MINISTRY OF WATER AND ENVIRONMENT
REPUBLIC OF UGANDA

United Nations Environment Programme

National Environment Management Authority
ENSURING SUSTAINABLE DEVELOPMENT

NATIONAL CHEMICALS PROFILE FOR UGANDA

PREPARED BY: MINISTRY OF WATER AND ENVIRONMENT IN COLLABORATION WITH THE NATIONAL ENVIRONMENT MANAGEMENT AUTHORITY (NEMA)

MINISTRY OF WATER AND ENVIRONMENT
PLOT 3 - 7 KABALEGA CRESCENT CLOSE, LUZIRA
P.O. BOX 20026 KAMPALA, UGANDA
Tel : +256 417 889 400
:+256 414 505 942
Email: mwe@mwe.go.ug
Website: www.mwe.go.ug

NOVEMBER 2020

FOREWORD

Uganda imports large quantities of chemicals every year for use in various economic sectors. In addition, chemicals that are imported by neighbouring countries transit through Uganda. With the emergence of new sectors such as the oil and gas sector, chemical use is likely to increase. Sound management of chemicals and waste is a specific target under Sustainable Development Goal (SDG) 12 on Sustainable Consumption and Production which is essential to avoid complex risks to human health, ecosystems and substantial costs to national economies.

The government of Uganda has demonstrated commitment to fulfil its sustainable chemical management goals and objectives to promote national socio-economic development by ratifying various Multilateral Chemicals Management Agreements that include Basel, Vienna, Montreal, Rotterdam, Stockholm and Minamata Convention. Sound management of chemicals has also been mainstreamed in the Vision 2040 and the National Development Plans and Sectoral Plans. Furthermore, the enabling legislations on sound management of chemicals and waste have been put in place.

The National Chemicals Profile is an important document that provides a comprehensive assessment of the national chemical's management infrastructure relating to institutional, legal, administrative and technical aspects alongside the understanding of the nature and the extent of chemical availability, storage, use and disposal in Uganda. Since 2003 when the initial assessment of chemicals and waste was undertaken, a number of chemicals related issues have emerged. This updated national chemicals profile takes into consideration these emerging areas such as, the emergence of the oil and gas sector, the Minamata Convention on Mercury, new chemicals listed under the Stockholm and Rotterdam Conventions, growth in industry and information technology sectors giving rise to e-waste challenges, the adoption of Strategic Approach to International Chemicals Management (SAICM), the enactment of new laws and amendments of legislation related to chemicals and waste management, among others.

The Ministry of Water and Environment (MWE) in collaboration with National Environment Management Authority (NEMA), with support from the UN Environment funded Special Programme for Strengthening National Institutional Capacity in Sound Management of Chemicals in Uganda, have therefore developed this profile for the country. The aim of the Profile is to inform interventions for sustainable chemicals and waste management, and highlight opportunities to strengthen the capacity for sound management of chemicals and waste in Uganda.

For God and my Country.

Hon. Sam Cheptoris
Minister for Water and Environment

ACKNOWLEDGEMENT

This National Chemicals Profile has been prepared with inputs, contributions and participation of a number of stakeholders in public and private sector, academia, partners in development and civil society organizations. Ministry of Water and Environment gratefully acknowledges the roles played and support received from various stakeholders during the preparation of this profile. In particular, the Government of Uganda appreciates the UN Environment for the financial support provided through the Special Programme for Strengthening National Institutional Capacity in Sound Management of Chemicals in Uganda.

We are indebted to the Project Management Unit and the Multi-Sectoral Technical Steering Committee on sound management of chemicals and waste for their technical guidance. They included: Arnold Waiswa Ayazika (NEMA), Patience Nsereko (NEMA), Isaac Ntujju (NEMA), Ann Nakafeero (NEMA), Fred Onyai (NEMA), Patience Nyawere (NEMA), Steven Byantwale (MAAIF), Peruth Atukwatse (NAPE), Mugabi Stephen David (MWE), Maureen Anino (MWE), Twinomujuni Edson (UCPC), Aziz Mukota (UNBS), Nsiyona Wilber (URA), Peter Odong (MTIC), Franco A. Oyara. (MGLSD), Muheirwe Morris Tabaaro (MEMD), Dr. Tebandeke Emmanuel (Mak), Dr. Kwetegyeka Justus (KYU) and Thomas Kalifa Mwanawakuno (DGAL).

The Ministry is also grateful to the consultants, Julius Oboth and Kamanda Patrick from Ayaah Consult for the technical support, stakeholder engagements, data collection and drafting this profile.

Participants in the various focus group discussions and stakeholder consultative meetings provided inputs that have made this profile a home-grown document addressing national priorities for chemicals management. We thank the Government Ministries, Agencies and Local governments (MALs) for their commitment, time and knowledge contributed during the development of this profile.

We highly appreciate the staff of MWE particularly the Department of Environment Sector Support Services and NEMA for all the support provided during the development of this profile to its logical conclusion.

Mr. Alfred Okot Okidi

Permanent Secretary

Ministry of Water and Environment

LIST OF ACRONYMS

ACB	Agricultural Chemicals Board
ASGM	Artisanal and Small-Scale Gold Mining
ASL	Above Sea Level
BAT	Best Available Techniques
BC	Basel Conventions
BET	Best Environmental Practices
BRS	Basel, Rotterdam, Stockholm Conventions
CBOs	Community Based Organizations
CCP	Commissioner Crop Protection
COSH	Commissioner Occupational Safety and Health
CSO	Civil Society Organisation
DDPC	District Disaster Policy Committee
GD	Guidance Document
DGAL	Directorate of Government Analytical Laboratory
DGSM	Directorate of Geological Survey and Mining
DNA	Designated National Authority
DODPM	Department of Disaster Preparedness and Managemnt
DOSH	Department of Occupational Safety and Health
EA	Environmental Alert
ED	Executive Director
EEE	Electrical and Electronic Equipment
EMLI	Environmental Management for Livelihood Improvement
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHS	Globally Harmonized System (of Classification and Labelling of Chemicals)
GPS	Global Positioning System
GOU	Government of Uganda
GPA	Global Plan of Action
Ha	Hectares
HRV	Hazard Risk Vulnerability
IHR	International Health Regulations
ILO	International Labour Organisation
IOMC	Inter-Organization Programme for the Sound Management of Chemicals
IPCS	International Programme on Chemical Safety, a Programme of the WHO
IPEN	International POPs Elimination Network
ISO	International Organization for Standardization
L, M, H	Low, medium, high
LG	Local Government

LPG	Liquid Petroleum Gas
M	Metres
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MALs	Ministries, Agencies and Local Governments
MDGs	Millennium Development Goals
MEAs	Multilateral Environmental Agreements
MEMD	Ministry of Energy and Minerals Development
MGLSD	Ministry of Gender Labour and Social Development
MIA	Ministry of Internal affairs
MICT&NG	Ministry of Information Communication Technology and National Guidance
MODPR	Ministry of Disaster Preparedness and Refugees
MODVA	Ministry of Defence and Veteran Affairs
MOES	Ministry of Education and Sports
MOFPED	Ministry of Finance Planning and Economic Development
MOH	Ministry of Health
MSMEs	Micro- Small and Medium Enterprises
MSTSC	Multi-Sectoral Technical Steering Committee
MTIC	Ministry of Trade, Industry and Cooperatives
MWE	Ministry of Water and Environment
NAPE	National Association of Professional Environmentalists
NARO	National Agricultural Research Organization
NCDC	National Curriculum Development Centre
ND	Not Determined
NDA	National Drug Authority
NDP	National Development Plan
NEA	National Environment Act
NECOC	National Emergency Coordination and Operational Centre
NEMA	National Environment Management Authority
NEMP	National Environment Management Policy
NGO	Non-governmental Organisation
NIP	National Implementation Plan
NITA-U	National Information Technology Authority of Uganda
NPOs	Non-Profit Organisations
NOTU	National Organisation of Trade Unions
NPA	National Planning Authority
NPHS	National Population Housing Survey
NUPAWU	National Union of Plantation Workers of Uganda
ODS	Ozone Depleting Substances
OECD	Organisation for Economic Co-operation and Development
OPM	Office of the Prime Minister

OSH	Occupational Safety and Health
PACE	Partnership of Action on Computing Equipment
PAU	Petroleum Authority of Uganda
PBDES	Polybrominated Diphenyl Ethers
PEAP	Poverty Eradication Action Plan
PFOS	Perfluoroctane Sulfonic Acid
PPEs	Personal Protective Equipment
POPs	Persistent Organic Pollutants
PROBICOU	Pro-Diversity Conservationists in Uganda
PSFU	Private Sector Foundation Uganda
PSOs	Private Sector Organisations
SAICM	Strategic Approach to International Chemicals Management
SI	Statutory Instrument
SMC	Sound Management of Chemicals
SRC	Stockholm Rotterdam Convention
SSC	Secretariat of the Stockholm Convention
UBOS	Uganda Bureau of Statistics
UCPC	Uganda Cleaner Production Centre
UIRI	Uganda Industrial Research Institute
UMA	Uganda Manufacturers Association
UNACOH	Uganda National Association of Community and Occupational Health
UNADA	Uganda National Agro-Input Dealers Association
UNBS	Uganda National Bureau of Standards
UNCCI	Uganda National Chamber of Commerce and Industry
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
UNITAR	United Nations Institute for Training and Research
UPDF	Uganda Peoples Defence Forces
UPF	Uganda Police Force
URA	Uganda Revenue Authority
WEF	World Economic Forum
WHO	World Health Organization
WSIS	World Summit on Information Society
WTO	World Trade Organization

EXECUTIVE SUMMARY

This updated National Chemicals Profile was prepared by the Ministry of Water and Environment (MWE) in collaboration with National Environment Management Authority (NEMA) with support from the UN-Environment Special Programme for Strengthening National Institutional Capacity in Sound Management of Chemicals (SMC) and related Waste in Uganda.

This Profile presents the current situation of chemicals management in Uganda following a previous assessment that was carried out in 2003. It provides a comprehensive assessment of the national chemical's management infrastructure relating to institutional, legal, administrative and technical aspects alongside the understanding of the nature and the extent of chemical availability and use in Uganda. It has been prepared in line with the Guidance Document (GD) for preparing the National Chemicals Profile to Assess Infrastructure and Capacity Needs for Chemicals Management (UNITAR[1], 2012).

Chapter 1: National Background Information

This chapter provides general background information on Uganda with focus on issues relevant to the management of chemicals and waste.

The economy of Uganda comprises of agriculture (24%), industry (20%), services sectors (48%) and others (8%) as % share of the Gross Domestic Product (GDP). These sectors which use chemicals as raw materials as well as generate chemical waste are growing steadily. The activities of these sectors as a contribution to GDP has been increasing and the quantities of chemicals used and chemical waste generated also increased thus the need for proper chemicals and waste management.

Chapter 2: Chemical Production, Import, Export, Storage, Transport, Use and Disposal

In this chapter information about chemicals in Uganda throughout their lifecycle, from production, import, export, transportation, storage, use and disposal is provided.

Although some chemicals are produced locally, most of the chemicals used in Uganda are imported ready for use and others as raw materials. The main importers include private sector organisations, Government and development partners. The types of chemicals that are imported include pesticides, consumer chemicals, fertilizers, pharmaceuticals, petroleum products, organic and inorganic chemicals. Analysis of customs imports statistics indicate that the total imported quantities for these chemical types increased by 9% in 2017 and 5% in 2018. Therefore, there is need to effectively manage these chemicals along the lifecycle.

Whereas Uganda produces some consumer chemicals such as cosmetics, soaps, detergents and household chemicals, the production data is not readily available. There are also data gaps on chemical storage, transport, use and waste disposal; which needs to be addressed by creating an appropriate database.

The Persistent Organic Pollutants (POPs) pesticide inventory carried out in 2015 indicated that there were no stockpiles of POPs pesticides in the country. However, there is need to carry out

[1] United Nations Institute for Training and Research

comprehensive assessments of the suspected contaminated sites and implement the proposed activities and interventions in the National Implementation Plans (NIPs).

The private sector is also involved in chemicals and waste management by operating facilities for chemicals and hazardous waste management. The Technical Committee on Pollution Licensing, in exercise of the powers conferred on it by the National Environment (Waste Management) Regulations 2020, issues licenses to companies/persons to transport wastes or own/operate waste treatment/disposal facilities.

Chapter 3: Legal Instruments and Non-Regulatory Mechanisms for Sound Management of Chemicals

This chapter provides an overview of existing legal instruments and non-regulatory mechanisms for managing chemicals and analyses their adequacy.

Uganda has ratified various Multilateral Environmental Agreements (MEAs) relating to chemicals and waste management; that include Basel, Vienna, Montreal, Rotterdam, Stockholm and Minamata Conventions.

The National Environment Act, 2019 is the overarching law for environmental management in Uganda. The law addresses chemicals and waste management concerns including emerging issues of plastics, electronic waste and developments in oil and gas sector; domestication of multilateral chemicals agreements under the various provisions. The non-regulatory mechanisms are provided for under provisions for macroeconomic policy instruments. The Act and sectoral laws have administrative mechanisms, which can improve management of chemicals and waste. The laws have provisions for inspections and compliance audits but resources are not adequate for their effective implementation.

Chapter 4: Government Ministries, Agencies and Local Governments Managing Chemicals

This chapter describes the mandates and programmes of different Ministries,

Agencies, and Local Governments (MALs) responsible for chemicals and waste management in Uganda. The Ministry of Water and Environment is the lead government agency responsible for sound management of chemicals in Uganda. The Ministry mainly plays a Policy role while NEMA is the principal agency tasked with the role of regulation. Other Sectoral Agencies are responsible for management of the chemicals within their legal mandates.

Whereas the MALs have made efforts to execute their responsibilities, they are constrained by inadequate resources to effectively perform. Also, there are challenges in the regulation of industrial and consumer chemicals which is being addressed through the formulation of Regulations for the management of industrial and consumer chemicals. At local governments, there is limited coordination among the different departments to manage chemicals and its related waste. The District Labour Officer mainly focuses on the Occupational Safety and Health (OSH) issues in the Local Governments (LGs) while the District Natural Resources Officer handles issues relating to waste management. There is need to decentralize the mandates of chemicals and waste management to LGs and build their capacity.

Chapter 5: Relevant Activities of Industry, Public Interest Groups and Professional Bodies in Chemicals Management

This chapter provides information on relevant programmes conducted by Civil Society Organisations (CSOs) related to chemicals management.

CSOs are key stakeholders in Chemicals and waste Management in Uganda and play a critical role in advocacy and good governance. They also participate in planning, formulation and review of chemicals legislation, regulations and guidelines. Despite their critical role, they lack funds to adequately carry out these chemicals and waste management activities and therefore need to source for funding.

Chapter 6: Inter-ministerial Commissions and Coordinating Mechanisms

This chapter describes mechanisms which facilitate coordination and cooperation among MALs and other relevant governmental and NGOs in particular areas of chemicals and waste management.

In Uganda, there are mechanisms that facilitate coordination and cooperation among stakeholders. There are Ad-hoc technical committees that have successfully been used in the implementation of Sound Management of Waste in Uganda. These mechanisms which are, multi-sectoral include the Policy Committee on Environment, the Agricultural Chemicals Technical Committee and the National Authority for Implementation of the Chemical Weapons Convention, among others. The models used in these technical committee's needs be entrenched in upcoming laws and operationalized to ensure a multi stakeholder participation in chemicals and waste management. The legislation should also provide for a permanent secretariat and funding that will improve their functionality as well as explicit ways of participation of Civil Society Organisations (CSOs) and the Private Sector Organisations (PSOs) in the coordination mechanisms.

Chapter 7: Information Management, Access and Use

This chapter provides an overview of the information management capacity in Uganda related to SMC.

Infrastructure for data management of chemicals and waste is available in Uganda with inadequate quantity and quality of information. There is also consistency and complimentary information from different sources. Most of the institutions have the basic ICT infrastructure to capture different aspects of chemicals and waste management data and a significant number of staff have access to computers and internet. Furthermore, data on chemical imports and exports is available on request from the relevant MALs both in soft copies. However, there are no database management systems for chemicals and various types of waste in Uganda. The NEMA and Uganda Revenue Authority (URA) are in the process of developing an integrated database system which will be linked to the relevant MALs for easy access and information sharing online.

Although most institutions with a significant amount of information have already started digitalizing it, on the whole data management is still inadequate. There is need to build the capacities of key stakeholders in information management regarding chemicals and waste management as well as for the general public to be able to access this information.

Chapter 8: Technical Infrastructure

This chapter provides an overview of the technical infrastructure and capacity in Uganda for chemicals analysis and monitoring.

In Uganda a significant number of the laboratories reviewed have appropriate basic equipment used for analysis of chemicals and chemical products. However, they lack high-end confirmatory equipment and specialized training for analysis of complex hazardous chemicals and chemical products. The laboratories are constrained due to inadequate financial resources as well as technical expertise to maintain equipment. There are four laboratories with ISO/ISE 7025 accreditation in Uganda carrying out chemical analysis. However, the accreditation scope does not comprehensively cover the entire spectrum of regulated chemicals thus there is need to expand the scope and to support more laboratories to be accredited.

Chapter 9: Chemical Emergency Preparedness Response and Follow-up

This chapter provides an overview of the capacity in Uganda related to preparedness for, response to and follow-up of emergencies involving chemicals.

In Uganda, the Ministry of Disaster Preparedness and Refugees (MODPR) under the Office of the Prime Minister (OPM) is responsible for national preparedness for disasters and emergencies It is the lead agency and coordinates all stakeholders on disaster preparedness and management in the country. The Department of Disaster Preparedness and Management under the Ministry established the National Emergency Coordination and Operations Centre (NECOC) that is responsible for coordination and networking of various emergency response institutions. The activities of the centre cover all aspects of the disaster preparedness cycle through to response coordination. However, there is need to mainstream chemical emergency preparedness in NECOC both at national and LG levels. There is also need to train staff and put in place health service capacity for response, environmental services clean-up capacity, mechanisms for follow-up, and specialized handling or treatment of exposed persons by having a chemical poison and information service centre.

Chapter 10: Awareness Creation, Training and Education

This chapter provides an overview of legal instruments, programmes and policies for creating awareness on chemicals related issues.

Sectoral laws setting up institutions that handle issues associated with the management of chemicals, basically provide for awareness creation and sensitization of the public. Various MALs, private sector, media houses and CBOs also play key roles in raising awareness on chemicals and waste management in Uganda. However, there is need for a communication strategy for the awareness to be effective.

In order to broaden awareness on chemicals issues in the general public, SMC aspect needs to be mainstreamed in curriculum for primary, post-primary/secondary and tertiary education. The policy-makers and legislators are critical in taking decisions to allocate funds for chemicals and waste management and therefore need to be specifically targeted for sensitization on the matters of chemical safety and encourage them to take timely actions to implement SMC measures.

Chapter 11: International Linkages

This chapter presents Uganda's involvement in international activities and agreements.

Uganda is a signatory to several conventions, agreements and initiatives related to the management of chemicals; and is involved in international activities through various MALs and the private sector. The MWE and NEMA manage projects in the environmental sector by identifying needs and priorities for management of air quality, waste, chemicals, climate change and industrial pollution in accordance with the requirements of signed international agreements, guidelines, national laws and regulations. However, there is inadequate capacity at institutional and individual levels in implementing the requirements of international agreements. Capacity of institutions involved in chemicals and waste management needs to be strengthened as a priority to effectively manage the chemicals and waste along the life-cycle. There is also need to strengthen the NEMA and other Designated National Authorities (DNAs) to effectively coordinate, regulate, develop and implement the procedures related to import, export and use of chemicals and disposal of their waste according to the requirements of the Rotterdam, Stockholm, Minamata and Basel Conventions.

Chapter 12: Resources Available and Needed for Chemicals Management

This chapter presents an overview of resources available within government and CBOs related to chemicals and waste management.

The MALs obtain funding through government budget appropriation. However, most them lack the capacity to handle or address chemicals and waste management due to inadequate funding. The support from development partners is also not sufficient to effectively implore on the functionality of the MALs which has contributed to inadequacy in service delivery.

The funding for CSOs is mostly through support from donors and development partners which is also inadequate. Generally, there is need for additional funding to support activities of the MALs and the CSOs in chemicals and waste management.

Chapter 13: Conclusions and recommendations

This chapter presents the conclusions on the situation of chemicals management in Uganda and the most important priorities and recommendations.

Most the sectors of the economy especially the agricultural, industrial and services sectors in Uganda use various chemicals as raw materials as well as produce chemical waste. These sectoral activities have been growing which increases the quantities of chemicals used and related wastes generated resulting into emissions and pollution. Therefore, there is need for SMC and related waste to minimize potential risks to life and the environment. To address this need, the Government of Uganda responded with various environmental management tools such as laws, policies and practices. However, there are still gaps that need to be addressed across the chemicals lifecycle to achieve SMC in Uganda.

The following key strategic recommendations have been made to achieve SMC in Uganda:

i) Strengthen the legal and regulatory framework;
ii) Support the MALs and CSOs and private sector to improve their capacity to manage chemicals and waste;
iii) Strengthen coordination and institutional collaboration;
iv) Improve awareness, training and education on chemicals;
v) Improve chemicals information management system.
vi) Strengthening monitoring and evaluation.

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INTRODUCTION

This National Chemicals Profile for Uganda is an important document that provides an updated evaluation of the legal, institutional, infrastructural and technical aspects of chemicals and waste management in Uganda. A participatory approach was used to prepare this Profile involving several key stakeholders involved in chemicals and waste management including Government Ministries, Agencies and Local Governments (MALs), Civil Society Organisations (CSOs), Private Sector Organisations (PSOs) and Academia. The structure, methodology, process and participants for the preparation of this updated Profile were discussed in the Inception Meetings, with the National Environment Management Authority (NEMA), Ministry of Water and Environment (MWE) and the Multi-Sectoral Technical Steering Committee (MSTSC) for the Sound Management of Chemicals (SMC) in Uganda. During the discussions it was agreed that the update of the National Chemicals Profile would be based on the Guidance Document for Preparing a National Profile to Assess Infrastructure and Capacity Needs for Chemicals Management (2nd edition 2012, UNITAR and IOMC). It was also agreed that the report should provide strategies to guide SMC in Uganda. The detailed Terms of Reference is attached in Annex 6.

Linkage of the National Profile to the International Policy Framework for the SMC

The representatives of the 178 nations, including Uganda, attended the United Nations Conference on Environment and Development (UNCED), also known as the Earth Summit, held in 1992 in Rio de Janeiro that adopted Agenda 21, an action plan for the 21st century.

In 1994, at an International Conference on Chemical Safety held in Stockholm (also attended by Uganda), a number of priorities were identified to enable implementation of Chapter 19 of Agenda 21, and establish an operational mechanism. Chapter 19 of Agenda 21 focuses on environmentally SMC, as well as illegal international traffic in toxic and dangerous products. This Conference that brought together representatives from over 100 countries established the Inter-Governmental Forum on Chemical Safety (IFCS), through which countries can discuss their activities and priorities for the sound use and management of chemicals.

The Strategic Approach to International Chemicals Management (SAICM) was adopted in Dubai in February 2006 and represents the first internationally agreed umbrella agreement for SMC across all sectors. It provides a policy framework for achieving the Johannesburg Plan of implementation goal that chemicals will be produced and used in ways that minimize impacts to human health and the environment by 2020. It is a comprehensive, all-inclusive strategy of chemicals and waste management at global level.

Uganda benefited from the quick start Programme of SAICM for enabling activities to build capacity and set priorities for SMC. The country prepared an action plan which identified administrative and technical capacity, legislation and lack of awareness as key areas to be addressed. The development of a National Profile on Chemicals and Waste Management was recognized as one of the priorities for action of the programme area in order to strengthen national capabilities and capacities for management of chemical. Therefore, in recognition of the importance of assessing the existing infrastructure for chemicals and waste management in various countries, the United Nations Institute for Training and Research (UNITAR), under the umbrella of the International Organisation for the Management of Chemicals (IOMC), supported countries, including Uganda, in preparing national profiles to assess their

infrastructure for the SMC. Consequently, Uganda through NEMA, prepared the National Profile (2003). The MWE in collaboration NEMA and with support from the Special Programme Project for Strengthening National Institutional Capacity in Sound Management of Chemicals and Waste in Uganda, has updated the National Profile for Chemicals and Waste.

