but acknowledgment is requested.

STUDY ON PLASTIC VALUE CHAIN IN KENYA



UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Vienna, Novembre 2021

Table of --- contents

List of figures and tables	6
List of abbreviations	7
Executive Summary	9
1 Introduction and Methodology	10
2 Review of policy, regulatory and institutional framework	12
2.1 Regulatory Framework	13
2.2 Strategies, Policies, and institutional mechanisms for reducing plastic waste in Kenya	14
2.3 Draft Laws and Policies	14
2.4 Identified challenges and gaps	15
2.5 Discussion of technical standards applicable for plastic waste management	16
3 Extended producer responsibility (EPR) initiatives in Kenya	18
3.1 Assessment of the current (draft) EPR regulations.	19
3.2 Plans and status of Industry's Extended Producer Responsibility System	19
4 Solid Waste Management Practices	22
4.1 Data Sources	23
4.2 Simplified Waste Mass Flow.	23
5 Plastic Value Chains	28
5.1 Plastic Waste Data Sources	29
5.2 Plastic Processing	31
5.3 Plastic Mass Flow.	32
6 Discussion on measures to reduce leakages from plastic waste specific to Kenya's waste management framework	34
6.1 Overview	35
6.2 Analysis and recommendations on relevant plastic items	36
6.3 Conclusion	46
6.4 Suggested future research and analysis	47
7 Annexes	48
7.1 Detailed outline of the Regulatory Environment for waste management, particularly plastic waste management in Kenya	49
7.2 Inventory of Standards.	57
7.3 Outline of the Government's management and enforcement system as well as the general, country-specific procedures and requirement on developing and implementing standards in Kenya	58
7.4 Strategies to reduce leakages from plastic packaging and single use plastics	61
Glossary	68
Bibliography	70

List of figures and tables

Figure 1. Waste management practices in Nairobi [Kenya Plastic Action Plan 2019]	25
Figure 2. Disposal practices at Dandora landfill & mixed waste collection, Nairobi [picture © cyclos]	25
Figure 3. Waste Composition in Nairobi, according to JICA [KPAP 2019]	25
Figure 4. End use of plastics processed in Europe [Plastics Europe 2020].	30
Figure 5. Schematic plastic mass flow Kenya showcasing data gaps [own figure].	32
Figure 6. ‘kasuku’ items packed in Kenya [picture source AHK]	37
Figure 7. thermoforming plastic items in Kenya [picture source Brookside Ltd., Bio Foods Ltd.].	37
Figure 8. Recycled injection mould plastic item packed in Kenya [picture source AHK]	38
Figure 9. Injection moulded plastic items packed in Kenya [picture source Bio Foods Ltd, Brookside Ltd.]	38
Figure 10. Common PET trays packed in Kenya [picture source: Zucchini Greengrocers Ltd., Isinya Feeds Ltd.].	39
Figure 11. Kenyan LDPE food packaging and HDPE nonwoven bags [picture source: KSL Ltd., Ecobag Ltd.]	41
Figure 12. PET bottles filled in Kenya [picture source: Kevian Kenya Ltd., CocaCola Sabco Ltd.].	42
Figure 13. Recycled plastic flakes (transparent input material) from Kenya [picture source cyclos/ AHK].	42
Figure 14. Multi-use PET bottles in Germany [picture source: Genossenschaft Deutscher Brunnen]	43
Figure 15. Multi use glass bottles in Kenya [picture source: CocaCola Sabco Ltd.; Kenya Breweries Ltd.].	43
Figure 16. Common liquid packaging board packed in Kenya [picture source New KCC Ltd., Kevian Kenya Ltd.]	44
Figure 17. Building materials recycled from liquid packaging board [picture source: AHK E.A. Ltd.].	44
Figure 18. Plastic strapping [picture source Adobe stock]	45
Figure 19. Fruit/ vegetable net [picture source: Naivas Ltd.]	45
Figure 20. Stages of Standards Development, [Kenya Bureau of Standards]	59
Figure 21. Milestones to develop a standard	59
Table 1. KEPRO’s milestones to 2030 [KEPRO 2020]	21
Table 2. Main Form of solid waste disposal at household level in % [KNBS 2019]	24
Table 3. Comparison different estimations on plastic amounts.	31
Table 4. KAM plastic and rubber sector member categories [own categorization based on membership data at the directory of Kenya Association of Manufacturers]	31
Table 5. Inventory of Standards	57
Table 6. Exemplary time schedule for the creation of a standard	58

List of abbreviations

DKS	Draft Kenya Standard
DRS	Deposit-Refund System
EA	Environmental Audits
EAC	East Africa Community
EIAs	Environmental Impact Assessments
ELC	Environmental Law Court
EMCA	Environmental Management and Co-ordination Act
EPR	Extended Producer Responsibility
EPS	Expanded Polystyrene
HDPE	High Density Polyethylene
JICA	Japan International Cooperation Agency
KAM	Kenya Association of Manufacturers
KAWR	Kenya Association of Waste Recyclers
KEBS	Kenya Bureau of Standards
KEPRI	Kenya Extended Producer Responsibility Initiative
KEPRO	Kenya Extended Producer Organization
KNBS	Kenya National Bureau of Statistics
KPAP	Kenya Plastic Action Plan
LDPE	Low Density Polyethylene
NEMA	National Environment Management Authority
PES	Payment for Ecosystem Services
PET	Polyethylene Terephthalate
PETCO	Kenya PET Recycling Company
PP	Polypropylene
PRO	Producer Responsibility Organization
PS	Polystyrene
PVC	Polyvinylchloride
SAC	Standards Approval Committee
SEAs	Strategic Environmental Assessments
SPC	Standards Projects Committee
SWM	Solid Waste Management
TC	Technical Committee
UN Habitat	United Nations Human Settlement Programme
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
WEEE	Waste from electric and electronic appliances
WG	Working Group
WMCA	Wildlife Management and Conservation Act



预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_23237