National Objectives and Anticipated Benefits of preparing and Updating the National Profile

This National Chemicals Profile presents the current situation of chemicals and waste management in Uganda. The initial National Chemicals Profile which produced in 2003 provided a comprehensive assessment of the national chemicals and waste management infrastructure relating to institutional, legal, administrative and technical aspects alongside understanding of the nature and extent of chemical availability and use in Uganda at that time. However, since 2003 a number of key chemicals issues have emerged that have been considered in this profile including:

i) Listing of new chemicals under the Rotterdam and the Stockholm Convention;
ii) Adoption of Strategic Approach to International Chemicals Management (SAICM);
iii) Emergence of a new Multilateral Environment Agreements (MEAs) such as the Minamata Convention on Mercury;
iv) The discovery of oil and gas and advanced plans to commence production;
v) The enactment of new laws and amendments of legislations related to chemicals and waste management;
vi) Initiatives to manage e-waste challenges;

This National Profile provides the following benefits:

i) An opportunity to strengthen capacity to implement the Basel, Stockholm, Rotterdam and Minamata Conventions and the SAICM and associated initiatives for chemicals and waste management;
ii) Practical information on the ongoing activities in the field of chemicals and waste management in Uganda;
iii) Facilitates co-ordination and co-operation among Government Institutions in the field of Chemicals Management;
iv) Strengthens the national decision-making capacity in management of chemicals, including raising of awareness on the need for sound management of chemicals and motivating the necessary action;
v) Facilitates dialogue and co-operation between the government and parties outside the government, such as industry and NGOs on SMC;
vi) Its preparation and updating process, has raised the awareness of the Ugandan public on the need for SMC. This profile will also ensure improved worker, public and environment protection as a consequence of improved knowledge and understanding of the potential and alternative means of addressing them;
vii) The Profile will play a major role in strengthening the national economy and trade by making available the relevant information on chemicals and therefore facilitating trade in chemicals, industrial and agricultural products.
viii) It will be used as one of the necessary tools to ensure that chemicals produced, imported, exported and disposed are supporting economic goals, and are not creating economic burdens through health, environmental and safety problems;
ix) The Profile will enhance effective participation in international activities by easing compliance with international/regional reporting schemes and facilitating communication,

exchange of experiences, expertise and co-operation in general among countries. This will provide a basis for identifying needs for technical and financial assistance;

x) It will ensure easy accessibility of information on chemicals and waste management as well as a coordinated and integrated system of all stakeholders involved;

xi) It will act as a basis for easy identification and assessment of the needs of Uganda in terms of technical and financial assistance for international and local development partners;

xii) The Profile will be a meaningful education resource for the general public especially with regard to dangers associated with the use of chemicals at the different stages in a chemical's life cycle;

xiii) The profile will ensure monitoring and enforcement of legislation related to management of chemicals in the country will be more effective;

xiv) The process of updating this National Profile provided the situational analysis of chemicals management in Uganda that led to the development of the strategies outlining actions that need to be undertaken to enhance sound management of chemicals in Uganda.

Preparation of the National Profile

The National Chemicals Profile has been prepared in line with the Guidance Document (GD) for preparing the National Chemicals Profile to Assess Infrastructure and Capacity Needs for Chemicals Management (UNITAR, 2012). Legal, institutional and administrative review were undertaken to understand the legal and administrative setup of chemicals management in Uganda. The purpose was to establish the legal, institutional mandates and administrative measures used by public institutions for chemicals management. The infrastructural assessment, nature and extent of the chemicals problem was determined based on the data available with the mandated institutions, public and private sector. Infrastructural capacity assessments for the management of chemicals was based on previous inventories conducted for National Implementation Plan II (NIP II) for the Stockholm Convention on Persistent Organic Pollutants (POPs), field visits, and the establishment of services for chemicals and waste management rendered by the public and private institutions. The assessment covered laboratory capacity and facilities for chemicals and waste management including recycling/ recovery, treatment, reuse and final disposal.

Data collection tools tailored to institutional mandate data requirements based on the UNITAR Guidance Document (GD) were used to collect relevant data and assess the legal, administrative nature and extent of the chemicals problem in Uganda. Literature review data and specifically legal, institutional and administrative data were discussed and validated by the institutions during field visits to public and private chemicals management service providers, research and educational institutions and Community Based Organizations (CBOs). All the data was subjected to analysis based on the modified tables as per guidance provided in the GD and the priorities for chemicals management assessed for each chapter. A letter of introduction from the Ministry of Water and Environment (MWE) was provided to facilitate field visits and data acquisition from the relevant institutions. Meetings were also conducted with institutional technical teams to explain the data collection tools.

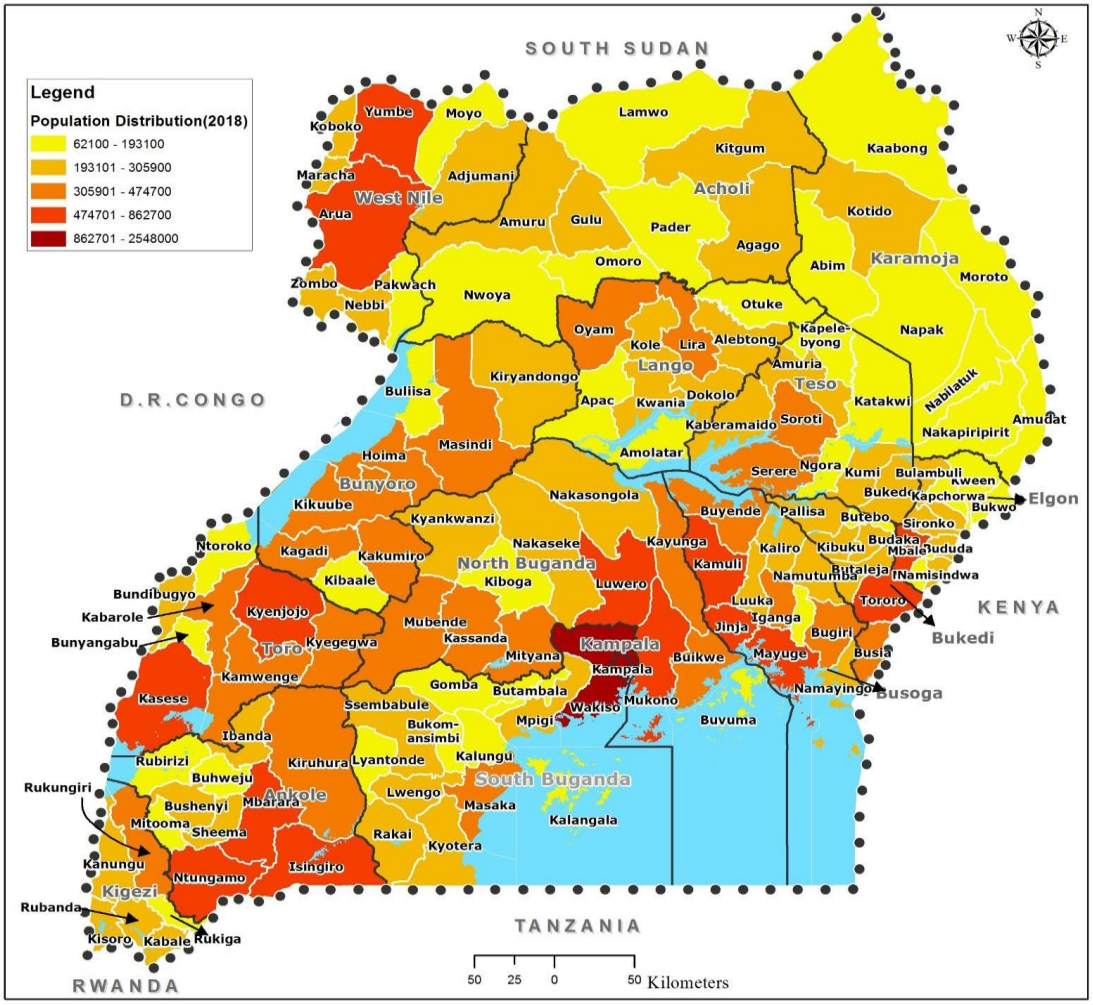
CHAPTER 1 : NATIONAL BACKGROUND INFORMATION

This chapter provides general background information on Uganda highlighting the main economic sectors of the country, including geographic, demographic, political, and socio-cultural context, as well as the industrial, agricultural services and other economic activity characteristics, which are directly and indirectly relevant to chemicals and waste management.

1.1 Geographic Context

Location and size: Uganda is located on the East African plateau on the equator, lying between latitudes 4°12'N and 1°29'S; and longitudes 29°34'E and 35°0'E. Uganda is a landlocked country with an area of 241,554.96 km^2 of which 44,652.62 km^2 (18.5%) are open water and swamps while land is 196,904.34 km^2 (81.5%) (UBOS Abstract, 2019).

Figure 1: Map of Uganda



Source: UBOS, 2019

Climate: Uganda is sunny most of the year with the average annual temperature ranging from 16^0C and 30^0C. The climate is tropical and generally rainy with two dry seasons (December to February, June to August). It is semi-arid in the northeast. The annual average rainfall ranges between 850mm and 1,700mm (UBOS Abstract, 2019).

Terrain and elevation: Uganda's terrain averages about 1,100 metres above sea level. The altitude above sea level in Uganda ranges from 620 metres (Albert Nile) to 5,111 metres (Mt. Rwenzori peak) (UBOS Abstract, 2019).

Natural Hazards: Many parts of Uganda experience drought due to continuously receiving less rainfall than before due to global warming and other deteriorating regional weather conditions. Severe drought results in human and livestock deaths and is also exemplified by the reduced water table, diminishing water levels in the major lakes and crop failure. This leads to shortage of food and famine. Also, seasonal floods usually occur in periods of intense rainfall and el-Niño phenomena which causes death due to landslides, mudslides and drowning. They further destroy public facilities such as health centres, schools, water sources and sanitation facilities. Floods also trigger outbreaks of water borne diseases and malaria, hence compounding community vulnerability to health hazards. They also cause physical damage by washing away structures, crops, animals and submerging human settlements (OPM, 2011)[2].

1.2 Demographic Context

Total Population: The population of Uganda was 34.6 million persons in the 2014 census with annual population growth rate of 3.03 percent between 2002 and 2014 censuses (NPHS, 2014)[3] as shown in Table 1-1. It was projected to be 40.3 million in 2019.

Table 1-1: Population size and average annual growth rates

Census year	Male	Female	Total	Average Annual Growth (%)
1969	4,812,447	4,722,604	9,535,051	
1980	6,259,837	6,376,342	12,636,179	2.7
1991	8,185,747	8,485,558	16,671,705	2.5
2002	11,824,273	12,403,024	24,227,297	3.2
2014	17,060,832	17,573,818	34,634,650	3.0
2018 Projections	19,138,900	19,902,000	39,040,900	n/a
2019 Projections	19,780,500	20,527,500	40,308,000	n/a

Source: UBOS abstracts, 2018 & 2019

Age Structure: The highest proportion of Uganda's population is young (under 20 years) constituting more than half of the population (60% in 2014 and 58% in 2018 and 2019 respectively), a characteristic of a country with high fertility levels. The proportion of older persons (60 years or more) decreased from about 4% in 2018 to about 3% in 2019[4] (Refer to Table 1-2). The median age for Ugandan population was 15.9 years in 2015.

Table 1-2: Proportion of the Population by Age Groups 1969-2014 and 2018 projection

Age Group	2014 Total	% Proportion	2018 Total	% Proportion	2019 Total	% Proportion
0-19	20,560,200	60%	22,685,400	58%	23,235,400	58%
20-39	9,158,300	26%	10,798,600	28%	11,286,600	28%
40-59	3,481,700	10%	4,131,000	10%	4,309,200	11%
60+	1,432,900	4%	1,444,000	4%	1,476,800	3%
Total	**34,633,100**	**100%**	**39,059,000**	**100%**	**40,308,000**	**100%**

Source: UBOS, 2019

[2] National Policy for Disaster Prepared and Management (2011)
[3] UBOS (2014), National Population and Housing Survey (NPHS)
[4] UBOS (2019), Uganda in Figures (2018 and 2019 are projections)

Birth rate and life expectancy: The total fertility in Uganda was 5.4 children per woman and the life expectancy at birth was 67.3 years (UDHS)[5].

Urban and rural population: The urban population[6] was 7.4 million (21%) in 2014, having increased from about 3 million in 2002. The higher increase is attributed to gazetting of new urban areas, natural increase (difference between number of live births and number of deaths), re-demarcation of the boundaries of selected urban areas, and rural-urban migration.

Immigration and Refugees: The total migration into Uganda was 1,926,845 persons in 2017 compared to 1,801,769 in 2016, which was an increase of 7% (UBOS, 2018). Uganda is a host to a number of refugees. South Sudanese make up the largest refugee population in Uganda (985,512 people) as at June 2018, followed by refugees from the DRC (271,967) and Burundi (36,677). In addition, 70,988 refugees from Ethiopia, Eritrea, Rwanda, Somalia and Sudan have lived in protracted exile in Uganda for the past three decades. More than 60% of Uganda's refugees are under the age of 18 years (UNHCR, RRC)[7].

Languages: While English is the official language, there are a number of other local languages spoken. Swahili is being promoted in the spirit of regional integration within the East African Community (EAC) and beyond.

Literacy rates: The literacy rate among persons aged 10 years and above has generally increased over time from 2009 to 2017 with literacy rate of about 70%. Males (77%) were found to be more literate than their female (70%) counterparts (UBOS, 2018).

Working population and employment rate: The total working population (14-64 years) was estimated at 15 million in 2016/17. The proportion of the working females (nearly 51%) was higher than that of the males (about 49%). The majority of the working population was residing in the rural areas (76%) while only 24% were staying in the urban areas (UBOS, 2018).

School life expectancy: Uganda's education system is comprised of an early childhood programme (pre-primary education) that caters for children aged 3-5 years, followed successively by seven (7) years of primary education, four (4) years of Ordinary Level secondary education, two (2) years of Advanced Level secondary education and the final tier is three (3) to five (5) years of Tertiary education. Apart from childhood programmes, each level is nationally examined with certificates awarded. In 2017, more than half (60%) of the primary pupils completed Primary 7 while the transition rate to Secondary level stood at 61%. In 2018, a total of 655,701 pupils sat for Primary Leaving Education (PLE) and 91% passed to proceed to the Ordinary Level secondary education. Similarly, a total of 329,628 students sat for Uganda Certificate of Education (UCE) and 87% passed; 98,545 students sat for Uganda Advanced Certificate of Education (UACE) and 99% passed (UBOS 2018 & 2019).

1.3 Political Structure of Uganda

The Constitution of Uganda is the supreme law of the Republic of Uganda and was promulgated on 8 October 1995 with the President as the Head of State. The unicameral Parliament of Uganda is the country's legislative body. The most significant of

[5] Uganda Demographic and Health Survey (UDHS), 2016
[6] All trading centres (gazetted and ungazetted) with more than 1,000 people are taken to be urban (UBOS)
[7] Uganda Country Refugee Response Plan 2019-2020, UNHCR, Regional Refugee Coordination Office (RRC),

the Ugandan Parliament's functions is to pass laws which provides for good governance in the country. Uganda is divided into administrative units namely: Districts, Sub-Counties, Parishes and Villages and as at 1st July 2017, there were 122 districts, including Kampala Capital City (UBOS, 2018) as shown in figure 1 above. The Uganda Central Government interacts directly with the districts through the District Local Governments.

1.4 Agricultural, Industrial and Other Key Economic Sectors

According to the Uganda Bureau of Statistics (UBOS), the Uganda economy consists of Agriculture, Industry and Services Sectors. The services sector continuously records the highest share in the economy accounting for about 48% of the Gross Domestic Product (GDP) in 2017/18 as detailed in Table 1-3.

Table 1-3: Overview of Breakdown of the National Economic Sectors, 2017/18

Economic Sectors	GDP at market prices (Billions, Shs)	Contribution to GDP (%)	Growth Rate (%)	Number Employed ('000')	Major Products and main chemicals used
Agriculture, forestry and fishing	24,322	24%	3.8%	9,784 (65%)	Food and cash crops, livestock, timber, fish (chemicals used: Pesticides, herbicides, fertilizers)
Industry	19,961	20%	6.1%	2,408 (16%)	Minerals, consumer items, water, construction materials, electricity (Chemicals used: Mercury, industrial chemicals, cleaning chemicals, preservatives
Services	47,868	48%	7.7%	1,957 (13%)	Trade, transportation, ICT, accommodation, storage, finance, insurance, real estate, administration, education, health, entertainment (Chemicals used: industrial, cleaning, preservatives,
Others	8,380	8%	1.6%	904 (6%)	Taxes on products
Overall	**100,531**	**100%**	**6.1%**	**15,053**	

Source: UBOS,2018

1.4.1 Agricultural Sector

The agricultural sector includes crops, animal and fishing activities. The crops activities include both cash and food crops. The cash crops growing activities in Uganda include: coffee, cotton, tea, cocoa, tobacco, sugar cane and horticultural products. The food crops growing activities include: bananas, wheat, sweet potatoes, cassava, Irish potatoes, maize, rice, beans, peas, among others products. Table 1-4 shows the value added by the agricultural sector in Uganda and the trends (UBOS, 2018).

Table 1-4: Value Added by Agricultural Sector Activity 2013/14-2017/18, billion shillings

	2013/14	2014/15	2015/16	2016/17	2017/18	% of GDP in 2017/18	% Growth in 2017/18
GDP at market prices	**69,276**	**76,517**	**83,091**	**91,718**	**100,531**	**100**	**6.1**
Total Agricultural Sector	**17,371**	**18,350**	**19,655**	**22,545**	**24,322**	**24.2**	**3.8**
Cash crops	1,073	1,305	1,424	1,862	2,108	2.1	4.6
Food crops	9,225	9,532	10,060	12,148	12,881	12.8	5.3
Livestock	3,027	3,184	3,561	3,847	4,303	4.3	2.0
Agriculture Support Services	25	30	32	33	35	0.0	6.1
Forestry	2,975	3,078	3,263	3,192	3,474	3.5	2.5
Fishing	1,045	1,221	1,315	1,462	1,521	1.5	-2.1

Source: UBOS, 2018

Overall, the agricultural sector grew by 3.8% in the year 2017/18 and employed the highest percentage of the working population (65%) (UNHS, 2016/17) and the proportion of workers in the sector was higher for females (71%) than males (59%). The agricultural sector increases productivity by using agrochemicals such as pesticides and fertilizers. In the year 2018, pesticides imports by Uganda increased by 25% to 24,569 tons from19,734 tons in 2017; fertilizers imports increased by 30% to 100,746 tons from 77,248 tons in 2017 (URA/UBOS, 2018)[8]. These large quantities of agrochemicals need to be managed in an environmentally sound manner for the safety of the users and the environment.

1.4.1.1 Area Coverage and Production of Major Crops

In Uganda, area under major crop groups as at 2017 was as follows: Cereals (1,788,017Ha), Roots and Tubers (1,348,600,565 Ha), Plantains (970,308 Ha), Oil crops (934,500Ha) and Pulses (762,999Ha). Area planted under cereals and root crops, pulses and oil crops increased by less than 1%. Despite the small increases in area under crop in the year 2017, there was a total increase in crop production by 6% to 13.7 million tonnes in 2017 from 13.0 million tonnes in 2016 (UBOS, 2017) as shown in table 1-5.

Table 1-5: Crop production for selected Food Crops, 2013-2017 (Tonnes)

Crop	2013	2014	2015	2016	2017	Growth
Plantain Bananas (All Types)	4,374,563	4,574,471	4,623,367	3,395,875	3,493,110	3%
Cereals	3,508,375	3,441,699	3,720,394	3,278,888	3,649,933	11%
Root Crops	4,965,841	4,811,580	4,945,733	4,810,977	4,832,643	0%
Pulses	984,563	1,053,395	1,119,073	846,642	1,051,629	24%
Other	680,797	711,353	713,684	672,587	713,423	6%
Total	14,516,152	14,594,512	15,124,266	13,006,985	13,742,755	6%

Source: UBOS, 2017

Production of Major Crops by Region: Plantain Bananas are mainly grown in Central and Western Regions whereas cereals and root crops are mostly grown in Eastern and Northern Regions of Uganda as detailed in table 1-6. Most of the farms are micro employing 1-15 persons (UBOS, 2017).

Table 1-6: Total production of major crops by region, UCA 2008/09 ('000' Tonnes)

Region	Plantain Bananas	Finger Millet	Maize	Sorghum	Rice	Sweet Potatoes	Irish Potatoes	Cassava	Beans	Field Peas	Cow Peas	Pigeon Peas	Ground Nuts	Soya Beans	Sim Sim
Central	1,040	14	450	3	2	312	13	410	167	0	0	0	33	0	0
Eastern	342	107	1,109	133	128	847	5	1,061	99	3,	7	0	77	6	7
Northern	32	79	306	177	44	293	1	983	251	10	3	11	83	16	94
Western	2,884	78	498	63	17	366	135	440	412	3	0	0	51	2	1
Total	**4,298**	**278**	**2,363**	**376**	**191**	**1,819**	**154**	**2,894**	**929**	**16**	**10**	**11**	**244**	**24**	**102**

Source: UBOS

1.4.1.2 Fishing

In Uganda, fisheries activities are mainly carried out in open water sources and provide an important source of livelihood for many people. Open Water cover 15.3% of Uganda's total surface of 241,039 km^2 and this comprises five major lakes (Victoria, Albert, Kyoga, Edward and George), which are main contributor to fisheries in the country (UBOS, 2018) as shown in the Table 1-7 below.

[8] Analysis of URA/UBOS imports data

Table 1-7: Fish catch by water body ('000' tonnes 2013-2016

Water Body	2013	2014	2015	2016	% share in 2016
Lake Victoria	193,000	245,000	238,630	252,804	54%
Lake Albert	160,000	152,000	149,040	148,159	32%
Lake Kyoga	40,000	38,000	41,768	40,710	9%
Lake Edward, George & Kazinga	6,248	6,246	6,354	6,638	1%
Albert Nile	5,500	5,390	5,122	5,375	1%
Lake Wamala	4,500	4,590	4,186	3,959	1%
Other Waters	10,000	10,500	9,760	9,883	2%
Total	419,248	461,726	454,860	467,528	

Source: UBOS, 2016

1.4.1.3 Livestock

The cattle heads in Uganda was about 14.2 million in 2017 (UBOS, 2018) as shown in Table 1-8 below. The livestock farmers use pesticides such as acaricides to kill ticks and other pests on these animals.

Table 1-8: Livestock numbers (thousand animals), 2013 – 2017

Species	2013	2014	2015	2016	2017	% Growth
Cattle	13,020	13,623	14,031	14,368	14,189	-1%
Sheep	3,937	3,842	3,842	4,198	4,445	6%
Goats	14,433	14,011	15,312	15,725	16,034	2%
Pigs	3,691	3,584	3,916	4,037	4,109	2%
Poultry	43,396	44,698	46,039	46,291	47,578	3%

Source: UBOS, 2017

1.4.1.4 Forestry

The forestry activities in Uganda include: logging, gathering of non-wood forest products, support services to forestry, among others. The forestry activities registered a growth of 2.5% in 2017/18. The forestry activities contributed 3.5 percent to GDP in 2017/18 (UBOS, 2018). Chemicals such as fertilizers, herbicides, pesticides and pole treatment chemicals are used in the forestry activities. There is need to regulate chemicals use to protect the environment and community.

1.4.2 Industry sector

The industry sector activities in Uganda include; mining and quarrying, manufacturing, water and waste management activities, electricity generation and supply, and construction activities. The overall industry activities grew by 6.1% in 2017/18. This strong growth was mainly due to strong performance of the agriculture activities which in turn provide raw materials to manufacturing. Construction activities also registered a growth of 6.9%. In nominal terms, the gross value added by the industry sector was recorded at 19,961 billion in 2017/18. The sector recorded a 19.9% contribution to GDP in 2017/18 (UBOS, 2018) as shown in Table 1-9 below. The industrial activities involve use of chemicals as raw materials to produce other products and as the industrial sector grows, the use of chemical inputs also increases. There is need to environmentally manage the chemicals to protect the workers and the public from exposure to hazardous chemicals.

Table 1-9: Value added by industry sector activity at current prices (billion shillings)

	2013/14	2014/15	2015/16	2016/17	2017/18	% of GDP in (2017/18)	% Sector Growth (2017/18)
GDP at market prices	**69,276**	**76,517**	**83,091**	**91,718**	**100,531**	**100%**	**6.1**
Total Industry	**14,140**	**15,311**	**17,142**	**18,652**	**19,961**	**19.9**	**6.1**
Mining & quarrying	525	528	562	603	444	0.4	26.1
Manufacturing	5,894	6,660	7,239	7,881	8,305	8.3	1.7
Electricity	597	637	796	899	1,029	1.0	6.3
Water	1,770	1,898	2,270	2,557	2,925	2.9	6.0
Construction	5,353	5,588	6,274	6,713	7,258	7.2	6.9

Source: UBOS,2018

1.4. 2.1 Mining and Quarrying

Mining and quarrying activities in Uganda include: extraction of crude petroleum and natural gas, mining of metal ores, other mining and quarrying and mining support service activities. The value added for mining and quarrying activities grew by 26.1% in 2017/18. Mining and quarrying activities contributed 0.4% to GDP in 2017/18 (UBOS, 2018). Uganda has intensified several upstream activities in the oil and gas sector, and has transitioned from having only exploration, to the development of discovered oil fields for production. This means the country is expected to experience massive growth in these emerging industries, and the amount of chemicals brought into Uganda is expected to increase. In mining and quarrying, chemicals are also used; for instance, in Artisanal and Small-Scale Gold Mining (ASGM) mercury is used which ends up contaminating the environment and causing direct and indirect health related effects to the miners.

1.4.2.2 Manufacturing

In Uganda, manufacturing activities include: manufacture of food products, beverages, textiles, wearing apparel, paper and paper products, among other activities. The manufacturing activities grew by 1.7% in 2017/18. Manufacturing activities contributed 0.1% to the overall growth of GDP in 2017/18. Manufacturing activities contributed 8.3% to GDP in 2017/18 (UBOS, 2018). Detailed indices by groups and categories are shown in Table 1-10

Table 1-10: Index of production, annual production levels (2002=100), 2013 – 2017

Description	Weight	Years					% Annual Change	
Year		**2013**	**2014**	**2015**	**2016**	**2017**	**2017**	**2016**
Total Manufacturing	**1,000**	**199.87**	**221.67**	**224.34**	**234.67**	**248.17**	**5.8**	**4.6**
Food Processing	400	177.28	215.77	193.35	211.57	207.29	-2.0	9.4
Drinks & Tobacco	201	261.35	288.28	290.07	282.89	312.51	10.5	- 2.5
Textiles, Clothing & Foot Wear	43	138.84	116.29	125.93	153.37	182	18.7	21.8
Sawmilling, Paper &Printing	35	248.91	222.67	246.47	250.56	296.13	18.2	1.7
Chemicals, Paint, Soap & Foam Products	97	204.55	213.75	266.24	292.25	346.66	18.6	9.8
Bricks & Cement	75	251.21	243.74	289.3	290.01	292.23	0.8	0.2
Metal Products	83	148.71	155.83	166.97	162.94	174.34	7.0	- 2.4
Miscellaneous	66	161.33	190.59	200.09	214.24	215.16	0.4	7.1

Source: UBOS, 2017

The volume of production for the manufacturing sector increased by 5.8% in 2017 as shown in Table 1-10. There was a notable increase in the textiles, clothing and footwear sector to 18.7% that was mainly due to increase in the volume of cotton ginning. The production of drinks indicated an increase of 10.5% that was mainly attributed to an increase in the volume of beer, soft drinks and bottled water. There was also an increase in volume of chemicals, paint, soap and foam products of 18.6% mainly attributed to increase in chemical and pharmaceutical production. Most of the manufacturing facilities utilize chemicals as raw materials to produce the products.

1.4.2.3 Water supply activities

Water supply activities include: water supply, sewerage, waste management and remediation activities. The water supply activities grew by 6% in 2017/18. These activities contributed 0.1% to the overall growth of GDP and 2.9% share of GDP in the same period (UBOS, 2018). Chemicals are used in these activities for water treatment and purifications. Since these activities are expanding by supplying safe water as a government policy, its contribution to the amount of chemicals used in Uganda is expected to continue increasing.

1.4.2.4 Construction activities

Construction activities include: construction of buildings, civil engineering and specialized construction activities. These activities grew by 6.9% in 2017/18 (UBOS, 2018). The activities use chemicals such as rodenticides, paints and preservatives, among others.

1.4.2.5 Electricity

Electricity activities in Uganda include: electricity, gas, steam and air conditioning supply. The electricity activities grew by 6.3% in 2017/18 and contributed 1% to GDP (UBOS, 2018). These activities use oil especially in the transformers.

1.4.3 Services sector

The overall services sector activities in Uganda grew by 7.7% in 2017/18. The main contributors to the strong growth in services sector were information and communication, trade and repairs, education and public administration. Part of the services sector in Uganda is informal. The sector recorded a 47.6% contribution to GDP in 2017/18 (UBOS, 2018) as shown in Table 1-11 below.

Table 1-11: Value added by services activity at current prices (FY) billion Shillings

Services Activities	2013/14	2014/15	2015/16	2016/17	2017/18	% of GDP in 2017/18	% Growth in 2017/18
GDP at market prices	**69,276**	**76,517**	**83,091**	**91,718**	**100,531**	**100%**	**6.1**
Total Services	**32,650**	**36,675**	**39,627**	**43,211**	**47,868**	**47.6**	**7.7**
Trade and Repairs	8,868	9,707	10,616	11,043	11,806	11.7	2.2
Transportation and Storage	2,298	2,338	2,591	2,733	2,813	2.8	5.6
Accommodation and Food Service	1,973	1,953	2,150	2,521	2,827	2.8	1.2
Information and Communication	2,180	2,805	2,122	2,039	2,897	2.9	15.2
Financial and Insurance	1,914	2,188	2,771	3,029	3,342	3.3	8.3
Real Estate	3,019	3,367	3,824	4,154	4,451	4.4	6.5
Professional, Scientific and Technical	1,804	2,007	2,133	2,303	2,505	2.5	5.3
Administrative and Support Service	1,100	1,410	1,294	1,296	1,465	1.5	11.9
Public Administration	1,949	2,385	2,610	2,819	2,983	3.0	10.6
Education	3,980	4,635	5,297	6,673	7,457	7.4	6.7
Human Health and Social Work	2,255	2,454	2,674	2,854	3,131	3.1	6.2

Services Activities	2013/14	2014/15	2015/16	2016/17	2017/18	% of GDP in 2017/18	% Growth in 2017/18
GDP at market prices	**69,276**	**76,517**	**83,091**	**91,718**	**100,531**	**100%**	**6.1**
Arts, Entertainment and Recreation	210	226	228	235	282	0.3	18.9
Other Service Activities	818	899	1,032	1,211	1,572	1.6	19.2
Activities of Households as Employers	284	302	284	302	337	0.3	4.9

Source: Uganda Bureau of Statistics, 2018

Services activities use significant quantities of chemicals and these include: experiments in education and research, laundry in hotels, oil and acids in repairs/garages, among others. These require awareness and relevant knowledge to protect the users, public and environment. There is need for a study to determine the quantities of expired chemicals in these facilities especially in schools and educational institutions.

1.5 Releases of Concern by Major Economic Sectors

Agriculture, forestry and fishing sector contributed 24% to GDP (UBOS, 2018) and employed 9.8 million people equivalent to 65% of the working population. The sector uses large quantities of fertilizer, pesticides, fungicides and herbicides which contribute to major pollution emissions.

The mining and quarrying activities in Uganda include: extraction of crude petroleum and natural gas, mining of metal ores, other mining and quarrying and mining support service activities. The major polluting emissions by the sector include dust, inorganic waste waters, cyanide and mercury amalgamation processes. The main source of mercury emissions and releases is primary metal production. The leading contributor of emissions is gold (and silver) extraction using the mercury amalgamation process. The second most important source of mercury is waste incineration. This is followed by the use of consumer products (thermometers, electrical switches, and cosmetics, batteries with mercury and light sources that contain mercury). Waste deposition and extraction and use of fuels also make significant contributions to the mercury releases and emissions respectively. The least contributing sources are; production of recycled metals, cement production, cremation and cemeteries and other intentional products.[9]

The manufacturing activities include: manufacture of food products, beverages, textiles, wearing apparel, paper and paper products, among others. These activities emit some pollution that include: food preservatives, cleansing chemicals, combustion of fuels, dyes, halogenated solvents, bleaching agents, waste water, inorganic and organic chemical waste, ink, among others.

The service sector contributed 47.6% to GDP (UBOS, 2018) and its activities include: wholesale and retail trade, repairs, transport and storage, accommodation and food services, information and communication, financial and insurance activities, real estate activities, professional, scientific and technical services, administrative and support services, public administration, education, health, arts, entertainment and recreation and other service activities. The major pollution emissions by the service activities include: plastic waste, used tyres, used oil, used fluids, fumes of NO_X, SO_X, CO_X, used batteries, parts and scraps, fumes from burning of fossil fuels, food scraps, cleaning chemicals, refrigerating gases, combustion and vehicle

[9] NEMA (2018), Minamata Initial Assessment Report

emissions, toxic liquids, aerosols, electronic waste, fumes, end-of-life electric and electronic equipment. Table 1-12 shows the major pollution releases by the key economic sectors.

Table 1-12: Releases by Type and Media for Major Economic Sectors

ISIC Rev.4 1	Economic Sectors and Related Activities	Major Pollution Emissions by Chemical Type	Media to which Emissions are Released: Air, Water, Soil	Wastes Emitted as: Solids, Liquids or Gases by Volume or Weight if known
Sector of Agriculture, Forestry and Fishing				
A 01	Crop and animal production and related service activities	Fertilizers, pesticides, insecticides, fungicides, herbicides	Air, water, soil	Solids, liquids, gases
A 02	Forestry and logging	Wood Preservatives	Air, water, soil	Liquids, gases
A 03	Fishing and aquaculture	Pesticides	Air, water, soil	Solids, liquids, gases
Sector of Mining and Extraction				
B 04-09	Minerals/metals	Dust, inorganic waste waters, cyanide, mercury amalgamation processes,	Air, water, soil	Solids, liquids, gases (Mercury: 31,087 kg/yr)[10]
Sector of Manufacturing/ Industry				
C 10	Food products	Food preservatives, cleansing chemicals, combustion of fuels	Air, water, soil	Liquids, gases
C 11	Beverages	Food preservatives, cleansing chemicals, combustion of fuels	Air, water, soil	Liquids, gases
C 13-15	Textiles/wearing apparel/leather	Dyes, Halogenated solvents, bleaching agents, waste water from tanning of skin & hides containing chrome, sulphides, ammonium salts, chlorides, etc.	Air, water, soil	Solids, liquids, gases
C 16	Wood and products of wood and cork	Wood preservatives, Paints, varnishes, saw dust	Air, water, soil	Liquids, gases
C 17	Paper and paper products	Inorganic chemical waste, Ink	Air, water, soil	Solids, liquids, gases
C 18	Printing and recorded media	Inorganic chemical waste, ink, cleaning waste waters containing printing chemicals, lead in granule form, trimmed papers	Air, water, soil	Solids, liquids, gases
C 19-22	Refined petroleum products, chemicals, pharmaceutical products, plastic products	Solid waste of scorched plastics, scraps of plastics, dust, organic and inorganic waste waters	Air, water, soil	Solids, liquids, gases

[10] NEMA (2018), Minamata Initial Assessment Report

ISIC Rev.4 1	Economic Sectors and Related Activities	Major Pollution Emissions by Chemical Type	Media to which Emissions are Released: Air, Water, Soil	Wastes Emitted as: Solids, Liquids or Gases by Volume or Weight if known
C 23	Non-metallic mineral products	Non-metallic scrap, dust & particulate matter causing air pollution, air pollution from the combustion of non-metallic mineral products	Air, water, soil	Solids, liquids, gases
C 24-25	Basic metals and fabricated metal products	Metallic scrap, air pollution from combustion of fuels.	Air, water, soil	Solids, liquids, gases
C 26	Computer, electronic, and optical products	Electronic waste, fumes, end-of-life electric and electronic equipment	Air, water, soil	Solids, liquids, gases
C 27	Electrical equipment			
C 28-30	Machinery and equipment, motor-vehicles, other transport equipment			
Services Sector				
D	Electricity, gas, steam and air conditioning supply	Fumes from burning of fossil fuels	Air	Air
E	Water supply, sewerage, waste management	Leakages and fumes from treatment plants	Air, water, soil	Solids, liquids, gases
F	Construction	Cement, paint, solvents, cleaners and other chemicals, burning of fossil fuels,	Air, water, soil	Solids, liquids, gases
G	Wholesale and retail trade, repair of vehicles and motorcycles	Plastic waste, used tyres, fumes of NO_X, SO_X, CO_X, used batteries parts and scraps.	Air, water, soil	Solids, liquids, gases
H	Transportation and storage	coolant fluids, oil, degreasing solvents, refrigerants, used oil and fluids, used tyres, fumes of NO_X, SO_X and CO_X, used batteries parts and scraps.	Air, water, soil	Solids, liquids, gases
I	Accommodation and food services activities	Food scraps, cleaning chemicals, refrigerating gases, combustion and vehicle emissions, toxic liquids, aerosols	Air, water, soil	Solids, liquids, gases

Source: Literature review and field work consultative visits

1.6 Assessment

Uganda's GDP has been growing at an average of 5% (UBOS, 2018) as shown in Figure 1.3 above. The agricultural sector contributed about 24% to the GDP and grew by about 4% in 2018. The sector uses chemicals such as pesticides, herbicides and fertilizers. The sector employs about 65% of the population of which 39% are employed in subsistence agriculture and need to be educated on chemical use, related hazards and risks. The industrial sector uses chemicals as raw materials and also generates chemical wastes. The sector contribution to GDP was 20% and with a growth of 6% in 2018. The services sector contributed to about 48% of the GDP and grew by 8%. Services such as education, motor vehicle repairs, hotels and health also use chemicals and generate chemical wastes. The contribution of these sector activities to GDP has been increasing thus the increase in the quantities of chemicals used and chemical wastes generated leading to emissions and pollutions which necessitates proper chemicals and related waste management.

The increased economic activities, population growth and industrialization in Uganda has increased chemicals use and greatly contributed to pollutants loading into the environment including streams and wetland encroachment. The wastes are emitted as solids, liquids and gases and released into the air, water and soil. Rapid urban growth has been cited as one of the dangers to water bodies such as River Nile, Lake Victoria and Lake Kyoga. These increased economic activities coupled with the global climate change has further exacerbated environmental degradation. The annual state of climate by the Uganda National Meteorological Authority in 2018, revealed that the year 2017 was the second warmest year on record in Uganda since 1950, the warmest year having been recorded in 2009. The rate of increase of temperature over the period from 1950 to 2017 was found to be about 0.23 °C/decade, while the period from 1991 to 2017 exhibited a higher rate of temperature increase of about 0.25 °C/decade. In addition, extreme rainfall events were recorded during 2017 that led to flooding and landslides which affected thousands of people across the country, especially in Bundibugyo and Bugisu Sub-regions.

Uganda's Poverty Eradication Action Plan (PEAP), which was Uganda's comprehensive development framework expired in 2008. The expiry of PEAP offered an opportunity to review the gains realized, challenges and constraints faced during its implementation, as well as emerging issues, opportunities, and new challenges. The revised PEAP transformed into the 1st Five-Year National Development Plan (NDP1) of 2010/11 -2014/15. One of the working papers that informed the new plan was a sector paper on Environment, Natural Resource, and Climate Change. This process provided for an opportunity to mainstream chemicals issues in the NDPs[11].

[11] The Uganda/UNDP/UNEP Initiative for the Implementation of SAICM Project

CHAPTER 2 : CHEMICAL PRODUCTION, IMPORT, EXPORT, STORAGE, TRANSPORT, USE AND DISPOSAL

This chapter provides basic information about the existence of chemicals in Uganda throughout their lifecycle, from production, import, transportation, storage, use, export and disposal, in addition to handling of chemical waste.

2.1 Background

In Uganda chemicals are used in the agriculture, forestry, veterinary, health, industry, energy, mining, water supply and sanitation, education, research and other economic sectors. The lifecycle of chemicals in Uganda include imports, exports, production, repackaging, storage, transportation, use and disposal. Like many developing countries, Uganda imports chemicals as well as has many consumer goods and products that contain chemicals in order to meet the demands of the rapidly growing economic activities and population. Most chemicals in Uganda are imported ready for use and include pesticides, consumer chemicals, fertilizers, petroleum products, pharmaceuticals, organic and inorganic chemicals.

2.2 Chemical Production, Import and Export

2.2.1 Chemical Production

The main activities in Uganda that produce chemicals include:

i) Manufacture of cosmetics, varnishes, oils, toiletry, soaps and detergents;
ii) Production of organic fertilizers;
iii) Manufacture of paints and resins;
iv) Manufacture of plastics and chemical-based recycling industries especially those using plastic wastes and by-products;
v) Agro-industries such as molasses, alcohol etc;
vi) Repacking of pesticides;
vii) Manufacture of pharmaceutical products;
viii) Oil and gas activities that will culminate into oil and gas production;

The Table 2-1 below indicates the annual chemical production in Uganda for selected products.

Table 2-1: Annual Production Index (2002=100)for selected Chemicals, 2013 – 2017

Description	Weight (1000)	2013	2014	2015	2016	2017
Pharmaceutical Production	9	460.05	526.98	920.66	1,147.44	1,658.85
Paint & Varnish Manufacturing	3	793.84	830.16	926.38	897.2	943.64
Soap, Detergent, etc. Production	75	135.07	137.23	150.16	155.36	168.37
Foam Products Manufacturing	10	341.71	343.97	371.14	384.86	334.44
Cement & Lime Production	60	288.97	277.74	334.36	333.16	334.72

Source: UBOS, 2018 (2002 as base year)

Table 2-1 shows that the quantities of pharmaceuticals and consumer chemicals produced in Uganda is increasing and therefore, there is need to strengthen the regulatory mechanism, create awareness to the workers and handlers to reduce on the risk involved.

2.2.2 Chemical Import

In Uganda most chemicals are imported. Some of the major suppliers to Uganda include Israel, Kenya, China, South Africa, and the Arab-Gulf countries. The Customs Department of Uganda Revenue Authority (URA), an agency under the Ministry of Finance Planning and Economic Development (MOFPED), handles issues related to imports, transit and exports of goods in the

country in collaboration with other regulatory agencies such as Uganda National Bureau of Standards (UNBS), NEMA, the Ministry of Agriculture Animal Industry and Fisheries (MAAIF) , National Drug Authority (NDA) among others. The regulators have to approve importation and exportation of their respective mandated chemicals. Agro-chemicals such as fertilizers, herbicides, pesticides, among others, are approved by the Agricultural Chemicals Board (ACB) in MAAIF while human and veterinary drugs importation and exportation are approved by the NDA. Table 2-2 below shows the annual chemical imports in Uganda which indicates an increase in quantity. In the year 2018, the imports of pesticides increased by 25%, fertilizers by 30%, organic and inorganic chemicals by 19%. Overall, chemical imports increased by 5% in 2018 to 2.7 million tons from 2.6 million tons in 2017.

Table 2-2: Annual Quantities of Chemical Imports by Uganda (Tons), 2013 – 2018

Chemical Type	Annual Imports Quantity (Tons)						% Growth
	2013	2014	2015	2016	2017	2018	
Pesticides (agricultural, public health)	13,709	15,315	18,612	19,170	19,734	24,569	25%
Consumer Chemicals	33,338	37,031	33,481	28,068	32,501	31,791	-2%
Fertilizers (HSC 31)	52,793	40,145	60,605	67,578	77,248	100,746	30%
Inorganic chemicals; organic or inorganic compounds of metals (HSC 28)	73,259	77,294	85,785	95,243	98,904	117,521	19%
Organic chemicals (HSC 29)	33,396	16,857	25,803	24,548	26,844	31,860	19%
Mineral fuels, oils and their products; bituminous substances; mineral waxes (HSC 27)	1,679,111	1,853,865	2,073,458	2,105,968	2,307,333	2,384,292	3%
Pharmaceutical products (HSC 30)	29,875	31,907	18,248	21,383	18,162	17,612	-3%
TOTAL	**1,915,481**	**2,072,414**	**2,315,992**	**2,361,958**	**2,580,726**	**2,708,391**	**5%**

Source: URA, UBOS (2018)

Table 2-3 below indicates the annual values of chemical imports in Uganda. The total value of imported chemicals in 2018 increased by 23% to $1.918 billion from $1.562 billion in 2017.

Table 2-3: Annual Values of Chemical Imports by Uganda (US$), 2013 – 2018

Chemical Type	Annual Imports Value (US$)					
	2013	2014	2015	2016	2017	2018
Pesticides (Agricultural, public health)	42,503,147	51,845,674	61,495,588	57,831,107	66,914,234	82,560,291
Consumer Chemicals	49,119,758	57,675,392	47,155,921	37,679,537	39,438,755	46,509,068
Fertilizers (HSC 31)	49,708,915	23,137,586	32,814,033	33,737,145	27,039,630	38,996,035

Chemical Type	Annual Imports Value (US$)					
	2013	2014	2015	2016	2017	2018
Inorganic Chemicals (HSC 28)	38,601,799	35,174,632	37,270,748	36,578,472	41,760,396	53,721,436
Organic chemicals (HSC 29)	54,629,906	50,966,512	55,319,762	61,820,528	81,896,265	95,805,734
Mineral fuels, oils and their products; bituminous substances (HSC 27)	1,340,563,745	1,444,391,091	1,032,031,887	796,594,919	1,036,332,722	1,318,769,613
Pharmaceutical products (HSC 30)	347,688,515	358,081,442	370,961,932	312,418,619	268,820,904	281,158,980
Total	**1,922,815,785**	**2,021,272,329**	**1,637,049,871**	**1,336,660,327**	**1,562,202,906**	**1,917,521,157**

Source: URA, UBOS (2018)

It is likely that due to porous borders, chemicals such as methyl bromide and mercury which are still being used in flower growing and artisanal gold mining respectively are being illegally smuggled into the country. This necessitates the need for a multi sectoral approach in regulatory activities.

2.2.3 Chemical Export

Chemicals in Uganda are imported ready for use in industrial processes. However, some industries repack chemicals imported in bulk into smaller containers for retail or re-export within the region as shown in Table 2-4 below. Some of the chemical exports include consumer chemicals such as soap, detergents and cosmetics. However, on the whole, the chemical exports are not significant. In 2018, total chemicals exports were 66,986 tons of which 54,316 tons (81%) were consumer chemicals. The chemicals are exported mainly to the neighbouring countries that include: South Sudan, Democratic Republic of Congo, Rwanda, Tanzania and Kenya. The chemicals have to be appropriately labelled and relevant authorization obtained from the regulating agency.

Table 2-4: Annual Quantity of Chemical Exports by Uganda (Tons), 2013 – 2018

Chemical Type	Annual Export Quantity (Tons)						% Growth
	2013	2014	2015	2016	2017	2018	
Pesticides (agricultural, public health)	9	18	191	100	220	457	108%
Consumer Chemicals	49,652	39,042	47,387	37,491	48,300	54,316	12%
Fertilizers (HSC 31)	372	134	289	472	537	335	-38%
Inorganic chemicals; organic or inorganic compounds of metals (HSC 28)	2,881	1,394	27,971	443	1,022	1,339	31%
Organic chemicals (HSC 29)	81	37	213	1,571	1,458	410	-72%
Mineral fuels, oils and their products; bituminous substances; mineral waxes (HSC 27)	764	701	1,346	1,141	2,881	1,889	-34%
Pharmaceutical products (HSC 30)	3,439	3,254	7,569	11,881	11,944	8,240	-31%
Total	**57,198**	**44,580**	**84,966**	**53,099**	**66,362**	**66,986**	**1%**

Source: URA, UBOS (2018)

The annual values of chemicals exports are shown in the table 2-5 below.

Table 2-5: Annual Values of Chemical Exports by Uganda (US$), 2013 – 2018

Chemical Type	Annual Exports Value (US$)					
	2013	2014	2015	2016	2017	2018
Pesticides (agricultural, public health)	21,917	19,242	194,055	205,850	-	222,178
Consumer Chemicals	43,141,051	32,955,610	37,400,213	41,970,578	37,097,192	39,728,453
Fertilizers (HSC 31)	99,564	46,045	300,212	1,450,990	476,719	265,055
Inorganic Chemicals (HSC 28)	1,868,782	701,861	659,819	394,735	680,287	2,049,008
Organic chemicals (HSC 29)	162,796	44,793	316,087	1,411,269	1,565,771	999,641
Mineral fuels, oils and their products; bituminous substances (HSC 27)	1,401,504	1,280,755	1,396,572	1,430,738	5,005,832	2,108,365
Pharmaceutical products (HSC 30)	6,209,340	7,037,203	10,945,656	23,542,610	35,428,607	21,914,963
Total	**52,904,954**	**42,085,509**	**51,212,614**	**70,406,770**	**80,254,408**	**67,287,663**

Source: URA, UBOS (2018)

Uganda re-exports some chemicals as shown in the table 2-6 below. The re-exports are mainly to the neighbouring countries.

Table 2-6: Annual Quantity of Chemical Re-exports by Uganda (Tons), 2013 – 2018

Chemical Type	Annual Re-Export Quantity (Tons)						% Growth
	2013	2014	2015	2016	2017	2018	
Pesticides (agricultural, public health)	29	30	120	17	38	2	**-95%**
Consumer Chemicals	2,598	1,958	1,460	1,156	794	1,380	**74%**
Fertilizers (HSC 31)	60	1	94	39	271	32	**-88%**
Inorganic chemicals; organic or inorganic compounds of metals (HSC 28)	731	1,750	1,554	1,261	1,410	1,990	**41%**
Organic chemicals (HSC 29)	404	409	747	325	200	588	**194%**
Mineral fuels, oils and their products; bituminous substances; mineral waxes (HSC 27)	1,875	2,314	4,258	3,645	1,614	3,466	**115%**
Pharmaceutical products (HSC 30)	2,225	1,505	173	624	17	291	**1612%**
Total	**7,922**	**7,967**	**8,406**	**7,067**	**4,344**	**7,749**	**78%**

Source: URA (2018)

The annual value of chemicals re-export is shown in the table 2-7 below.

Table 2-7: Annual Values of Chemical Re-exports by Uganda, 2013 – 2018

Chemical Type	Annual Re-Export Value (US$)					
	2013	2014	2015	2016	2017	2018
Pesticides (public health, agricultural)	166,940	186,364	398,827	58,642	53,104	6,042
Consumer Chemicals	4,476,786	4,113,222	3,208,126	2,868,822	2,116,999	4,198,444
Fertilizers	70,243	1,060	188,835	57,138	209,387	25,420
Inorganic chemicals; organic or inorganic compounds of metals (HSC 28)	1,667,056	2,092,761	1,167,308	1,239,048	1,665,988	2,049,837
Organic chemicals (HSC 29)	1,230,814	940,575	2,538,690	747,160	799,231	1,465,901
Mineral fuels, oils and their products; bituminous substances; mineral waxes (HSC 27)	3,661,550	4,018,968	6,722,624	5,957,037	3,580,059	6,733,976
Pharmaceutical products (HSC 30)	4,340,478	1,939,158	1,878,171	2,149,100	204,165	663,373
Total	**15,613,867**	**13,292,108**	**16,102,581**	**13,076,947**	**8,628,933**	**15,142,993**

Source: URA (2018)

2.2.4 Chemical Transit through Uganda

Uganda serves as a transit route for chemicals transported to Burundi, Democratic Republic of Congo, Rwanda and South Sudan as shown in Table 2-8 below. In 2018, the quantity of chemicals that transited through Uganda was 664,152 tons compared to 674,794 tons in 2017, which was a decrease of 2%. These chemicals need to be regulated to ensure they safely exit to their respective destinations without dumping into the country.

Table 2-8: Annual Chemical Transit in Uganda, 2013 – 2018

Chemical Type	Annual Transit Quantity (Tons)						% Growth
	2013	2014	2015	2016	2017	2018	
Pesticides (public health, agricultural)	1,286	478	684	603	667	438	-34%
Consumer Chemicals	24,185	17,404	12,244	10,803	23,820	23,094	-3%
Fertilizers (HSC 31)	19,832	25,473	11,806	12,455	16,549	27,439	66%
Inorganic chemicals; organic or inorganic compounds of metals (HSC 28)	16,082	11,227	14,220	18,955	22,574	21,080	-7%
Organic chemicals (HSC 29)	3,521	1,498	1,245	1,416	2,269	1,956	-14%
Mineral fuels, oils and their products; bituminous	595,855	563,130	551,654	505,660	603,575	583,981	-3%

Chemical Type	Annual Transit Quantity (Tons)						% Growth
	2013	2014	2015	2016	2017	2018	
substances; mineral waxes (HSC 27)							
Pharmaceutical products (HSC 30)	3,698	7,839	4,190	3,348	5,340	6,164	15%
Total	**664,459**	**627,049**	**596,043**	**553,240**	**674,794**	**664,152**	**-2%**

Source: URA (2018)

2.3 Chemical Use by Categories

In Uganda, chemicals are used in a broad range of operations mainly as raw materials to manufacture other products such as, cosmetics, soap, detergents, paints, plastics, textiles, mattresses, steel, gases, acids. In other cases, they are used as preservatives/refrigerants, depressants, petroleum additives, catalysts, activators, neutralizers, digesting and oxidizing agents, disinfectants, degreasers, dehydrating, drying and clean wash agents, bleaching agents among others (NSR SMC, 2009)[12]. The industries in Uganda that use a significant quantity of chemicals include: petroleum, leather and textile, paint, plastics, soap and detergents, printing and publishing, tanneries, small scale motor garages, food processing industries, battery manufacturing and recycling, tyre manufacturing, shoe manufacturing, timber treatment, among others. The data on local chemical use by category was not readily available. There is need for UBOS to start capturing data on chemical use by category. The Table 2-9 below provides the chemicals imports as raw materials by categories.

Table 2-9: Annual Imports of Raw Materials for Chemicals and Related Industries, 2013 – 2018

Raw Materials	Imports (tons or volume/ year)						% Growth
	2013	2014	2015	2016	2017	2018	
Salt; Sulphur; earths and stone; plastering materials, lime and cement (HSC 25)	728,572	798,683	1,012,659	1,129,349	1,084,294	228	**-100%**
Mineral fuels, oils and their products; bituminous substances; mineral waxes (HSC 27);	5,313	4,396	2,696	3,543	10,013	11,952	**19%**
Fertilizers (HSC 31)	440	89	38	211	610	777	**27%**
Inorganic chemicals; organic or inorganic compounds of metals (HSC 28)	11,243	15,045	14,806	128	674	1,959	**191%**
Organic chemicals (HSC 29)	3,868	4,719	5,783	20	10	13	**30%**
Total	**749,436**	**822,932**	**1,035,982**	**1,133,251**	**1,095,601**	**14,929**	**-99%**

Source: URA, UBOS, 2018

[12] NEMA, (2009), The National Situation Report on Sound Management of Chemicals in Uganda.

2.4 Storage of Chemicals and Related Issues

The major storage facilities in Uganda are for refined petroleum oils (diesel, petrol and kerosene). In addition, the major dealers, factories/manufacturers have liquid, gas and solid bulk storage facilities for chemicals. Bulk gas storage is mainly for liquid petroleum gas (LPG). There are also customs bonded warehouses and privately-owned warehouses that are used to store chemicals. In the licensed warehouses and in the bulk storage facilities, chemicals are appropriately labelled. However, the data on the capacities of these storage facilities was not readily available except for petroleum products. MSMEs do not store chemicals appropriately thus leading to the potential of contamination and related risks. There is need to train the MSMEs on the SMC. The table 2-10 below shows available information on the bulk chemical storage facilities.

Table 2-10: Bulk Chemical Storage and Warehousing Facilities

Chemical Type	Size/ Capacity (Volume in M^3 or weight in tons)	Type of Facility	Location Area (Port, Industrial Complex, Urban, Rural)	Labelling; Health and Environment Protection Measures
Pesticides (agricultural, public health, & consumer use)	-	Enclosed	Urban and Peri-urban	GHS
Fertilizers	-	Enclosed	Urban and Peri-urban	GHS
Petroleum Products	104, 000	Enclosed	Urban and Peri-urban	GHS
Industrial Chemicals (used in processing /manufacturing facilities)	-	Enclosed	Urban and Peri-urban	GHS
Consumer Chemicals	-	Enclosed	Urban and Peri-urban	GHS
Chemical Waste	-	Enclosed	Urban and Peri-urban	GHS
Other Chemicals (unknown/mixed use)	-	Enclosed	Urban and Peri-urban	GHS

Source: Consultative visits and interviews

2.5 Transport of Chemicals and Related Issues

The transport of chemicals in Uganda involves transboundary movement of chemicals when they are being imported, exported and while on transit. In addition, it includes the movement of chemicals within the country either from points of storage or manufacture to the points of use, storage or disposal which is mainly done by road. The licensed transporters are required to follow Globally Harmonized System (GHS) of classification and labelling of chemicals (refer to Table 2-11 below). Data on the national transportation capacity of chemicals was not readily available. There is need to develop a database for the transportation capacity of chemicals and to provide the stakeholders with information about chemical risks and appropriate preventive measures for the management of adverse effects. This will enable them to implement effective programmes to protect human health and the environment from chemical hazards.

Table 2-11: Supply Chain for Bulk Chemical Distribution and Transportation

Chemical Type	Type of Transportation Facility: Maritime, Inland waterway, Rail, Road, Air	Approximate Capacity (Volume in cubic meters or weight in tons transported per year)	Labelling; Health and Environment Protection Measures
Pesticides (agricultural, public health & consumer use)	Road	Not Available (n/a)	GHS
Fertilizers	Road	n/a	GHS
Petroleum Products	Road	n/a	GHS
Industrial Chemicals (used in manufacturing/ processing facilities)	Road	n/a	GHS
Consumer Chemicals	Road	n/a	GHS
Chemical Waste	Road	n/a	GHS
Other Chemicals	Road	n/a	GHS

Source: Consultative visits and interviews

2.6 Chemical Waste Management

According to the National Environment Act (2019, Section 96), a person who generates or handles waste[13] is responsible for its proper management in accordance with this Act and shall take such steps as are necessary to prevent pollution arising from such management, and where pollution occurs, to minimise the consequences of the pollution on human health and the environment.

In addition, a person engaged in petroleum activities under the Petroleum (Exploration, Development and Production) Act 2013, or midstream operations under the Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act 2013, shall be responsible for the proper management of petroleum waste in accordance with the applicable laws. In Uganda, the National Environment (Waste Management) Regulations, S.I. No 10/2020) provides for: licensing to manage waste (Part III); management of domestic, municipal, and industrial waste (IV); management of electrical and electronic waste (Part V); management of hazardous waste (Part VI);

Table 2-12: Chemical Related Waste Generation

Type of Chemical Waste	Quantity (Tones)
Drill Cuttings Waste	26,644.08
Plastics (Recycled)	15,553.44
Medical Waste	8,024.11
Sludge	5,957.07
Contaminated waste oil	5,775.02
Rubble	5,400.00
Assorted wastes	3,731.42
Drill Fluids	1,940.00
Chemical waste	828.86
Used oil	181.02
Sewerage	73.19
Oil and gas	72.34
APC dust	66.48
Zinc dross	55.14
Steel dust	52.07
Used filters	27.62
Asbestos sheets	16.90
Old Batteries	3.80
Plastic waste (Drums)	2.75
Aluminium cans	2.39
E-waste	1.90
Expired goods	1.22
Total	**74,410.82**

[13] Waste is any substance or object which is dumped, abandoned, discarded or disposed of or intended or required by law to be disposed of (NEA, 2019).

treatment and disposal of waste (Part VII), and transboundary movement of waste (Part XI). It should be noted that Petroleum waste is regulated under Petroleum (Waste Management) Regulation 2019. The Uganda oil and gas sector are being developed and as activities are being undertaken, chemical waste is generated. The estimated quantities of chemical related waste generated by licensed waste management service providers and reports made to NEMA is shown in Table 2-12 below. Uganda is undertaking exploration of the oils and gas and the chemical quantities related waste so far generated during oil exploration include drilling cuttings, drilling fluids and obsolete drilling chemicals as quantified in Table 2-12.

The Ministry of Health has put collection centres for medical waste such as expired drugs and the sharps but final disposal is a challenge. In addition, enforcement agencies such as police face the challenge of disposing confiscated chemicals. Furthermore, a survey carried out by the New Vision (NV) newspaper in 2017 discovered that most schools were faced with huge quantities of expired chemicals (NV, July 18 2017) thus causing a challenge of disposal. There is need to carry out a comprehensive study on the existing stockpiles of expired chemicals in schools and institutions of higher learning and support their disposal.

2.7 Imports and Exports of waste

The National Environment (Waste Regulations) 2020 Part XI Regulation 92 provides for licensing of exporters and importers of waste who meet the requirements. The import data from URA indicates that chemical wastes are imported into the country (Refer to Table 2-13). In the year 2018, the quantity of waste imported was 1,102.8 tons compared to 1,670.7 tons in 2017. Most of the waste are imported as raw materials (used oil, plastic waste) especially for recycling. There is need to ensure that the chemical waste is imported in accordance with the relevant laws and Regulations and used for the intended purpose without negatively affecting the environment.

Table 2-13: Chemical Waste Imports

Type of Chemical Waste	Quantity of Waste Imported (Tons)					
	2013	2014	2015	2016	2017	2018
Waste Non-halogenated organic solvents	0.1	2.3	0.1	40.2	-	0.4
Other residual products of the chemical or allied industries	0.5	0.4	-	1.7	0.7	3.3
Other wastes from chemical or allied industries containing mainly Organic constituents	-	1.8	22.0	-	-	-
Wastes of metal pickling liquors, hydraulic fluids etc	-	-	-	-	-	3.3
Waste Petro Containing polychlorinated biphenyls (PCBs), polychlorinated terphrnyls (PCTs)/ polybrominated biphenyls (PBBs)	8.6	-	-	-	-	-
Other Petroleum oils from Bituminous minerals containing by weight > 70% of petroleum oil	1,098.9	998.2	228.8	177.5	439.7	199.2
Plastic waste	243.9	1,631.0	1,365.3	1,213.1	1,230.3	896.6
Total	**1,352.0**	**2,633.7**	**1,616.2**	**1,432.5**	**1,670.7**	**1,102.8**

Source: URA, 2018

Also, the URA data shows that chemical waste is exported from Uganda as shown in Table 2-14 below. There is need to ensure that the export procedure for waste is followed in accordance with the relevant laws and regulations.

Table 2-14: Chemical Waste Exports

Type of Chemical Waste	Quantity of Waste Exported (Tons)					
	2013	2014	2015	2016	2017	2018
Waste Non-halogenated organic solvents	-	-	0.2	20.0	-	-
Wastes of metal pickling liquors, hydraulic fluids, etc	-	0.3	-	-	-	5.5
Other wastes from chemical or allied industries	-	0.2	-	-	-	-
Waste Petro Containing polychlorinated biphenyls (PCBs), polychlorinated terphrnyls (PCTs)/ polybrominated biphenyls (PBBs)	-	-	1.0	-	-	-
Other Petroleum oils from Bituminous minerals containing by weight > 70% of petroleum oil	3.6	1.7	0.5	2.2	4.1	10.3
Total	**3.6**	**2.2**	**1.7**	**22.2**	**4.1**	**15.8**

Source: URA, 2018

2.8 Obsolete Chemical Stockpiles, Chemical Waste Sites, and Contaminated Site

2.8.1 POPs Pesticides Stocks

The POPs pesticide inventory that was undertaken indicated that there were no stockpiles of POPs pesticides in the country (NIP II POPs, 2016)[14].

2.8.2 Contamination from POPs Pesticides

The POPs inventory also indicated that there were possible contaminated POPs pesticides sites that were identified and mapped for future assessment (NIP II POPs, 2016) as detailed in Table 2-15 below. There is need to improve the management of POP contaminated sites and equipment by implementing the proposed activities in NIP II.

Table 2-15: Suspected POPs Pesticide Contaminated Sites

#	Site	District	Suspected POP Pesticide	GPS Coordinates	Area Description
1	Ihungu Tsetse Stores	Masindi	Dieldrin	36 N 357077 184112	The site is adjacent to Kabarwana stream and swamp and located at the sub county offices. There is a contaminated
2	Bukalasa Agriculture College dip	Luwero	Toxaphene	36 N 445935 78312	The site has a contaminated building/ Dip site and is surrounded
3	Bwanga Stock Farm	Rukungiri	Toxaphene	36 N 1 6 9 8 0 2 989553	There is a contaminated building/ dip site. The area is surrounded by vegetation characterized by high, low trees, grass & shrubs on hilly areas and Kahengye river adjacent to the farm.

[14] NEMA (2016), National Implementation Plan II for the Stockholm Convention on Persistent Organic Pollutants (NIP II POPs) (2016- 2025)

#	Site	District	Suspected POP Pesticide	GPS Coordinates	Area Description
4	Kiryana Ranch	Masindi	Toxaphene	36 N 377913 175548	The site is a ranch with a Contaminated Building/ Dip site and adjacent to it is a swampy area located along Kampala - Masindi Road
5	Maruzi Ranch	Apac	Toxaphene	36 N 415247 187440	The site has a Contaminated Building/ Dip site and is characterized by high and low vegetation types and adjacent to Lake Kyoga wetland system

Source: NIP II POPs, 2016

2.8.3 Contamination from Polychlorinated Biphenyls (PCB)

The PCB contaminated sites were found in Kampala, Kasese and Kyenjojo (NIP II POPs, 2016) as detailed in table 2-16. There is need to reduce emission and releases of PBDEs and PCBs through environmentally sound management (ESM) of PCB contaminated transformer oils, equipment and sites by implementing the proposed activities in NIP II.

Table 2-16: Contamination from Polychlorinated biphenyls (PCB)

#	Site	District	GPS Coordinate	Area Description
1.	TANELEC	Kampala, Industrial Area		A transformer servicing centre in Industrial Area, Kampala. This was because of clear presence of transformer oil spillages at the company yard as well as old faulty transformers
2.	Tibet Hima Mining company Limited	Kasese	36 N 166930 22735	Large stock old transformers which were formerly owned by Kilembe Mines Company Limited;
3.	MacLeaod Russel Uganda Limited	Kyenjojo in Mwenge Central, Birunda, Kyarusozi	36 N 226742 85360	stored capacitors which contain PCBs
4.	Epsilon Uganda Limited	Kampala	36 N 455707 33439	Located in Kampala and is surrounded by business units and urban settlements.
5.	Lugogo Power Station	Kampala	36 N 456234 35792	Surrounded by industrial, shopping centers and business units.

Source: NIP II POPs, 2016

2.8.4 Contamination from Perfluoroctane Sulfonic Acid (PFOS)

In Uganda, all sites where PFOS containing products and articles have been dumped are classified as contaminated sites. In addition, all sites where PFOS containing materials have been used are also classified as contaminated sites (NIP II POPs, 2016). The following sites could be regarded as PFOS contaminated sites, necessitating further assessment:

(i) Landfills and dumpsites are used to manage municipal waste, since they receive considerable amount of PFOS substances from household waste. Also, the areas that receive waste leachate and sludge from landfills and dumpsites are considered as contaminated sites.

(ii) PFOS-containing fire-fighting foam is used in airports, mines, oil and gas drilling, industrial sites, military installations, large power plants, fire sensitive installations. Deposits of PFOS-containing materials in landfills, dumpsites, agricultural land or areas where large amounts of fire-fighting foams have been applied could be considered contaminated sites.

The inventory identified sites suspected to be contaminated with PFOS waste articles as shown in Table 2-17 below. This will require proper management of products, articles and wastes containing PFOS by implementing the proposed activities in NIP II to deal with the PFOS contaminated sites.

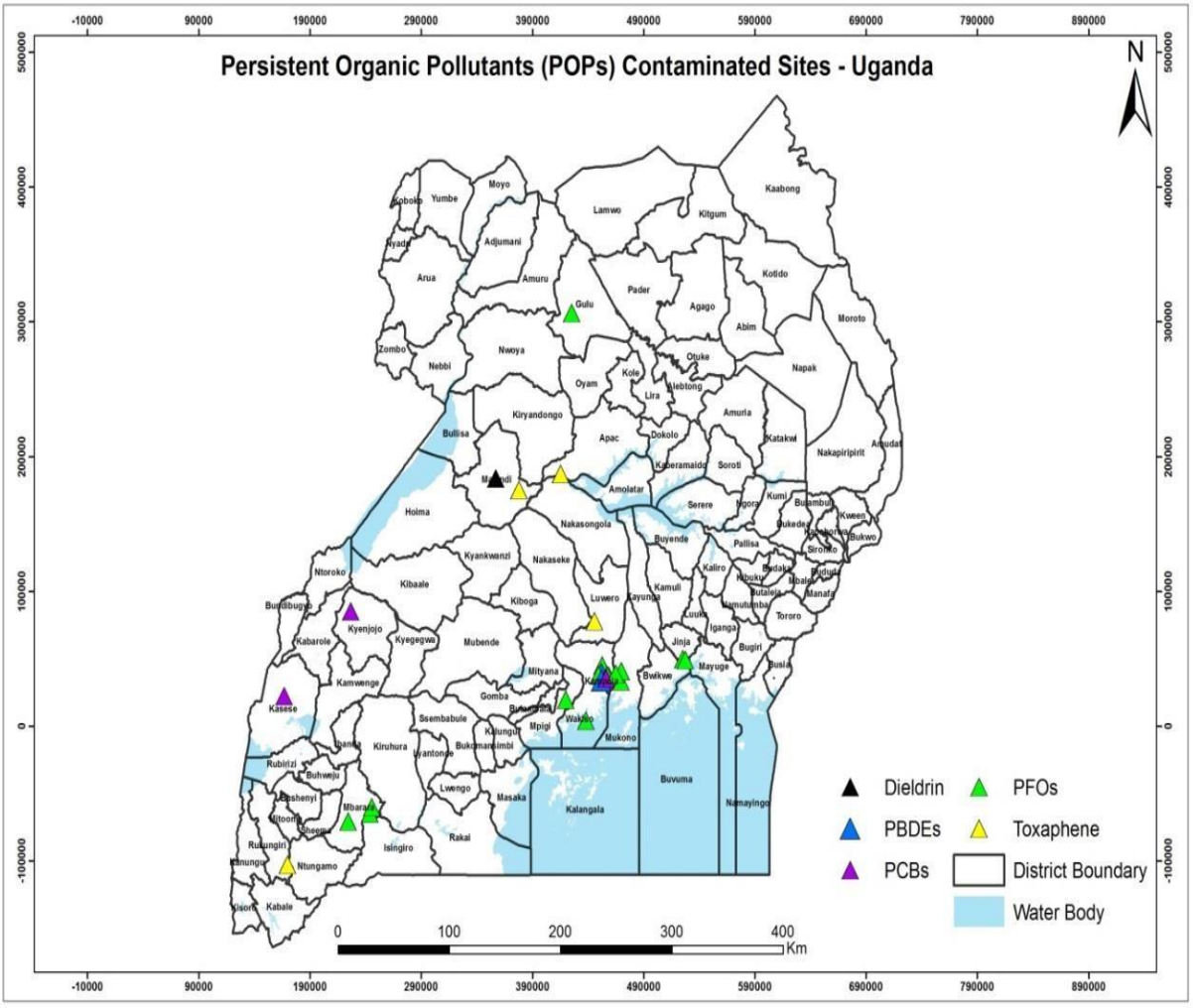
Table 2-17: PFOS Suspected contaminated sites in the country

PFOS Suspected Contaminated sites	GPS Position	Location	Description
Kenkobe Garbage Compositing Project	36 N 243938 9935555	Rwetondo, Kakoba Division in Mbarara	Byasiina stream, swamp, some informal settlements and subsistence farmlands close to the site
Kitezi Landfill	36 N 452776 45345	Kampala	The landfill is under the management of Directorate of Public Health of KCCA with Informal settlements, swamp vegetation and crop fields close to the site
Masese Land fill	36 N 525192 50148	Jinja	The landfill is under the management of Jinja Municipal Council.
Laroo Division landfill	36 N 425060 304139	Laroo Division in Gulu	Swamp and Pece River adjacent to the site
Koranorya	36 N 245582 9940124	Mbarara	Seasonal swampy area and close to a cattle ranch with few informal settlements
Rugando	36 N 224322 9929731	Mbarara	Seasonal swampy area and a small Kikyerenyo River close to the site along Kabale - Mbarara Road and a small market close to the site
Fuel Tank Namungona	36 N 449399 38193	Wakiso	The site is along the bypass road and located in a swampy area
Former British American Tobacco Factory	36 N 458740 37475	Kampala	The site is in a built up factory area along Jinja - Kampala road
Crestform Mattresses	36 N 457268 37808	Kampala	The site is close to a stream channel and the surroundings consist of factories and warehouses
BIDCO	36 N 527386	Jinja	The site is adjacent to Lake victoria shores
Mukono Landfill	36 N 469623 33503	Mukono	The site is close to Zirimiti wetland system with subsistence farmlands in the surroundings

PFOS Suspected Contaminated sites	GPS Position	Location	Description
Kamengo	36 N 420054 20017	Mpigi	Low lying swampy area along Masaka-Kampala road
Seeta	36 N 469899 41034	Seeta	The site is in a low lying area and within Lwajali wetland system
Namanve Industrial Area	36 N 464851 39242	Namanve	The site is located in an industrial area with swamp vegetation in the surroundings
Entebbe Airport	36 N 438281 4465	Entebbe	The site is on the Airport and surrounded by Lake Victoria catchment

Source: NIP II POPs, 2016

Figure 2: Map showing POPs contaminated sites in Uganda



2.8.5 Contamination from Polybrominated Diphenyl Ethers (PBDES)

In general, the vehicle scrap yards and the waste dumpsites may be deemed contaminated sites as the PBDEs may leach out of the exposed car parts into the environment. In the transport sector, contamination of PBDEs can result from handling or disposal of waste polymers materials at the end-of-life treatment of vehicles. These materials include plastic parts and

polyurethane foams. Other contamination sources include disposal at landfills and littering in homes, scrap yards, garages, scenes of accidents and police stations (NIP II POPs, 2016). For the electrical and electronics sector, there are electrical and electronic equipment (EEEs) kept in households or repair shops for extended periods. Some parts of the EEEs are recycled and the non-recycled parts are usually taken to dumpsites.

During the POPs inventory preparations, dumpsites were visited and assessed for POP-PBDEs. These included: the waste compositing plants at Masese in Jinja Municipality, Mukono Municipality, Kiteezi landfill in Kampala City and Bwaise scrap yard in Kampala City respectively. Other potentially contaminated areas include: Kisenyi (Position: 36 N 452063 34285) and Naguru Vehicle Inspection Centre (36 N 457408 36908).

It was also observed that most solid municipal waste is not segregated and open burning is still practiced countrywide. This is a potential source of PBDE emissions into the environment and the combustion sites are potentially contaminated by PBDEs.

2.8.6 Mercury Contaminated Sites

Although a comprehensive assessment of mercury contaminated sites has not yet been conducted in Uganda, findings from the initial assessment indicate that Artisanal and Small-Scale Gold Mining (ASGM) are the main mercury contaminated sites due to mercury tailings and processing/burning activities of the amalgam (MIA, 2018)[15]. Figure 4 below shows the ASGM/ potential mercury contaminated sites in Uganda. The findings show that ASGM and mercury use hotspots are concentrated within the eastern districts of Busia and Namayingo, the central region district of Kassanda, western district of Buhweju, and in the Karamoja region in the districts of Amudat and Nakapiripirit. There is a significant amount of unregulated chemicals use in Buhweju District particularly, borax, mercury and cyanide, which are used in artisanal gold mining. There have been efforts for safer alternatives such as ASGM demonstration site on the use of borax method[16] to convince artisanal miners to switch from mercury use. However, the process is cumbersome and the miners shun away from it and communities have resorted to undertaking the amalgamation process indoors which is a higher risk. As a result, there are alleged cases of suspected mercury poisoning recorded especially in communities carrying out ASGM. Government therefore needs to put in place measures to ensure access to alternatives such as borax, and to investigate such reported cases. During field discussion with the Local Government (LG) officials, it was noted that there were likely potentially contaminated sites, in Kitumbi-Mukuya wetland in Kasanda District that may have mercury contamination due to the ASGM activities in the area. This will require further study and verification.

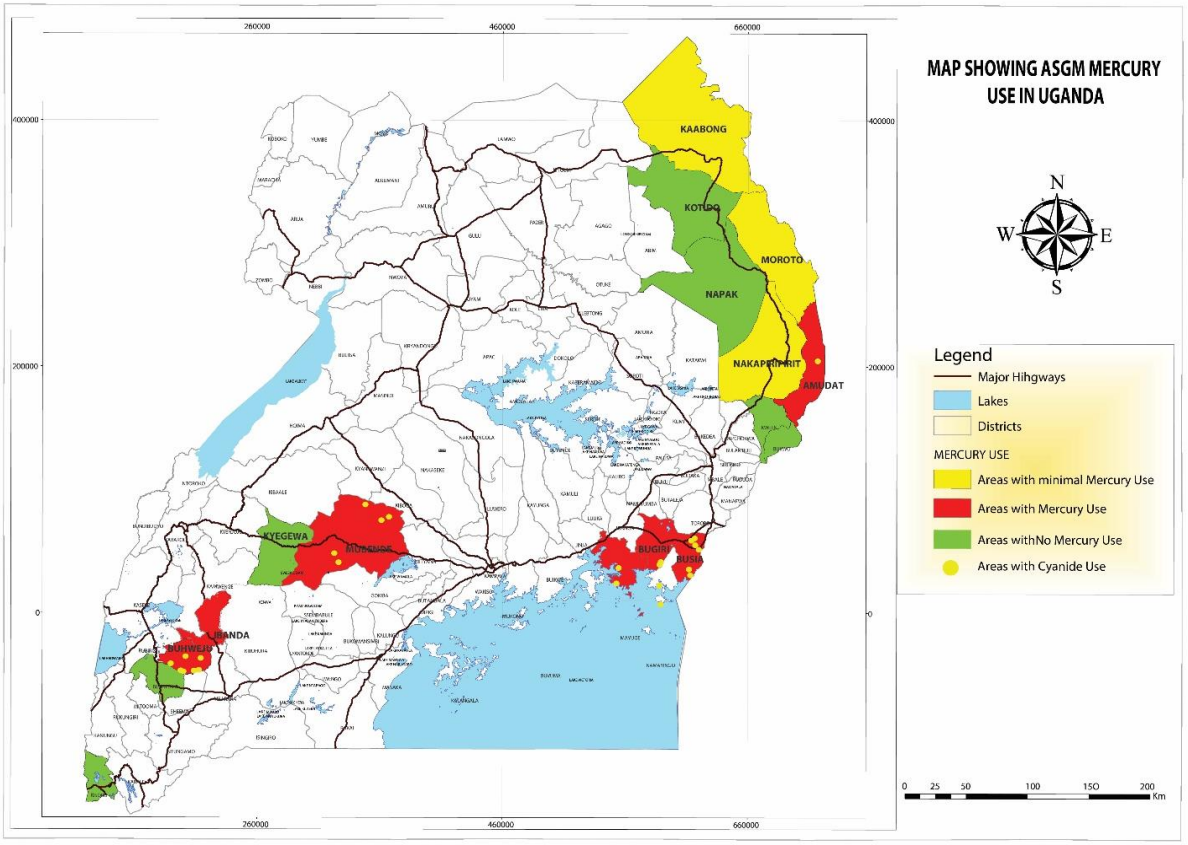
ASGM is of great national and local importance in Uganda. Gold and Gold compounds came second after coffee in export revenue significantly increasing from US$ 339.5 million in 2016 to US$ 418.1 million in 2017 thus an increase in shares from 13.7% in 2016 to 14.4% in 2017 (UBOS, 2018). At Local level, ASGM is an important source of income and employment to

[15] NEMA (2018), National Minamata Initial Assessment (MIA) Report

[16] The borax method is a safer technique of ASGM, which uses borax to purify gold concentrates and produces a higher gold recovery.

miners and their dependents. Due to the widespread unemployment and poverty in rural areas where alternative work is not available or is of low/ no pay, ASGM has become a primary means of survival.

Figure 3: Map showing ASGM Mercury Use in Uganda



Source: NEMA

The findings from the Minamata Initial Assessment Report (2018) indicates that despite the economic and social benefits of ASGM, the practice has far reaching negative externalities on the environment, society and human health that include:

i) ASGM destroys natural landscapes, as miners excavate deep into the earth's crust in search of gold. These resulting pits are usually not refilled after excavation.
ii) ASGM miners who use mercury to amalgamate gold indiscriminately dispose tailing back into the environment (soils and water bodies). This introduces mercury (an inorganic and non-degradable compound) into the environment.
iii) ASGM has resulted into sharp increase in the price of land. As more land is brought under mining, speculators buy more land.
iv) There has been an influx of migrant workers looking for work which increases pressure on natural resource services.
v) ASGM has potential risk of increase in child labour thus contributing to school drop outs to join the informal labour force in the mines with little pay.

There is need to reduce the use, emissions, releases and risks of exposure to mercury by the ASGM sector by implementing the proposed activities in the National Action Plan for ASGM in Uganda which is being drafted.

2.9 Technical Facilities for Recovery and Recycling of Chemicals and Related Waste

Most of the recycling in Uganda involves plastic waste that are collected particularly polyethylene terephthalate (PET), high density polyethylene (HDPE), low density polyethylene (LDPE), poly propylene (PP), and poly styrene (PS). Also, used motor oil is collected at service stations and transported back to supplier deports. Some used oil is used directly to fire furnaces in steel recycling plants and small-scale fabrication furnaces in the informal sector. The used oil is also serves other purposes such as termite repellant in commercial tree plantations and timber treatment during roofing of houses. There are some used oil refinery plants as presented in the table 2-18.

Table 2-18: Facilities for Recovery and Recycling of Chemicals and Related Waste

Location of facility/ operation or process	Description of the facility, operation or process	Recovery operation (Annex IV B) R code	Facility Capacity (tons)	Does the facility treat wastes imported? Yes/No
Matuga Used Oil Refinery	Used Oil Refining Plant	Used oil re-refining or other reuses of previously used oil (R9)		No
Sino-Uganda Yongqian Energy Development Co Ltd	Used Oil Refining Plant	Used oil re-refining or other reuses of previously used oil (R9)	2 tons per year	No

2.10 Capacities for Disposal of Chemicals and Related Waste

Waste requires different treatment procedures before disposal. The National Environment (Waste Management) Regulations (2020) Part VII Regulation 61 provides for treatment and disposal of hazardous waste. Uganda's capacity to treat and dispose chemical and related waste is growing. The service providers are regulated by NEMA. Disposal of expired chemicals and chemical related wastes is a challenge in the Local Governments (LG) because there are limited hazardous waste disposal sites in the country thus there is need to provide resources for these sites at LG levels. There is also need to ensure that all items destined for disposal are not dumped or diverted to other uses by having proper accountability mechanism. Table 2-19 below provides information about the chemicals and related waste disposal facilities.

Table 2-19: Facilities for Treatment and Disposal of Chemicals and Related Waste

Location of facility/ operation or process	Description of the facility, operation or process	Disposal operation (Annex IVA)[17] D code	Facility Capacity (tons)	Does the facility treat wastes imported?
EnviroServe Uganda Ltd - at Nyamasoga	Specially engineered landfill	Specially engineered landfill, (e.g., placement into lined discrete cells which are capped and isolated from one another and the environment, etc.) D5	90,000	Yes
	Physico-chemical	Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the		

[17] Text of the Basel Convention and Decisions of the Conference of the Parties (COP 1 To 5)

Location of facility/ operation or process	Description of the facility, operation or process	Disposal operation (Annex IVA)[17] D code	Facility Capacity (tons)	Does the facility treat wastes imported?
		operations in Section A, (e.g., evaporation, drying, calcination, neutralization, precipitation, etc.) D9		
Green Label Services-at Iganga	Waste Incinerator	Incineration on land; D10	72	No
EPislon	Waste Incinerator	Incineration on land; D10	-	No
NLS Waste Services Ltd	Waste Incinerator	Incineration on land; D10	-	No
Luwero Industries Ltd – at Nakasongola	Physico-chemical treatment	Physico-chemical treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations in Section A, (e.g., evaporation, drying, calcination, neutralization, precipitation, etc.) D9	36, 000	No
	Specially engineered landfill	Land treatment, (e.g. biodegradation of liquid or sludgy discards in soils, etc.), D1	150,000 m^3	No
	Waste Incinerator	Incineration on land; D10	500 MT/hr	No
Hohwa - White Nile Consults Limited	Waste Treatment and Disposal Facility by bioremediation and Solidification and Stabilization	Land treatment, (e.g., biodegradation of liquid or sludgy discards in soils, etc.), D1; Land treatment, (e.g., biodegradation of liquid or sludgy discards in soils, etc.), D2; and Biological treatment not specified elsewhere in this Annex which results in final compounds or mixtures which are discarded by means of any of the operations in Section A, D8.	-	No

2.11 Unintentionally Generated Chemicals Assessment

The inventory[18] on unintentional POPs release identified nine sources of Unintentional Persistent Organic Pollutants (UPOPs) that pose the greatest risk of emissions of dioxins and furans as outlined below and in the Table 2-20:

(i) Waste Incineration mostly from medical waste and hazardous waste.
(ii) Ferrous and non-ferrous metal production: iron and steel foundries production.
(iii) Heat and power generation which addresses five source categories of large and small installations using fossil fuels, biomass or gas.

[18] NEMA (2015), National Inventory and Quantification of Unintentionally Produced Persistent Organic Pollutants (UPOPs)

(iv) Production of mineral products which involves several processes ranging from mining to refining of mineral products.
(v) Transport which addresses source categories including road and ship transport.
(vi) Open burning processes which addresses two source categories of burning biomass or waste without technical equipment.
(vii) Production and use of chemicals and consumer goods which addresses eight source categories of various industrial activities.
(viii) Miscellaneous which addresses an array of source categories that do not match the description of any other source group.
(ix) Disposal and landfill which addresses source categories related to waste disposal.

Table 2-20: Summary of annual UPOPs release from identified sources in Uganda (2014)

	Source category	Amount (g TEQ/a)	Predominant release source class	Amount (g TEQ/a)
1	Waste Incineration	1,150.1	Medical waste	1,146.2
2	Ferrous and non-ferrous metal production	778.9	Iron and steel production	727
3	Open burning processes	90.3	Waste burning and accidental fires	177.4
4	Heat and power Generation	167.3	Household heating and	98.68
5	Production of Minerals Products	22.8	Cement Kilns	13.25
6	Transport	0.2	2-Stroke Engines	0.12
7	Production and Use of Chemicals and Consumer Goods -released to products, No releases to air	47	Leather plants	26.3
8	Miscellaneous	Insignificant	Tobacco smoking and Crematoria	Insignificant
9	Disposal: in water, products and residues.	Insignificant release to air	Sewage/sewage treatment (in residue)	58.8
10	Contaminated Sites and Hotspots		Old sites for solid waste dumping; incineration sites; etc.	Not evaluated

Source: UPOPs Inventory (2015)

The data indicates that waste incineration, especially medical incineration has the greatest release source category followed by the ferrous and non-ferrous metal production and open burning of wastes. There is need to reduce emissions and releases of UPOPs from major sources by implementing the proposed activities in the NIP II.

2.12 Assessment

Uganda's chemicals subsector is developing and the chemicals are used in various economic activities. Although some limited chemicals are produced locally, most of the chemicals are imported ready for use and others as raw materials. The types of chemicals that are imported include: pesticides, consumer chemicals, fertilizers, pharmaceuticals, petroleum products, organic and inorganic chemicals. Analysis of customs statistics indicate that the imported quantities for each of these chemicals type is increasing. In the year 2018, chemical imports

increased by 5% compared to 9% in 2017. Therefore, there is need to effectively manage the chemicals along the lifecycle especially by the MSMEs through effectively implementing the regulations, training and sensitizing the key players including importers, clearing agents, customs officers, transporters, stores managers/handlers and the chemicals users/consumers.

There is capacity for data collection on import and export chemicals since each importer or exporter is required to make declarations to the URA Customs. The UBOS and MAAIF also have data on chemical imports and exports. This data, however, does not include data on chemicals which may be smuggled into and out of Uganda.

Whereas Uganda produces some consumer chemicals such as cosmetics, soaps, detergents and household chemicals, the data on production is very scanty and not easily accessible. There are also data gaps on chemical storage, transport, use, and waste disposal which needs to be addressed by requiring the respective service providers to submit the specific data periodically to regulating MALs.

The inventories undertaken indicate that there are suspected contaminated sites with POPs pesticides, PCBs, PFOS, PBDES, UPOPs and mercury. There is need to carry out comprehensive assessments of these suspected sites and implement the proposed activities in the NIPs. In addition, there are other suspected contaminated sites such as garages, service bays and washing bays that should be comprehensively assessed and appropriate action taken. There is also need for site investigations of previous sites handling chemicals before change of use.

The UPOPs inventory also found limited public awareness about its existence and impacts on the environment and human health. Industrial processes in the iron and steel sector were operating without emissions preventive measures. Open burning of wastes was still widely practiced as waste management and environmental management methods without any precautionary measures. There is need for a management strategy with the action plan to address these key issues that include: human resource development, sensitization and awareness arising, strengthening legislative framework for enforcement, investments in waste management, strengthening coordination mechanisms for POPs and adoption of Best Available Techniques (BAT) and Best Environmental Practices (BEP).

There is interest by the private Sector to invest in chemical waste and hazardous waste management infrastructure and these include: EnviroSource (U) Ltd, Luwero Industries Ltd, Green Label Services, among others. The methods used are within the waste disposal methods categorized under the Basel Convention. The Technical Committee on Pollution Licensing, in exercise of the powers conferred on it by the National Environment (Waste Management) Regulations, issues licenses to companies/persons to transport wastes or own/operate waste treatment/disposal facilities. As of October 2018, there were 97 companies licensed to manage waste in Uganda, 74 of which handle hazardous waste. Table 2-21 below presents a summary of proposed strategic actions to improve chemical and waste management by MALs.

Table 2-21: Priorities and Possible Actions Proposed on Chemical Production, Import, Export, Storage, Transport, Use and Disposal by MALs

Priority Issues (Ranked from highest to lowest)	Level of Existing Capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Key Actors
Management of chemicals and hazardous waste along the chemicals life cycle	Medium	i) Chemicals poorly managed; ii) Some banned chemicals are smuggled; iii) Hazardous waste deposited together with municipal waste; iv) Schools and institutions with stockpiles of expired chemicals;	i) Train key players along the chemicals lifecycle including LG levels and MSMEs; ii) MAAIF and other border agencies should work closely with URA to curb smuggling of chemicals; iii) Create awareness on SMC and related waste; iv) Create a system for separation of waste at source; v) Establish a system and build capacity for the management of hazardous waste at municipal waste disposal sites; vi) Strengthen legislative framework for enforcement; vii) Support private sector to Invest in waste management; viii) Adopt BAT and BEP; ix) Carry out a comprehensive study on the existing stockpiles of expired chemicals in schools and institutions of higher learning and support their disposal. x) Industrial Parks should be planed such that there is joint handling of waste, especially hazardous waste;	Lead: NEMA, LG; Others: MWE, MEMD, Service Providers
Inventory on chemicals production, storage, transportation, use and waste disposal	Medium	No centralized chemicals data on production, storage, transportation, use, and waste disposal	i) Develop a database for chemicals and waste management along the lifecycle; ii) Regulators should obtain data at licensing;	Lead: NEMA, Others: MWE, UBOS
Suspected contaminated sites with POPs pesticides, PCBs, PFOS, PBDES, UPOPs and mercury identified by	Low	National Implementation Plan (NIP II) developed but yet to be implemented	Provide resources to Implement NIP II in order to: i) Improve the management of POP contaminated sites and equipment; ii) Reduce emission and releases of PBDEs and PCBs; iii) Manage products, articles and wastes containing PFOS;	Lead: NEMA, LG; Others: MWE, MEMD

Priority Issues (Ranked from highest to lowest)	Level of Existing Capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Key Actors
Inventories undertaken			iv) Strengthen coordination mechanism for POPs; v) Suspected contaminated sites such as garages, service and washing bays should be comprehensively assessed and appropriate action taken. vi) Sites previously handling chemicals be investigated before change of use.	
Limited awareness about POPs existence and their impacts	Medium	Low public awareness on POPs impacts on the environment and human health.	Implement NIP II activities on awareness to sensitize the public on POPs.	Lead: NEMA, LG; Others: MWE, MEMD
Mercury poisoning, contamination and pollution due to its use in ASGM	Low	i) Use of toxic mercury in ASGM; ii) Alleged poison and pollution due to mercury use; iii) Existence of alternative mercury-free technology.	i) Promote mercury-free technology; ii) Put in place measures to ensure access to alternatives such as Borax; iii) Investigate alleged reported cases of mercury contamination, poisoning and pollutions. iv) Equip the LGs to monitor the environment and detect contamination and pollution.	Lead: NEMA, LG; Others: MWE, MEMD

CHAPTER 3 : LEGAL INSTRUMENTS AND NON-REGULATORY MECHANISMS

This chapter provides an overview of existing legal instruments and non-regulatory mechanisms for managing chemicals and analyses their adequacy. It also identifies the Ministries, Agencies and other Government Institutions involved in sound management of chemicals throughout their life cycle.

3.1: Overview of Legal Instruments which Address the Management of Chemicals

The Constitution of the Republic of Uganda is the framework law with provisions relevant to chemicals management. The National Environment Act (NEA) of 2019 is the overarching law for environmental management in Uganda. The NEA and sectoral laws have relevant provisions for chemical management covering the lifecycle of the chemical. Table 3-1 below provides a list of laws directly relevant to the management of chemicals. The information provided includes the scope and objective of each law, the MALs responsible for implementation and enforcement, and sections or articles which address issues of chemicals management.

Table 3-1: Overview of Existing Legal Instruments which Address the Management of Chemicals

Legal Instrument (Type, Reference, Year)	Responsible Ministries or Bodies	Status (Laws or Bill)	Category of Chemicals, Type of by-product, or Type of Related Waste	Chemical Life stage Covered	Objective of legal Instruments	Relevant Articles/ Provisions
The Constitution of the Republic of Uganda, 1995	Parliament; NEMA; MEMD; Petroleum Authority of Uganda (PAU); Directorate of Geological Surveys and Mines	Supreme Framework Law of 1995	Not specified	Not Specified	The Objective on Environment that is related to chemicals management include to promote sustainable development and public awareness of the need to manage land, air and water resources in a balanced and sustainable manner for the present and future generations.	Objective XXVII on Environment; Articles 17, 38, 245
	Petroleum Authority of Uganda (PAU)	Amendment of the Constitution in 2005	Petroleum	Not Specified	To provide an enabling framework for the management of petroleum.	Article 244
	Directorate of Geological Surveys and Mines	Amendment of the Constitution in 2005	Minerals	Not Specified	To provide an enabling framework for the management of minerals.	Article 244
	Ministry of Agriculture Animal Industry and Fisheries		Not Specified	Not Specified	To stimulate agriculture, industrial, technological and scientific development by adopting appropriate policies and enactment of enabling legislation.	National Objectives and Directive Principles of State Policy XI (ii).
	Parliament; Department of Occupational Safety and Health – Ministry of Labour Gender	Framework Law of 1995	Work Place	Not specified	To guarantee economic right to every Ugandan; and to provide for the right of persons to work under satisfactory, safe and healthy conditions	Article 40(a) on the right of persons to work under satisfactory. safe and healthy conditions

Legal Instrument (Type, Reference, Year)	Responsible Ministries or Bodies	Status (Laws or Bill)	Category of Chemicals, Type of by-product, or Type of Related Waste	Chemical Life stage Covered	Objective of legal Instruments	Relevant Articles/ Provisions
	and Social Development					
National Environment Act, 2019	National Environment Management Authority (NEMA)	Law of 2019	Hazardous Chemicals; and Hazardous Waste	Import, Export, manufacture, formulation, distribution, use, and disposal.	The National Environment Act objectives related to chemicals management are to (GOU, 2019): mandate the National Environment Management Authority as a coordinating, monitoring, regulatory and supervisory body for all activities relating to environment;	Section 3, Part VI – Sections 70, 71, 72, 73, 74, 75, 76& 77, 78, 79 and 80 Sections 101(1), 101(5), 146, 161, 179 (2),
The Toxic Chemicals Prohibition and Control Act, 2015	National Authority	Law	Toxic chemicals and their precursors used in Chemical Weapons	i) Import; ii) Export; iii) Development of Chemical Weapons; iv) Production; v) Stockpiling; vi) Use; and disposal.	The Act gives effect to: The Convention on Prohibition of the development, production, stockpiling and use of chemical weapons and their destruction; and Designation of the National Authority;	Sections 8, 9, 10, 13, 14, 15& 40.
The Petroleum (Exploration, Development and Production) Act, 2013	Petroleum Authority of Uganda (PAU)	Law	Petroleum and waste arising from Petroleum activities	i) Exploration ii) Development iii) Production iv) Transportation v) Storage vi) Treatment or disposal.	The objectives of the chemicals management are (GOU, 2013a) are to: establish the Petroleum Authority of Uganda as a regulatory agency and to provide a legal framework for creating a conducive environment for conducting petroleum activities.	Section 3, 129, 130 & 131.
The Petroleum (Refining, Conversion, Transmission and	Petroleum Authority of Uganda (PAU)	Law enacted in 2013	Petroleum products resulting from refining, or conversion of petroleum	i) Production; ii) Transportation; iii) Storage;	The objectives of the Act (GOU, 2013b) are to regulate, manage, coordinate and monitor	Section 3, 26, 38, 49, 59, 60, 64, 65, 66, 67, 68, 70 & 79.

Legal Instrument (Type, Reference, Year)	Responsible Ministries or Bodies	Status (Laws or Bill)	Category of Chemicals, Type of by-product, or Type of Related Waste	Chemical Life stage Covered	Objective of legal Instruments	Relevant Articles/ Provisions
Midstream Storage) Act, 2013			commodities and waste arising from midstream operations.	iv) Treatment or disposal	petroleum activities in the midstream;	
The Agricultural Chemicals (Control) Act, 2006	Ministry of Agriculture Animal Industry and Fisheries (MAAIF) – Department of Crop Protection	Enacted in 2006	Agricultural Chemicals plant protection chemicals and any other chemicals used for promoting and protecting the health of plants, plants products and by products.	i) Manufacture, ii) Storage, iii) Distribution and trade in, iv) Use, importation and exportation	The objective of the Agricultural Chemicals (Control Act) is to control and regulate the manufacture, storage, distribution and trade in, use, importation and exportation of agricultural chemicals (GOU, 2007).	Sections 3 (1), 11, 12, 18
Occupational Safety and Health Act 2006	Department of Occupational Safety and Health	Enacted in 2003	Work Place Chemicals	i) Manufacture ii) Supply iii) Importation iv) Transportation v) Use vi) Disposal	To protect workers in the work environment/ Workplaces and the environment, from negative impacts of hazardous chemicals.	Sections 11,18, 19, 27, 28 , 29, 33, 34 ,95, 96 and 97
The Petroleum Supply Act 2003	Department of Petroleum Supply	Enacted in 2003	Petroleum products	i) Importation, ii) Exportation, Transportation iii) Processing, Supply, iv) Storage, Distribution; and v) Marketing.	The objectives of the Petroleum Supply Act (GOU, 2003b) are to ensure public safety and protection of public health and environment in all petroleum operations and installations.	Sections 3, 4, 6, 35 & 36
The Mining Act, 2003	Directorate of Geological Surveys and Mines	Enacted in 2003 Commencement	Mineral and waste products	i) Prospecting; ii) Exploration; iii) Processing; iv) Storage; and	The objectives of the Act are to: Protect the environment from pollution and degradation (GOU, 2003a); ensure safety and health of humans during the mining	Section 86 and 109

Legal Instrument (Type, Reference, Year)	Responsible Ministries or Bodies	Status (Laws or Bill)	Category of Chemicals, Type of by-product, or Type of Related Waste	Chemical Life stage Covered	Objective of legal Instruments	Relevant Articles/ Provisions
		instrument, 2004		v) Disposal of waste products.	operations (GOU, 2003a); Protect the environment from generated mining waste products (GOU, 2003a).	
The Water Act Cap 152	Directorate of Water Resources Management	Law enacted in 1997	Discharges	i) Production; ii) Storage; iii) Treatment; iv) Discharge; and v) Deposited or otherwise disposed of.	The objectives of the Act related to chemicals management, among others control pollution and promote safe storage, treatment, discharge and disposal of waste which may pollute water or otherwise harm the environment and human health (GOU, 1997):	Section 4 and 29 (7f)
The National Drug Policy and Authority Act Cap 206	Ministry of Health National Drugs Authority	Statute of 1993	i) Production; ii) Importation; iii) Exportation; iv) Distribution; v) Storage; and vi) Use	i) Human and veterinary medicines; ii) Other health related products	The Act objectives are to: i) Establish a national drug policy and a national drug authority; and ii) Ensure availability, at all times, of essential, efficacious and cost-effective drugs to the entire population of Uganda, as a means of providing satisfactory health care and safeguarding the appropriate use of drugs.	Section 2 and 3.
Explosives Act Cap 289	Ministry of Defense	Enacted Law	Gunpowder, nitro-glycerine, dynamite, gun cotton, blasting powders, fulminate of mercury.	Manufacture, storage, sale, transportation, importation, exportation, and use of explosives	Regulates the manufacture, storage, sale, transportation, importation, exportation, and use of explosives	Parts II, III, IV, V, VI

Legal Instrument (Type, Reference, Year)	Responsible Ministries or Bodies	Status (Laws or Bill)	Category of Chemicals, Type of by-product, or Type of Related Waste	Chemical Life stage Covered	Objective of legal Instruments	Relevant Articles/ Provisions
Specified Goods (Conveyance) Act Cap 359	Ministry of Works and Transport	Enacted Law	Petroleum products and lubricants excluding high-octane aviation spirit.	Transportation	Provides for the control of the means of conveyance of certain goods to and from the Republic of Sudan, Congo and Rwanda	Section 1

The table 3-2 below provides draft legal instruments which are considered of particular importance for the management of chemicals.

Table 3-2: Draft Chemicals Related Laws, Regulations and Standards for Chemicals Management

Legal Instrument (Type, Reference, Year)	Responsible Ministries or Bodies	Status (as at October 2020) (Laws or Bill)	Category of Chemicals, Type of by-product, or Type of Related Waste Covered	Chemical Life Cycle Stage Covered	Objective of Legal Instrument
The Veterinary Drugs and Feeds Bill, 2019	Ministry of Agriculture Animal Industry and Fisheries (MAAIF) – Department of Veterinary Medicines	Draft	Veterinary Drugs and Animal Feeds	Manufacture, sale, distribution, use, import, export, disposal.	The objectives of the Bill are to: i) Strengthen the administration and regulation of the production, distribution and consumption of veterinary drugs and feeds in Uganda; ii) Provide for the separation of the administration and control of animal drugs from human medicine.
The Draft Pesticide Registration and Control Regulations	Ministry of Agriculture Animal Industry and Fisheries (MAAIF) – Department of Crop Protection	Draft	Pesticides	Manufacture, import, export, store, use, packaging, distribution, marketing	To provide for the Regulations of agro-chemicals through a register of: agricultural chemicals; fumigators and commercial applicators; and premises
The Draft Fertilizer Control Regulations	Ministry of Agriculture Animal Industry and Fisheries (MAAIF) –	Draft	Fertilizers	Manufacture, import, export, storage, premises, use, labelling,	To provide for the regulation of fertilizers.

Legal Instrument (Type, Reference, Year)	Responsible Ministries or Bodies	Status (as at October 2020) (Laws or Bill)	Category of Chemicals, Type of by-product, or Type of Related Waste Covered	Chemical Life Cycle Stage Covered	Objective of Legal Instrument
	Department of Crop Protection			packaging, distribution, testing, marketing	
The Draft Pesticide Application Equipment Regulations	Ministry of Agriculture Animal Industry and Fisheries (MAAIF) – Department of Crop Protection	Draft	Pesticide application equipment	Import, use	To regulate the certification of pesticides application equipment
The Draft Control of Agricultural Chemicals (Registration and Control) Regulations,2006	Ministry of Agriculture Animal Industry and Fisheries (MAAIF) – Department of Crop Protection	Draft	Agricultural chemicals	Manufacture, import, export, store, use, packaging, distribution, marketing	Provide for the requirement of registration of agricultural chemicals including a new product being introduced or manufactured in or outside Uganda
The Draft National Environment (Chemicals Control) Regulations, 2015	National Environment Management Authority	Draft	Chemicals	All stages	To protect human health and the environment from the harmful effects of chemicals through coordinated and cross-sectoral management of chemicals

3.2 Additional Details on Key Agreements, Policies and Legal Instruments Relating to Chemicals Management

The legal instruments require that administrative measures are undertaken for purposes of compliance. Mechanisms are provided for to check on the compliance status with the provisions of the legal instruments. Key legal instruments can be accessed from several sources. Annex 5 gives details on key legal instruments, their means of publicity, the relevant administrative procedures, mechanism of monitoring compliance and any databases created under the legal instruments.

3.2.1 Multi-lateral Environmental Agreements for Chemicals Management

Uganda is a signatory to various Multi-Lateral Environmental Agreements (MEAs) for chemicals management that include:

3.2.1.1 Minamata Convention on Mercury

The Minamata Convention on mercury seeks to address significant adverse impacts of mercury and its products by imposing obligation to Parties to manage mercury through its life cycle from mining to waste disposal. The objective of the convention is to protect human health and the environment from anthropogenic emissions and releases of mercury (UNEP, 2019). The Convention sets out measures for the control of supply and trade in mercury including setting limitations on specific sources of mercury such as primary mining and to control mercury added products and manufacturing processes in which mercury or mercury compounds are used as well as artisanal and small-scale gold mining (UNEP, 2019).

Together with the Basel, Rotterdam and Stockholm Convention it forms a comprehensive regime for sound management of chemicals and hazardous substances (UNEP, 2019). Uganda ratified the Convention on March 1, 2019[19]. The National Environment Management Authority (NEMA) conducted a National Minamata Initial Assessment (MIA)[20] in 2018 and the National Action Plan for ASGM is being drafted in accordance with the Minamata Convention.

3.2.1.2 Stockholm Convention on Persistent Organic Pollutants (POPs)

The Stockholm Convention is a global treaty designed to protect human health and the environment from persistent organic pollutants (POPs) (UNEP, 2019; UNITAR, 2003). POPs once released into the environment remain intact due to their physical and chemical properties (UNEP, 2019; SSC, 2008b). As a result, they become widely distributed through the "grasshopper effect" contaminating soil, water and air (SSC, 2008b). They accumulate in fatty tissues of limiting organisms including humans and bio accumulate high up in the food chain and are toxic to humans and wildlife (SSC, 2008b).

The Convention was adopted in May 2001 and was acceded to by Uganda on 20 July 2004 (SSC, 2008c; UNITAR, 2003). The Convention text specifies the measures that must be taken by Parties including reduction or elimination of releases into the environment in order to comply with the obligations associated with being a Party to the Convention) (UNEP, 2019; UNITAR, 2003).

Under Article 7 of the Stockholm Convention, Parties are required to develop National Implementation Plan (NIPs) two years from its entry into force (SSC, 2008a; GEF, 2001). The NIPs provides a framework for the country to prepare and implement in systematic and

Retrieved from http://www.mercuryconvention.org/Countries/Parties/tabid/3428/language/en-US/Default.aspx

[20] NEMA (2018), National Minamata Initial Assessment (MIA)

participatory manner priority policy and regulatory reform, capacity building and investment programs for the protection of human health and the environment from POPs (SSC, 2008a; GEF, 2001). Uganda developed and submitted its NIP for the initial 12 POPs to the Secretariat to the Stockholm Convention in January 2009 (NEMA, 2016; SSC, 2008e). The reviewed and updated NIP covered additional chemicals that were listed by the end of COP 4 of 2009 and was published in 2016 (NEMA, 2016).

3.2.1.3 Basel Convention on Transboundary Movements of Hazardous Wastes and their Disposal

The Basel Convention is a comprehensive international agreement on hazardous wastes and other waste with 187 countries as Parties (UNEP, 2019)[21]. The Convention has an overarching objective of protecting the environment and human health from "hazardous waste" based on their origin and/or composition and characteristics and "other wastes such as household waste and incinerator ash (UNEP, 2019).

The Convention was adopted on 22 March 1989 and entered into force on 5 May 1992. Uganda acceded to the Convention on 11th March 1999.

Electronic Waste

The Basel Convention started initiatives to manage e-waste in 2002, through environmentally sound management, prevention of illegal traffic to developing countries and building capacity around the globe to better manage e-waste (BC, 2011b). The Convention has developed technical guidelines on transboundary movement of e-waste distinguishing waste from non-waste (BC, 2011a&b).

End of life electrical and electronic equipment (EEE) become electronic waste (e-waste) (BC, 2011b)[22]. The waste is one of the fastest growing waste streams in the world (BC, 2011). Technological innovation, rapid urbanization and economic development are contributing to e-waste (PACE& WEF, 2019[23]; WSIS Forum, 2019[24]).

The waste includes: personal computers, printers, televisions, mobile phones, refrigerators and air conditioning units (BC, 2011b). E-waste is categorized as hazardous under the Basel Convention because of the presence of toxic materials such as mercury, lead and brominated flame-retardants (BC, 2011b). E-waste may contain precious and heavy metals such as gold, copper and nickel and rare materials of strategic values such as indium and palladium (BC, 2011b). It is established that e-waste is shipped from developed countries to developing countries (BC, 2011b). Developing countries in most cases have no capacity to manage the e-waste through recovery, recycling and reuse (BC, 2011b). The waste therefore poses a danger to human health and the environment (BC, 2011b).

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21 United Nations Environment Programme [UNEP] (11 May 2019). Governments agree landmark decisions to protect people and planet from, hazardous wastes and other wastes including plastics. Retrieved from https://www.unenvironment.org/news-and-stories/press-release/governments-agree-landmark-decisions-protect-people-and-planet

22 Basel Convention [BC] (2011b). E-Waste. Retrieved from http://www.basel.int/Implementation/Ewaste/Overview/tabid/4063/Default.aspx

23 Platform for Accelerating the Circular Economy [PACE]; & World Economic Forum [WEF] (2019). A new Circular Vision for Electronics. Time to Reboot. Retrieved from http://www3.weforum.org/docs/WEF_A_New_Circular_Vision_for_Electronics.pdf

24 World Summit on Information Society (WSIS) Forum (2019). Connecting the Circular model of E-Waste Management to Sustainable development goals. *International Telecommunications Union (ITU), Basel, Rotterdam and Stockholm Conventions (BRS)*. Retrieved from https://www.itu.int/net4/wsis/forum/2019/Agenda/ViewSession/240#

National Information Technology of Uganda (NITA-U) has planned to conduct an e-waste baseline survey to contribute to objective 2 of the National Environment and Resources section of NDP II of increasing the sustainable use of Environment and Natural Resources.

Plastic Waste

Plastic waste is now being acknowledged as a major global environmental concern (UNEP, 2019). During COP 14 of the Basel Convention of May 2019, the Basel Convention was amended to include plastic waste in the legally binding framework (UNEP, 2019; BC, 2011). Regarding plastic waste, the Basel Convention seeks to make trade in plastics more transparent and more regulated to make its management safer to the environment and human health (UNEP, 2019)[25]. In 2019, during COP 14, amendments were made to include plastic (BC, 2019).

The management of hazardous chemicals and waste has advance priority in the international political agenda with strengthening of governance (BC, 2011a). Of recent, the Basel Convention on Transboundary Movements of Hazardous Waste and their Disposal, the Rotterdam Convention on Prior Informed Consent on Certain Hazardous Chemicals and Pesticides in International Trade and the Stockholm Convention on Persistent Organic Pollutants (POPs) are implemented together to promote synergies addressing the chemicals life cycle in a holistic and coordinated manner (BC 2011a).

3.2.1.4 Rotterdam Convention on PIC Procedure for Certain Hazardous Chemicals and Pesticides in International Trade

The Rotterdam Convention on Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade provides means of formally disseminating information from an exporting country to an importing country on potential effect to humans and the environment on certain hazardous chemicals and pesticides in international trade listed under Annex III of the Convention. At the end of COP 8, chemicals listed in Annex 111 and subject of the PIC procedure were 50 (UNEP, 2019; SRC, 2010a). The chemicals include 34 pesticides (three severely hazardous formulations, 15 industrial chemicals and one chemical in both chemical and pesticide category (SRC, 2010a)). In May 2019 at COP 9 decisions were made to list phorate and hexabromocyclododecane in Annex III raising the number of chemicals listed to 52 (UNEP, 2019; SRC, 2010b).

Uganda ratified the Rotterdam Convention in 2008 and has regulatory regimes for agricultural chemicals but the ones for industrial chemicals is still inadequate. In 2004 – 20015, the following challenges were identified that need to be addressed within the scope of the Convention:

- Inadequate legislation required to support the Regulation and enforcement of sound management of industrial chemicals;
- Lack of National Chemicals Policy frameworks and national coordination mechanisms;
- Inadequate capacity to undertake hazard and risk assessments;
- Lack of processes for decision-making on risk management for selected chemicals.
- Lack of public awareness and information on potential risks from hazardous industrial chemicals.

[25] Basel Convention [BC] (2019). Milestones. Retrieved from http://www.basel.int/TheConvention/Overview/Milestones/tabid/2270/Default.aspx

3.2.1.5 Vienna Convention on the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer

The Vienna Convention on the Protection of the Ozone Layer was adopted by participating countries and came into force in September 1985. The Convention under-scores the urgency of taking appropriate measures to protect human health and the environment from the harmful effects of Ozone Layer depletion.

The Montreal Protocol on Substances that Deplete the Ozone Layer came into force in January 1989. The provisions of the Protocol are intended to directly reduce and/or phase out completely the production, consumption, export, import and use of Ozone Depleting Substances (ODSs). Uganda acceded to the Vienna Convention on 24th June, 1988, and ratified the Montreal Protocol on Substances that Deplete the Ozone Layer on 15th September, 1998. Thereafter, Uganda also became Party to four subsequent Amendments to the Montreal Protocol.

3.2.1.6 Chemical Weapons Convention

The Chemical Weapons Convention entered into force on April 29, 1997. Uganda became Party to the Convention on 30th November 2001 (OPCW, 2019; ACA, 2018).

The Convention established the Organization for the Prohibition of Chemical Weapons, which oversees the global endeavour to permanently and verifiably eliminate chemical weapons (OPCW, 2017a). It mandates the destruction and prohibition of chemical weapons as well as provides for restrictions on international trade in toxic chemicals and precursors that could be used for chemical weapons purposes (OPCW, 2017a). The Convention's monitoring and verification measures involves submissions of declarations regarding large quantities of chemicals above a specified threshold used for commercial and industrial activities and provides for inspections by the OPCW of facilities where these chemicals are produced, processed or consumed (OPCW, 2017b). The involvement of OPCW in monitoring chemicals for dual purposes is due to their dual use purposes in production of chemical weapons and for commercial and industrial purposes (OPCW, 2017b).

In article VII of CWC, (OPC, W2017c) obliges Parties, if necessary, to enact laws that prohibit individuals and companies from undertaking prohibited activities under the Convention. The Convention provides for designation of a national authority for the coordination of effective implementation of activities under the Convention. Implementation of the CWC has become more important in view of the new security risks and threats and in particular terrorism.

3.2.1.7 Strategic Approach to International Chemicals Management

The Strategic Approach to International Chemicals Management (SAICM) was adopted in Dubai in February 2006 (UNITAR, n.d). SAICM represents the first internationally agreed umbrella agreement for sound management of chemicals across all sectors (UNITAR, n.d). It provides a framework policy for achieving the Johannesburg Plan of implementation goal that chemicals will be produced and used in ways that minimize impacts to human health and the environment by 2010 (UNITAR, n.d).

Uganda benefited from the quick start Programme of SAICM for enabling activities to build capacity and set priorities for sound management of chemicals (NEMA, 2010 & 2009). The country prepared an action plan for sound management of chemicals by 2020 (NEMA, 2010). The national action plan identified administrative and technical capacity, legislation and lack of awareness as key areas that were to be addressed (NEMA, 2010 & 2009).

3.2.2 Regional Agreements for Chemicals Management

Uganda is a member to regional organizations where mechanisms for environmental management have been established. The organizations under which mechanisms for chemicals and chemical waste management have been established include the African Union, East African Community and the Inter- Governmental Authority on Development.

3.2.2.1 Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa

The Convention prohibits import of unwanted hazardous waste (including radioactive waste) in the territories of African countries as well as promote SMC and waste produced within the continent (UNEP, n.d). The Bamako Convention prohibits the dumping or incinerating of hazardous waste in inland water and oceans, promotes the control of transboundary movement of hazardous waste within Africa and seeks to ensure that waste disposal is conducted in an environmentally sound manner (UNEP, n.d). The Convention was established in 1991 and has 25 Parties (UNEP, n.d). Uganda ratified the Convention on 1st October 1998 (AUC, n.d).

3.2.2.2 East African Community - Protocol on Environment and Natural Resources Management

The Republics of Kenya, Uganda and United Republic of Tanzania negotiated and ratified the Protocol on Environment and Natural Resources Management on 3rd April 2006. Uganda and Kenya ratified the Protocol in 2010 and 2011 respectively. Articles 25, 28, 29 and 30 directly address chemicals and chemical waste management (EAC, 1999 - 2020). Under this mechanism, the member states were directed to enforce the relevant laws to effectively ban the manufacture and use of carrier bags. The EAC pesticide management guidelines on efficacy trials, residue trails and registration requirements for pesticides were adopted.

3.2.2.3 Intergovernmental Authority on Development (IGAD) – Agriculture and Natural Resources and Environment Protection

IGAD recognizes that environmental sustainability can be achieved through awareness creation, development and strengthening of appropriate environmental policies and strategies, by putting in place relevant legislative and regulatory frameworks, including ratification of regional and global conventions. The organization has an environment programme with three components namely environment assessment, cooperation in addressing environmental challenges and Multilateral Environmental Agreements and Conventions (IGAD, 2020).

3.2.3 Policies related to Chemicals Management

There are several sectoral policies for chemicals management that include the following:

3.2.3.1 Overarching National Environment Management Policy (NEMP) 1994

The National Environment Management Policy (NEMP) was established in 1994 and covers various sectors of the economy (USAID, 1999). Several sectoral objectives affect pesticide management. The policy seeks to conserve, preserve, and restore ecosystems and maintain ecological processes and life support systems, especially conservation of national biological diversity (USAID, 1999). More specifically, the aspects of pesticides are considered under the sectoral policy objective on control of pollution and management of domestic and industrial waste and hazardous materials. Besides giving guidelines on how various sectors of the economy should manage the environment, the NEMP (1994) stipulates that NEMA is the principal agency in

Uganda for management of the environment, and to co-ordinate, monitor, and supervise all activities in the field of the environment (USAID, 1999).

As far as management of chemicals and waste is concerned, it stipulates that NEMA shall promote: training and encouragement of farmers and extension workers in the safe use of agro-chemicals; and preparing of environmental guidelines/legislation for management of hazardous chemicals installations (USAID, 1999). Furthermore, the policy recommends conducting of Environmental Impact Assessments (EIAs) for all development activities and land use practices, so that adverse environmental impacts can be foreseen and eliminated or mitigated (USAID, 1999).

The National Environment Policy of 1994 is being revised and is in draft form. The lessons learnt from implementation of 1994 policy revealed the need to address emerging chemicals and waste management issues. Moreover, globally there had been developments including the Millennium Development Goals (MDGs), the Sustainable Development Goals (SDGs) and the post Rio + 20 on the "Future We Want" which emphasizes the green development model (GOU, 2014). The draft revised policy, among others seeks to address climate change, oil and gas issues, disaster reduction and risk management, industrialization, green economy and sustainable development (GOU, 2014).

At the national level, the policy is being revised in the context of existing national initiatives such as the Vision 2040, the National Development Plan, and regional efforts including: The East African Community (EAC) policy initiatives, protocols and cross border natural resources, and environmental management and climate change (GOU, 2014). The new cross-sectoral thematic areas relevant to chemicals management addressed by the Draft Policy include management of electronic and other hazardous/toxic waste; sound chemicals management; public-private sector partnership and public participation in environmental management and disaster risk reduction and management (GOU, 2014). Under policy implementation, the draft policy contains new and revised thematic areas relevant to chemicals management including: the institutional framework/ coordination and governance; the roles of research and academia; the roles of Civil Society Organisations (CSOs), regional and international cooperation (GOU, 2014).

The draft policy enumerates cross-sectoral policy objectives, principles and strategies relevant to chemicals management including: availability of environmental information, environment and macro-economic policy, Strategic Environmental Assessment (SEA), Environmental and Social Impact Assessment (ES IA), control of pollution and management of domestic and industrial wastes, management of electronics, hazardous chemicals and materials wastes, sound management of chemicals, climate change and weather variability, environmental education and human resource development, public-private sector partnerships and public participation in environment management; and disaster risk reduction & management. It is observed that the strategies in the Draft National Environment Management Policy have already obtained a legislative backing from the National Environment Act of 2019 (GOU, 2019).

3.2.3.2 Mining and Minerals Policy 2018

Cabinet approved the Policy in 2018. It covers mineral prospecting, exploration, processing, storage and disposal of waste products. The Lead Agency for this policy is the Directorate of

Geological Surveys and Mines (DGSM) in the Ministry of Energy and Minerals Development (MEMD). The objectives of the policy (MoFPED, 2019; GOU, 2018) are to:

i) Provide for usage of appropriate technology with least impacts to the environment;
ii) Strengthen governance and operational issues;
iii) Environmental protection;
iv) Gender mainstreaming, equity and human rights and eradication of child labour in the mining industry;
v) Mineral value addition;
vi) Mine closure and post mining transition as well as formalizing artisanal and small-scale mining; and
vii) Form a basis for review of the Mining Act of 2003.
viii) In Chapter 4, the policy provides for:
ix) Sufficient mechanisms for enforcement:
x) Coordination with other agencies to develop specific environmental, health and safety legislative, regulatory frameworks and standards for mining and streamlining it with the National Environment Act and other relevant laws;
xi) Emphasizing environmental performance, ecological sensitivity, sites of historical importance and conformity with internationally accepted standards on mine health, safety and environment; and
xii) Establishing a clear legal framework, procedures and obligations concerning rehabilitation at mine closure by mining licensees and permit holders;
xiii) Ensuring that activities are undertaken in ways that minimize carbon emissions and the other effects that are deemed to cause climate change; and
xiv) Collaborating with regional and international governmental bodies on information sharing and domestication of international instruments.

3.2.3.3 National Oil and Gas Policy 2008

The Lead Agency for the Policy is the Ministry of Energy and Minerals Development (MEMD). The categories of chemicals covered include: petroleum commodities, petroleum, petroleum products and wastes from petroleum activities. The policy covers the lifecycle of chemicals from exploration, development production, transportation, storage, treatment or disposal of petroleum and hazardous materials and substances. The National Policy for Oil and Gas of 2008 provides for setting up of relevant institutions and capacity building in the country and attracting investment companies in the development of the petroleum sector, adequate and commensurate return on company's investment, and ensuring the county's receipt of shares and benefits from the oil and gas resources and activities (MEMD, 2015, 2014, 2010 & 2008. It aims at ensuring that the petroleum resources are produced in a sustainable manner for the overall benefit and welfare of all Ugandans. The policy:

i) Provides for the administration, regulation and management of the upstream petroleum and presents a basis for regulating and investing in the midstream petroleum subsector;
ii) Establishes new institutions to manage the oil and gas sector; the Petroleum Authority of Uganda (PAU) to regulate the oils and gas sector; and the Uganda National Oil Company (UNOC) to manage the business aspects of the sector on behalf of government; the Directorate of Petroleum in the Ministry of Energy and Minerals Development provides policy guidance

and licensing in the upstream, midstream and downstream aspects of the petroleum value chain.

iii) Provides for ensuring harmony between developing the country's oil and gas resources and conserving the environment and the rich biodiversity and monitoring by government agencies.

iv) Provides an enabling environment for strengthening and updating of relevant environmental and biodiversity laws to address oil and gas activities and ensure best practice frameworks including the physical master plans, environmental sensitivity maps and oil spill contingency plans for oil and gas producing regions.

3.2.3.4 National Fertilizer Policy

Cabinet approved the policy in 2016. It covers fertilizer chemicals. The policy Lead Agency is the Ministry of Agriculture Animal Industry and Fisheries (MAAIF). The policy covers manufacture/ production, importation, distribution, marketing and use of fertilizers. The policy objective is to provide an enabling environment and incentives for the private sector to flourish while making fertilizers available and affordable to the end users as a step towards meeting at least 50 kg of nutrients per hectare per year by 2020 (MAAIF, 2016). Section 2 of the policy provides that, the private sector takes lead in the manufacture, procurement, importation, distribution, marketing and use of fertilizers while following the existing regulatory framework.

3.2.3.5 National Agricultural Policy

The National Agricultural Policy guides all agriculture and agricultural related sub-sector plans, policy frameworks and strategies existing and those to be formulated in future. Agriculture continues to be the most important sector in Uganda's economy in terms of food and nutrition security, employment, income, raw materials for industry and exports to regional and international markets. Agricultural chemicals are used to increase productivity and to control and manage crop and animal epidemic diseases, pests and vectors affecting production. These chemicals are regulated through the various laws and regulations.

3.2.4 Key legal instruments for management of chemicals and related waste

There are other key legal instruments which are considered of particular importance for the management of chemicals and related waste and they include: The National Environment (Waste Management) Regulations 2020; The National Environment (Management of Ozone Depleting Substances and Products) Regulation 2020; The Petroleum (Waste Management) Regulations 2019; The National Environment (Standards for Discharge of Effluents into Water or on Land Regulations 1999; The Water Act Cap 152; The Water (Waste Discharge) Regulations 1998; The Agricultural Chemicals (Control) Act 2006; The Control of Agricultural Chemicals (Registration and Control) Regulations 1993; The Petroleum (Exploration, Development and Production) Act 2013; The Petroleum (Exploration, Development and Production) (Health, Safety and Environment) Regulations 2016; The Petroleum (Exploration, Development and Production) Regulations 2016; The Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act 2013; The Petroleum (Refining, Conversion, Transmission and Midstream Storage) (Health, Safety and Environment) Regulations 2016; The Petroleum (Refining, Conversion, Transmission and Midstream Storage) Regulations 2016; The Petroleum Supply Act 2003; The Occupational Safety and Health Act 2006; The Toxic Chemicals Prohibition and Control Act 2015; The Mining Act 2003; The National Drug Policy and Authority Act Cap 206. For details refer to Annex 5.

3.3 Coverage of the Chemicals Life Cycle Stages by Existing Legal Instruments

The table 3-3 below provides an overview of coverage of legal instruments across the entire life cycle of chemicals management.

Table 3-3:Overview of Legal Instruments to Manage Chemicals by Life Cycle Stage

Category of Chemical	Import	Production	Storage	Transport	Distribution/ Marketing	Use/ Handling	Export	Disposal
Pesticides (agricultural)	X	X	X	X	X	X	X	X
Pesticides (Public health and consumer)	X	X						X
Fertilizers	X	X	X	X	X	X	X	X
Industrial Chemicals	X							X
Petroleum Products	X	X	X	X	X	X	X	X
Chemical Wastes	X	X	X	X	X	X	X	X
Other hazardous waste	X	X	X	X	X	X	X	X

Note: X indicates what stage is addressed by legal instruments

3.4 Summary Description of Key Administrative Procedures for Control of Chemicals

The framework law for environmental management – the National Environment Act of 2019 and sectoral laws have provisions for administrative procedures for the management of the various categories of chemicals. The following are the administrative requirements provided in the laws for the respective sector.

3.4.1 The National Environment Act 2019 and Regulations under the Act

Section 70 of the National Environment Act (NEA) 2019 restricts chemicals listed in Schedule 8 to the Act. Part 1 is on chemicals prohibited under the Stockholm Convention on Persistent Organic Pollutants and Part II is on chemicals prohibited and restricted under the Montreal Protocol on substances that deplete the ozone layer. The National Environment (Management of Ozone Depleting Substances and Products) Regulations 2020, under regulation 4 prohibits import, production, selling, distributing, exporting, re-exporting or use of substances or products listed in Schedule 2 and Schedule 3. Schedule 2 lists prohibited substances and prohibition dates while the Schedule 3 lists restricted substance and products.

The National Environment (Waste Management) Regulations 2020 and the National Environment (Standards for Discharge of Effluents into Water or on Land), Regulations (1999) provide for the license to manage waste (transportation or storage of waste; and licenses to own or operate waste treatment plants and waste disposal sites); Prior Informed Consent Procedure for transboundary movement of hazardous wastes, financial security, insurance policy for risks, caused by waste, record keeping of licensed activities including the amount of waste generated by the activity and parameters of discharge, issuance of Improvement Notices by the gazetted

inspectors and a register of licenses for licensed waste management activities. The Gazetted inspectors are empowered to conduct inspections and ensure compliance.

3.4.2 The Agricultural Chemicals (Control) Act 2006 and Regulations under the Act

The Law provides for issuance of licenses and permits and registration of agricultural chemical manufacturers, agricultural chemicals certified commercial applicators, fumigators, and labelling of agricultural chemicals. It further provides for environmental monitoring and inspectors to ensure compliance. The Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) is a Government ministry mandated to implement the laws.

The law states that the Agricultural Chemicals Board (ACB) and an Agricultural Chemicals Technical Committee be established. It has a provision for designation of suitably qualified public officers to act as registrars, assistant registrars, inspectors and analysts, and establishment or accreditation of suitable analytical laboratories.

3.4.3 The Petroleum (Exploration, Development and Production) Act 2013 and the Petroleum (Exploration, Development and Production) Regulations, 2016 and the Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013; and Regulation under the Acts

The current oil and gas laws provide for administrative procedures and mechanisms for inspection to ensure compliance with protection of human health and the environment from chemicals and chemical wastes. The laws provide for insurance of: Reconnaissance Permits, Petroleum Exploration Licenses, Certificate of drilling rig, Permits to operate a drilling rig, Approvals of drilling wells, Petroleum Production Licenses and Annual Production Permits. These laws provide for mechanisms for monitoring compliance including audits and inspections.

The Petroleum (Exploration, Development and Production) (Health, Safety and Environment) Regulations, 2016 provide for an administrative measure of issuance of a hot work permit; and planning, implementation, monitoring and reporting including risk assessment, inspections by PAU officers, independent health and safety auditors and instituting work environment committees. The regulations establish a Register of Analyses of Effluents and Drainage Water and records of all hazardous substances and biological substances.

The Petroleum (Refining, Conversion, Transmission and Midstream Storage) (Health, Safety and Environment) Regulations, 2016 provide for licensing of facilities for refining of crude oil, licensing of facilities for conversion of natural gas, licensing transmission pipelines, licensing of midstream storage facilities and a Certificates of Approval of Environmental Impact Assessment. These laws provide for environmental and social planning, implementation, monitoring and reporting tools including environmental impact assessment studies and reports; environmental audits and reports; environmental inspections and reports; submission and evaluation of plans and abilities of the applicant to comply with all applicable labour, health, safety and environmental legislation; and annual programmes of operation of pipelines. The regulations provide for notification of PAU and a government department and agency in case of an incident occurring in a facility or during midstream operations that result into serious injury to a person or pollution of the environment.

The Petroleum (Refining, Conversion, Transmission and Midstream Storage) Regulations, 2016 provides for a license to commence operation of a refinery, conversion plant or other petroleum process plant; an operation permit for refinery, conversion plant or other petroleum process

plants; license to construct a pipeline; license to commence operation of the pipeline; license to transmit petroleum commodities or petroleum products by road or rail; permit to transport bulk commodities or petroleum products; license to commence operation of the midstream storage tank; permit to commence operations of the midstream storage tanks; code of operation of storage tank; registration of underground midstream tanks and above the ground tanks owned or operated; records of petroleum commodities or petroleum products usage; register of licenses and charges; application for renewal of facility licenses.

The Petroleum (Waste Management) Regulations, 2019 provides for certificate of approval of environmental and social impact assessment for a separate entity waste handling facility; license to manage petroleum waste (license for transportation, storage, treatment and disposal of petroleum waste); licensing of waste handlers; waste classification and characterization, journey management plans, approval of waste treatment and disposal methods; approval of utilization of non-hazardous treated petroleum waste; maintenance of petroleum waste records and submission of annual reports; monitoring and inspections by NEMA and PAU inspectors or other authorized officers. The regulations further provide for; Environmental Audits; On demand Bank Guarantee; Insurance Policy; Performance Bonds; Escrow Agreements; Waste Management System of waste handlers; Waste Manifests and materials safety data; Emergency Preparedness and Response Plans; Decommissioning Plan for the petroleum waste management facility; Completion of Decommissioning Report; Completion of Decommissioning Local Government Verification Report; Annual Reports on the condition of the decommissioned sites to PAU; Record of petroleum waste handled; Operating Record/ monitoring records of pollutants; incident Reports; Annual Report on petroleum waste managed; Environmental Compliance Audit Reports. The law provides for an electronic tracking system of petroleum waste.

3.4.4 The Mining Act 2003 and the Mining Regulations 2004

The laws provide for licenses and mining leases for mining activities; obtaining of licenses to discharge in excess of standards and guidelines prescribed by the National Environment Act; environment management plans indicating the type and quality of wastes generated from exploration and mining operations and methods of final disposal; self-monitoring plans; written reports of the accidents; environmental restoration plans of the exploration or mining area that may be damaged or adversely affected by exploration or mining operations; execution of environmental performance bonds to ensure the fulfilment of all environmental requirements under the Mining Act; and written consents from the Directorate of Geological Surveys and Mines to dispose of minerals. The laws provide for inspections of prospecting, exploration and mining operations; conduct of Environmental Impact Assessments; and Environmental Compliance Audits.

3.4.5 The Petroleum Supply Act 2003 and Petroleum Supply (General) Regulations 2009

The law provides for petroleum construction permit and petroleum operating license, environmental impact assessments, inspections and environmental audits and maintenance of the national petroleum information system. The Petroleum (Marking and Quality) Control Regulations, 2009 provides for issuance of a dispensing inventory form of marking. These laws provide for inspectors to carry our checks, take samples and ensure compliance.

3.4.6 The Water Act Cap 153 and Regulations under the Act

The Water Act Cap 152 and the Water (Waste Discharge) Regulations 1998 provide for Discharge Permit for discharge of effluent or waste into an aquatic environment or on land and a monitoring programme to provide information and data relating to the characteristics, volume and effects of waste being produced, stored, treated, discharged, deposited or otherwise disposed of. The regulations oblige the owner or person responsible for the management of the industry or establishment to immediately report the accidental discharge to the Director of Water Resources Management in case it occurs.

3.4.7 The National Drug Policy and Authority Act Cap 206

The law established a National Drug Policy and Authority to, among others, improve Government regulation and control of the manufacture, production, importation, exportation, marketing and use of veterinary and human drugs. It provided for a national formulary and the drug register and imposes restrictions on the manufacture of any drug or preparation, which is not included on the national formulary. The law provides for licensing to import or export any drugs or preparations from the drug authority. The National Drug Authority is mandated to carry out Inspections of premises within and outside the country, and carry out sample testing at the National Drug Quality Control Laboratory.

3.4.8 The Toxic Chemicals Prohibition and Control Act, 2015

The Act provides for the designation of a national authority within the ministry responsible for occupational safety and health. It also provides for issuance of licenses for development, production or acquiring, stockpiling or retaining any chemicals listed in Schedule 1, 2 or 3 of the Annex on toxic chemicals of the Convention and licenses to transfer Schedule 2 and 3 chemicals and their precursors to and from Uganda to a State Not Party to the Convention from the Minister responsible for Occupational Safety and Health. The Act prohibits persons transferring chemicals listed in the Schedule 3 to the States Not Party to the Convention without an end-user certificate from a competent government authority of the State Not Party to the Convention. Application for licenses, permits and consents under the Act are made to the Minister responsible for Occupational Safety and Health. The Act provides for the conduct of national and international inspections to ensure compliance with provisions of the Convention.

3.5 Broad Legal Instruments that Impact on Chemicals Management

Uganda has laws that are broader in nature and also address chemicals and waste management as detailed in Table 3-4 below.

Table 3-4: Broad Laws that Impact on Chemicals and waste Management

Legal Instrument (Type, Reference, Year)	Responsible Ministries or Bodies	Status (Laws Or Bill)	Category of Chemicals, by-product, or Related Waste Covered	Chemical Life Cycle Stage Covered	Objective of Legal Instrument	Relevant Articles/ Provisions
The Constitution of the Republic of Uganda, 1995	Parliament; Ministry of ICT and National Guidance (MoICT&NG) and Any	Supreme Framework Law of 1995	Not Specified	Not Specified	Not Specified	Article 41 guarantees every citizen the right of access to information

Legal Instrument (Type, Reference, Year)	Responsible Ministries or Bodies	Status (Laws Or Bill)	Category of Chemicals, by-product, or Related Waste Covered	Chemical Life Cycle Stage Covered	Objective of Legal Instrument	Relevant Articles/ Provisions
	Sectoral public body					
The Access to information Act, 2005	MoICT&NG and any sectoral public body	Not Specific	Not Specific	Not Specific	The objective of the Act related to chemicals management is to promote transparency and accountability in all organs of State.	Section 5(1) and 44(1)
The National Environment (Strategic Environmental Assessment) Regulations, 2020	NEMA	Law of 2020	All	Use, production, transmission, storage and disposal.	Assess impacts and propose mitigation measures for policies, plans and programmes	Regulation 3, 4, 7, 8, 9, 16 – 19, 20, 21
The National Environment (Audit) Regulations, 2020	NEMA	Law of 2020	Not Specific	Not Specific	To elaborate on environmental audits requirements under NEA 2019.	Regulation 23.
The Environmental Impact Assessment Regulations, 1998	NEMA and Lead Agencies	Enacted in 1998	Not specified	Not specified	Elaborates on the requirements for undertaking of EIA for development projects	Regulation 3, 12,18, 14, 4(1), 26, 31, 32 (3)

3.6 Action Plans for Chemical Management

3.6.1 National Minamata Initial Assessment

With funding from UNEP through GEF, the National Environment Management Authority (NEMA) conducted a National Minamata Initial Assessment (MIA)[26] to strengthen national decision making towards ratification of the Minamata Convention and build capacity towards implementation of future provisions. The assessment results revealed a total mercury output of 31,087 kg/y. In Uganda, the major source of mercury emissions and releases is primary metal production (gold extraction with mercury amalgamation processes).

In addition, the assessment findings indicated no existing stand-alone laws for mercury management currently in place in Uganda. However, there are enabling laws that facilitate mercury management with a broad focus on preventing human and environmental exposure to hazardous and toxic chemicals. As such, these laws may be subject to selective interpretation. The assessment further revealed that there is no single institution with an overall mandate to regulate mercury supply, trade and use.

Section 74 of the NEA Act (2019) provides for the management of products containing mercury and gives NEMA power in consultation with the relevant lead agency, to establish a criterion for:

[26] NEMA (2018), National Minamata Initial Assessment (MIA)

(a) The management of mercury or mercury compounds in manufacturing or mining processes;

(b) The management of products containing mercury;

(c) The provision of alternatives to products containing mercury

The Act provides that in addition, the Minister may, by Regulations, prohibit the manufacture, import, export or use of mercury and added products after their phase-out dates, except where they are excluded or exempted; and no person shall import, export, manufacture or use mercury and added products that are prohibited under the Act.

The National Action Plan for Artisanal and Small-Scale Gold Mining in Uganda is being developed in accordance with the Minamata Convention on Mercury

3.6.2 National Implementation Plan (NIP I) for the Stockholm Convention on Persistent Organic Pollutants (POPs) for Uganda and NIP II for the Stockholm Convention of POPs (2016 – 2025)

Uganda developed and transmitted National Implementation Plans (NIP) for the Stockholm Convention I and II to the Stockholm convention Secretariat. The first NIP was intended to eliminate and minimize the impacts of 12 of the most harmful hazardous chemicals in the world while the second NIP was an update to cover new persistent organic pollutants added by the Conference of Parties (COP) in Annexes A, B and C (NEMA, 2016).

The first NIP was funded by the Global Environment Fund (GEF) with technical oversight from the United Nations Environment Programme (UNEP) while the second was funded by GEF with technical oversight from United Nations Industrial Development (UNIDO) (SSC, 2019; NEMA, 2016). The update was undertaken in line with Article 7 of the Stockholm Convention, which obliges Parties to review and update, as appropriate, their implementation plans on a periodic basis and in a manner to be specified by a decision of the Conference of Parties (NEMA, 2016).

The NIPs, among others, proposed priority areas and actions related to chemical management for implementation in the period 2009 – 2015 and beyond (SSC, 2019; NEMA, 2016) including:

(i) Legal and enforcement framework;
(ii) Capacity building for stakeholders;
(iii) Strengthening coordination mechanisms of regulatory agencies;
(iv) Financing mechanisms;
(v) Public education and awareness on specific categories for specified education systems;
(vi) Implementing of a national public awareness programme;
(vii) Regulation of chemicals;
(viii) Development of a chemicals information management system;
(ix) Technical capacity building accreditation plan for national laboratories for chemical analysis;
(x) Handling, storage, transportation, remediation and disposal of POPs and other chemicals; and
(xi) Action plan for developing a Monitoring Programme for hazardous substances.

Through the 5-year regional project (2011 – 2016, ‘Capacity Strengthening and Technical Assistance for the Implementation of the Stockholm Convention NIPs in African Least Developed Countries (LDCs),’ (SSC, 2019; NEMA, 2016), Uganda has implemented some of the priority areas of action recommended in the NIPs including:

i) POPs and other chemicals and waste management aspects and enacting the National Environment Act 2019;

ii) Preparation of the draft SMC Regulations. The Regulations are still in draft form awaiting finalization and operationalization;
iii) Creating awareness on chemicals related to multilateral environmental agreements amongst district staff;
iv) Building national capacity to identify and assess sites which are contaminated by chemicals;
v) Initiation of actions to establish a national network for chemicals information exchange.

3.6.3 National Situational Report on SMC and Action Plan for SMC) in Uganda

Under the Partnership Initiative Uganda/UNDP/UNEP for implementation of Strategic Approach to International Chemicals (SAICM), a Situational Report on SMC and Action Plan for SMC were prepared in 2009 and 2010 respectively (UNDP, n.d). The activities were undertaken for purposes of integrating chemicals and waste management into the development planning process (UNDP, 2012). The Reports were prepared to guide chemicals and waste management in Uganda with the aim of achieving the target set (by 2020) by the international community to manage chemicals and hazardous waste throughout their life cycle in ways that lead to minimization of significant adverse effects on human health and the environment (UNDP, 2012). The emphasis for addressing issues related to chemicals and waste management and chemically linked pollution was placed on integrating rigorous chemicals and waste management to national development policies and plans (UNDP, 2012).

The process established the need to improve economic analysis to articulate the negative impacts of poor practices and benefits for SMC to development planners and finance ministries to be able to influence development decisions (UNDP, n.d). The high priorities for chemicals and waste issues relevant to Uganda that were identified include:

i) Establishment of competent, empowered institutions effectively linked, coordinated and able to take the lead in the formulation of policies and laws for chemicals management;
ii) Putting in place adequate policies and laws specific on chemicals and waste management;
iii) Undertaking chemicals and waste monitoring and research in the environment;
iv) Providing information and awareness;
v) Increasing technical capacity for analysis with a view to facilitating competent monitoring and research;
vi) Providing emergency preparedness and response for technological disaster; and
vii) Building capacity for economic analysis of impacts and benefits of chemicals and waste management of environmental and health sectors to be able to link SMC to development goals to be appreciated by development planners and finance ministries.

3.7 Non-regulatory Mechanisms for Managing Chemicals

The SAICM Quick Start Programme identified the need for SMC to link to development goals and integration of economic incentives and disincentives to change people's behaviour with the objective of ensuring that individuals, groups, business and other economic entities have appropriate incentives and disincentives with regard to sustainable resource use and environmental protection. Subsequent strategic documents have transformed this need into development planning albeit in infancy stages. The draft National Environment Management Policy for Uganda proposed the use of macroeconomic policy instruments in the SMC.

The NEA 2019 has provisions in support of macroeconomic policies. Section 42 (1) empowers the Minister responsible for finance in consultation with NEMA to provide for-

(a) Fiscal, tax, financial and other instruments to encourage good environmental practices, including the conservation of the environment and natural resources and the prevention or abatement of pollution; or

(b) Tax and economic disincentives to deter deleterious environmental behaviour that leads to depletion of the environment and natural resources or activities with such causes.

Section 42(2) makes it the responsibility of NEMA to periodically prepare proposals and packages of economic tools and financial instruments and submit them to the Minister responsible for finance for purposes of enhancing environmental management and protection. Part VIII on management of waste in Section 98 makes provision for extended producer responsibility in product stewardship. Regulation 35 of the National Environment (Waste Management) Regulations, 2020 also makes provision for the extended producer responsibility and product stewardship by persons who develop, manufacture or process products.

Regulation 23 on incentives and disincentives of the National Environment (Management of Ozone Depleting Substances and Products) Regulations, 2020 mandates the Minister responsible for environment in accordance with section 42 of the NEA 2019, to recommend to the Minister responsible for finance, that fiscal, tax, financial and other economic instruments be applied to encourage use of ozone and climate friendly substances and products. Under 23(3), the Minister responsible for environment may recommend to the Minister responsible for finance that tax and economic disincentives be applied to the importation of restricted substances and products.

3.8 Assessment

Uganda is Party to key Multilateral Agreements for SMC including the Basel Convention, Rotterdam Convention, Stockholm Convention and Minamata Convention and the Chemical Weapons Convention. The NEA (2019), sectoral laws and policies have provisions for domestication of the chemicals management Conventions.

Policies are in place to facilitate legislative backing for chemicals and waste management including the National Environment Management Policy of 1994, the National Oil and Gas Policy of 2008, the Fertilizer Policy and, the National Policy of Disaster Preparedness and Management of 2011 and the Mineral and Mining Policy of 2018. Other policies are in draft form to facilitate domestication of international laws at the national level. The Draft Revised National Environment Policy addresses the Basel, Rotterdam, Stockholm and the Minamata Conventions. The other policies under revision or under preparation that could strengthen chemicals and waste management include the draft National Occupational Safety and Health Policy, and the draft Energy Policy. Inputs into the Draft policies need to adequately address chemicals and waste management, and their approval processes need to be expedited. In addition, a National Chemicals Management Policy framework is needed to comprehensively manage chemicals in Uganda.

The sectoral laws in existence address some aspects of the entire lifecycle of chemicals and waste management albeit in a compartmentalized and unclarified manner. The most recent national laws relevant to chemicals management are in the oil and gas sector and will need to be used to capture data of imports of chemicals used in the oil and gas sector. The laws address the entire cycle of petroleum from exploration, development, production and become more pronounced as

petroleum extraction starts to manifest. The laws in oil and gas sector include: The Petroleum (Exploration, Development and Production) Act 2013; The Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013; The Petroleum (Waste Management) Regulations 2019; The Petroleum (Exploration, Development and Production (Health, Safety and Environment)) Regulations, 2016; The Petroleum (Refining, Conversion, Transmission and Midstream Storage) (Health, Safety and Environment) Regulations, 2016; The Petroleum (Exploration, Development and Production) Regulations, 2016; and The Petroleum (Refining, Conversion, Transmission and Midstream Storage) Regulations, 2016. The laws support a comprehensive licensing, permitting and written approval mechanism for operations in petroleum. The administrative mechanism can be taken advantage of to ensure sound chemicals procurement, transportation, storage, use, production and disposal.

The National Environment Act was reviewed and enacted in 2019 to address the previous gaps and cater for emerging issues such as climate change and adaptation, oil and gas issues, electronic waste, plastic waste, restrictions under the Stockholm Convention and Montreal Protocol and to specifically domesticate most Multilateral Environmental Agreements and Conventions related to chemicals and waste management that Uganda is Party to. Indeed, POPs, mercury and other chemicals and waste management aspects have been enacted in the National Environment Act 2019. However, the various sections of the Act need to be operationalized by making regulations especially those related to the effective and SMC and waste. The regulations of 2020, demonstrate that the Act is being implemented. The parent laws and Draft Environment Management Policy is providing for macro-economic policy instruments, which cascade into the regulations.

The Regulations in draft form include: the revised National Environment (Environment Assessment) Regulations; the revised National Environment (Effluent) Regulations 2018, which was in final stages; the National Environment (Air Quality) Regulations; the National Environment (Oil Spill Prevention, Preparedness and Response) Regulations; the National Environment (Strategic Environmental Assessment) Regulations; the National Environment (Access to Environment Information) Regulations; and the National Environment (Industrial and Consumer Chemicals Control) Regulations. Other sectoral laws under revision which will strengthen chemicals and waste management include; the Draft Pesticide Registration and Control Regulations; the Draft Fertilizer Regulations; the Draft Pesticide Application Equipment Regulations; and with the approval of the Mining and Minerals Policy 2018, the Mining Act and Regulation are expected to be revised and this should be an opportunity to address chemicals and waste management weakness in the mining sector. Further, the Disaster Preparedness and Management Act is in draft form and could provide an opportunity for mainstreaming chemicals and waste management into disaster preparedness and management. The Guidelines for the Management of Landfills in Uganda are still in draft form. The guidelines and plans relevant to chemicals and waste management that have been approved include: The National Oils Spill Contingency Plan, and The Guidelines for Strategic Environmental Assessment.

In addition, the following challenges need to be addressed within the scope of the Rotterdam Convention (SRC, 2010c): inadequate legislation required to support the regulation and enforcement of sound management of industrial chemicals; lack of national chemicals policy frameworks and standing national coordination mechanisms; inadequate capacity to undertake hazard and risk assessments; lack of processes for decision-making on risk management for

selected chemicals; lack of public awareness and information on potential risks from hazardous industrial chemicals. Table 3-5 below is a summary of proposed strategic actions to address the gaps in the legal and non-regulatory instruments for sound management of chemicals and waste

Table 3-5: Priorities and Possible Actions Proposed on Legal Instruments and Non Regulatory Mechanisms for the Sound Management of Chemicals and Waste

Priority Issues (Ranked from highest to lowest)	Level of Existing Capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Actors
Coverage of chemicals and waste management in Strategic Planning documents	Medium	i) Existence of Opportunity for National Development Plan ii) Plans for production, refining, transportation and transmitting petroleum products and, development of crude oil pipeline and midstream storage facilities. iii) Inadequate integration of chemicals and waste management into development policies and plans.	i) Prioritize SMC into the Country Strategy Paper; ii) Take advantage of proposed developments in the oil and gas sector to articulate SMC in development plans and policies.	Lead: MWE, NEMA Others: PAU, MEMD NPA, MoFPED.
Macroeconomic policy instruments for chemicals management	Low	i) Existence of enabling NEA 2019 and Regulations in chemicals and waste management of 2020; ii) Existence of policies and laws in chemicals and waste management in draft form iii) Lack of capacity for preparation of Macroeconomic policy instruments for chemicals and waste management.	i) Review policies and laws on chemicals and waste management in draft form to facilitate proposals for macroeconomic policy instruments; ii) Mandated Agency (ies) should write proposals MoFPED for macroeconomic policy instruments on SMC; iii) Build Capacity for preparation of macroeconomic policy instruments for chemicals and waste management.	Lead: MWE, NEMA Others: MoFPED, URA, PAU, NEMA, NPA, MAAIF, PAU, MEMD
Enforcement of the NEA of 2019 and regulations	Medium	i) NEA, Regulations there under and sectoral laws have provision for administrative mechanisms for sound chemicals management;	i) Ensure Environmental Monitoring function follow up on administrative mechanisms for SMC provided under the law.	Lead: NEMA MWE, Others: PAU, MAAIF, UNBS, NDA, MEMD, URA, Environmental

Priority Issues (Ranked from highest to lowest)	Level of Existing Capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Actors
		ii) The Gazette instrument for environmental inspectors of 2019 has a chemical safety theme with inspectors in chemicals and waste management. iii) Lack of a Programme for enforcement chemicals and waste management under the NEA 2019 iv) Inadequate regulations to enforce the NEA 2019. v) Inadequate staff for enforcement.	ii) Develop a compliance assistance Programme for regulated community to comply with provisions of the NEA 2019 iii) Prepare a programme with resources for the enforcement of the NEA 2019 and Regulations there under. iv) Recruit and tool the inspectors for enforcement of the NEA 2019. v) Ensure the relevant Environmental and Social Planning tools address the EMS requirement at the time of approval;	Police Force, Judiciary, Local Governments
Domestication of the Rotterdam Convention on Prior Informed Consent on Certain Hazardous Chemicals and Pesticides in International Trade	Low	i) Uganda is Party to the Rotterdam Convention with Designated focal points for Agricultural and Industrial Chemicals. ii) Agricultural chemicals control laws are in draft form. iii) The PIC under the Rotterdam Convention is not domesticated in national laws.	Domesticate Prior Informed Consent Procedure for Agricultural and Industrial Chemicals in national laws that are in the pipeline.	Lead: MWE. MAAIF Others: NEMA, URA, PAU,
A dedicated national Chemicals and Waste Management policy framework and overarching legislation.	Medium	i) Uganda is Party to key Multilateral Agreements for SMC. ii) The NEA Part VI 2019 has provisions SMC. iii) Local Authorities have Draft Byelaws for chemicals and waste management; iv) Existence pipeline policies and laws to address legal gaps;	i) Develop a dedicated national Chemicals and Waste Management policy framework and overarching legislation; ii) Use the opportunity of pipeline policies and laws to address gaps in chemicals and waste management; iii) Assist local authorities to initiate and finalize Byelaws on SMC;	Lead: MWE, NEMA Others: MEMD, MAAIF, DDPM, PAU DGAL DOSH, MoFPED, MoFA, Local Governments, NDA

Priority Issues (Ranked from highest to lowest)	Level of Existing Capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Actors
		v) Lack of an overarching National Chemicals policy frameworks; vi) Inadequate regulation of industrial and public health, consumer chemicals.	iv) Operationalize provisions NEA 2019 through development of regulations.	

CHAPTER 4: MINISTRIES, AGENCIES AND OTHER GOVERNMENTAL INSTITUTIONS MANAGING CHEMICALS

This chapter describes and analyses the mandates and programmes of different ministries, agencies, and other governmental institutions responsible for chemicals management in Uganda.

The Sectoral Agencies are responsible for management of chemicals in Uganda under the various laws with the enabling provisions for management of hazardous chemicals addressed under the National Environment Act, 2019. The National Environment Act 2019, setup the National Environment Management Authority (NEMA) as the lead agency responsible for regulation, coordination and management of the environment including chemicals in a more comprehensive manner.

4.1 Responsibilities of Different Ministries, Agencies, and Other Governmental Institutions

Table 4-1 provides a general overview of the responsibilities and activities of ministries, agencies, and other governmental institutions related to chemicals management for each stage of the chemical life cycle from production/import through to disposal and recycling. This overview indicates areas covered and identifies missing elements or possible overlaps in the national institutional infrastructure.

Table 4-1: Responsibilities of MALs in Life Cycle of Chemicals Management[27]

Stages of Life Cycle/ Concerned MDA		Importation	Exportation	Production	Storage	Transportation	Distribution/ Marketing	Use/ Handling	Disposal/ Recycling
Environment	MWE	X	X					X	
	NEMA	X	X	X	X	X	X	X	X
	NWSC				X			X	
Health	NDA	X	X	X	X	X	X	X	X
Agriculture	MAAIF-DCP	X	X	X	X	X	X	X	X
	NARO				X			X	
Labour	MGLSD	X		X	X	X	X	X	X
Trade, Industry, Cooperatives	MTIC	X		X			X	X	X
	UNBS	X		X	X		X	X	X
	UIRI				X			X	
Finance, Customs	URA	X	X		X			X	
Transport	MoWT					X			
Interior/ Civil Defence	MoDVA	X						X	
	UP	X		X	X	X	X	X	X
	ISO	X						X	
	DGAL	X			X			X	
Justice	Courts	X		X	X	X	X	X	X
	DPP	X		X	X	X	X	X	X
Foreign Affairs	MOFA	X							
Energy and Minerals	MEMD	X			X	X	X	X	X
	UNOC			X	X	X	X	X	X
	PAU			X	X	X		X	X
Local Govts					X			X	X
Other, ICT,	MICT							X	
	UCC	X					X	X	X
	NITA-U	X							X
	MOES				X	X		X	

Source: Desk review and interviews

[27] Note: X indicates that the ministries, agencies, or governmental institutions have responsibilities/concerned.

4.2 Description of Ministerial Authorities and Mandates

4.2.1 The Ministry of Water and Environment and the National Environment Management Authority

The Ministry of Water and Environment is the lead agency in Uganda mandated with the sound management of environment and natural resources. The Ministries main function in regard to chemicals and waste management is in policy formulation and implementation and development of related legislations. The National Environment Management Authority (NEMA) is the principal agency in Uganda for regulating, monitoring, supervising and coordinating all activities relating to the environment including enforcement of the National Environment Act (NEA, 2019). The Authority (NEMA) advises on formulation and implementation of policies, laws, regulations, standards and guidelines in consultation with relevant stakeholders to address emerging environmental issues including chemicals management challenges. The Authority ensures enforcement of the laws, provides legal guidance and advice on application of environmental laws and coordinates the management of the environment with lead agencies at all levels.

4.2.2 The Ministry of Agriculture, Animal Industry and Fisheries

The Department of Crop Protection (DCP) in the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) is responsible for sustainable crop pests and disease control, enforcement of Regulations and standards on agricultural chemicals for improved food security and household incomes in Uganda (MAAIF, 2019; GOU, 2007). Under the Agricultural Chemicals Act of 2006, the Department of Crop Protection is mandated to control and regulate the manufacture, storage, distribution and trade in, use, importation and exportation of agricultural chemicals (GOU, 2007).

4.2.3 Petroleum Authority of Uganda

The Petroleum Authority of Uganda (PAU) is mandated to monitor and regulate the exploration, development and production, together with the refining, gas conversion, mid-stream transportation and mid-stream storage of petroleum in Uganda. The Authority ensures that petroleum operations in Uganda are carried out in accordance with the relevant laws, Regulations, guidelines, statutes and in line with international best practice for the petroleum industry (GOU, 2013a).

4.2.4 Directorate of Geological Survey and Mines

The Directorate of Geological Survey and Mines (DGSM) is the lead government agency operating under the Ministry of Energy and Mineral Development (MEMD), which is technically responsible for the administration and management of the mineral sector. The mandate is to promote and ensure rational development and utilization in a safe and sustainable environment of mineral resources for the socio-economic enhancement of the people of Uganda. The directorate ensures that exploration and exploitation are undertaken in accordance with the applicable laws.

4.2.5 Department of Petroleum Supply

The Department of Petroleum Supply (DPS) is mandated under the Petroleum Supply Act 2003 to supervise and monitor the importation, exportation, transportation, processing, supply, storage, distribution and marketing of petroleum products. Related to chemicals and waste management, the Department is responsible for ensuring a steady supply of petroleum products by the development and maintenance of national stocks. The Department ensures public safety and protection of public health and environment in all petroleum operations and installations. It is also responsible for improving governance by clarifying the functions of institutions responsible for petroleum supply and making the operations and institutions more accountable and transparent (GOU, 2003).

4.2.5 Ministry of ICT and National Guidance

The Ministry of ICT and National Guidance (MICT&NG) has the mandate to formulate and implement ICT policies; sustain, manage and oversee ICT infrastructure in the country among others (CIPESA, 2017). The Chief Executive of MALs are mandated Information Officers under the Access to Information Act (2005). MALs have a Public Relations Officer or Information Officer designated to speak on their behalf (GOU, 2011; 2005).

4.2.6 Ministry of Gender Labour and Social Development

The Department of Occupational Safety and Health (OSH) under the Ministry of Gender Labour and Social Development (MGLSD) is responsible for administration and enforcement of the OSH Act, No 9, 2006. The department is mandated to minimize occupational accidents, diseases and injuries at work places; promote good health of the worker at the workplace; promote good working conditions; promote construction of safe and healthy workplaces; and promote awareness of occupational safety and health among workers, employers and the public through training. The department is in addition responsible for developing/reviewing occupational safety and health policies, laws, regulations, technical standards, strategy, guidelines, code of conduct and manuals; registering all workplaces in the country; conducting general and statutory inspection of workplaces and equipment certification; educating and creating awareness about OSH among employers and employees; reviewing and approving architectural drawings/plans (water, electrical, civil and building works) of public, commercial and industrial workplaces to ensure that OSH requirements have been incorporated; monitoring, recording and interpreting statistical data of industrial accidents, diseases and health hazards; undertaking investigations of occupational accidents and diseases; carrying out medical surveillance of workplaces and carrying out research on occupational hazards and diseases and publishing reports (OAG, 2016).

4.2.7 Directorate of Government Analytical Laboratory- Ministry of Internal Affairs

The Directorate of Government Analytical Laboratory (DGAL) provides specialized scientific analytical, forensic and advisory services to foster administration of justice, private sector growth and ensure general public safety. The Directorate has a laboratory staffed by trained chemists, material scientists, technicians and laboratory management, with over eighty (80) years of industry knowledge and expertise provided since 1930s (DGAL,2020).Under Section 34 of OSH Act of 2006, the Directorate is mandated to give special authority to manufacture , supply, transport, use or dispose of a chemical substance in a working environment which it considers or any authority considers highly toxic or dangerous, or capable of causing grave harm to health and the environment or after measures are undertaken to ensure protection (GOU, 2006).

4.2.8 Uganda Revenue Authority

The Uganda Revenue Authority through the Customs Department: collects government revenue, facilitates legitimate trade, collects international trade data, protects society from harmful products, such as hazardous chemicals and waste and preservation of endangered species of flora and fauna by enforcing restrictions and prohibitions of imports and exports of goods. The restrictions and prohibitions are enforced by URA collaborating with other mandated regulators for approval.

4.2.9 Uganda National Bureau of Standards

The Uganda National Bureau of Standards (UNBS) is mandated to formulate and promote the use of standards; enforce standards in protection of public health and safety and the environment

against dangerous and sub-standard products. This mandate is executed by carrying out inspections both at the borders and locally.

4.2.10 Local Governments

The Ministry of Local Government through the Local Government Act is to give effect to the decentralization and devolution of functions, powers and services at all levels of local governments. There is need to empower the local governments to manage chemicals related aspects more effectively. Majority of inspections/enforcement and compliance monitoring activities still rely on man power/ reinforcement by the central government.

4.3 Assessment

The existing National Environment Management Policy (NEMP)[28] of 1994 provides for integration of environmental concerns in national socio-economic development planning processes, avenues for inter-sectoral cooperation and comprehensive and coordinated environmental management (Christine, 2007). NEMP provided a framework under which several sectoral policies are developed. The MALs are responsible for the formulation of sectoral environmental policies, laws and regulations within the NEMP framework.

The national environment framework law has demonstrated impact of triggering amendment, enactment and harmonization of sectoral laws on environment. As the law stipulates, NEMA is accorded the role of a lead government agency for the management of the environment with the mandate of coordinating, monitoring and supervising all activities in the field of the environment. Sectoral Agencies are responsible for management of chemicals with their mandates. Whereas the MALs try their best to execute their responsibilities, they are constrained by inadequate resources to effectively perform. The other area of concern is in the management of industrial chemicals where the regulations for the management of industrial and laboratory chemicals are being drafted to clearly address the mandates of regulating industrial and consumer chemicals in Uganda.

At local governments, there is limited coordination among the different departments to manage chemicals and its related waste. The District Labour Officer handles OSH issues in the Local Government, but there is need to decentralize the mandates for chemicals and waste management to LGs and build their capacity by recruiting and training the staff on chemicals and waste management along the chemical's lifecycle. Table 4-2 below is a summary of the proposed strategic actions for MALs to improve management of chemicals and waste.

Table 4-2: Priorities and Possible Actions on MALs Managing Chemicals and waste

Priority Issues (Ranked from highest to lowest)	Level of Existing Capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Actors
Resources to perform institutional mandates	Medium	i) Existence of partners to provide resources; ii) Need for training of staff;	i) Tap into resources from Partners; ii) Advocate for chemicals and waste management	Lead: NEMA, MWE, MoFPED: Others: DOSH, UNBS, MAAIF, PAU,

[28] NEMA, National Environment Management Policy (NEMP)

Priority Issues (Ranked from highest to lowest)	Level of Existing Capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Actors
		iii) Inadequate infrastructure for enforcement	resources in government budget; iii) Recruit and build staff capacity; iv) Designate and equip laboratories for Chemical analysis.	DPS, DGSM, CSOs, Research institutions.
Sectoral Agencies are responsible for chemicals and waste management with no clear mandate for industrial and consumer chemicals	Medium	i) Uganda is a Party to Conventions on chemicals and waste management; ii) Technical assistance, with proposed strategies under the Stockholm Convention and SAICM; iii) Draft Regulations on chemicals and waste management; iv) Competing roles with chemicals and waste management; v) Need for lead agency for chemicals and waste management.	i) Fast-track enactment of SMC regulations; ii) Clarify roles and mandate an agency to regulate chemicals including public Health Product; iii) Domesticate chemical related International Conventions; iv) Implement proposed strategies in Action Plans under the Stockholm Convention and SAICM.	Lead: NEMA, MWE, Others: DGAL, MAAIF, DOSH.
Enforcement of laws	Medium	i) chemicals and waste management mandates not decentralized; ii) Existing sectoral regulatory framework; iii) Non-designation of laboratories for testing and monitoring of chemicals in the environment.	i) Decentralize some of roles/mandates to Local Government levels; ii) Strengthen capacities of regulators including LGs to enforce the sectoral laws; iii) Designate and build capacities of laboratories for Chemical analysis; iv) Support accreditation of laboratories.	Lead: NEMA, MWE, Others: DGAL, MAAIF, DOSH, PAU, DOSH, DPS, UNBS, Private sector Laboratories.
Risk Assessment not undertaken	Low	i) Existing regulatory framework for risk assessment; ii) Inadequate capacity to conduct risk assessment by interested research institutions.	i) Strengthen enforcement of risk assessment; ii) Build capacity for risk assessment.	Lead: NEMA Others: PAU, DOSH, labs, Research and academia, hospitals, Private sector.

Priority Issues (Ranked from highest to lowest)	Level of Existing Capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Actors
Management of chemicals wastes and containers.	Low	i) Available institutional and regulatory framework for chemicals and waste management and hazardous wastes and disposal facilities; ii) Non-optimization of the waste infrastructure use.	i) Strengthen enforcement; ii) Develop guidelines for waste chemicals and waste management; iii) Prioritize enforcement of ESMC requirements.	Lead: NEMA, MWE Others: PAU, UNBS, MAAIF, Industry players.

CHAPTER 5 : RELEVANT ACTIVITIES OF INDUSTRY, PUBLIC INTEREST GROUPS, PROFESSIONAL BODIES AND THE RESEARCH SECTOR

This Chapter provides information on relevant programmes conducted by Civil Society Organisations (CSOs), including: industry, public interest groups, professional bodies, and the research sector. This information is important in light of the significant role that CSOs play in the sound management of chemicals and waste in Uganda.

5.1 Description of Non-Governmental Organisations/Programmes

Uganda has various CBOs and Non-Profit Organisations (NPOs) with programmes involving environmental and chemicals and waste management issues that include:

5.1.1 Private Sector Foundation Uganda (PSFU)

Private Sector Foundation Uganda (PSFU), a focal point for private sector advocacy, was founded in 1995 as Uganda's apex body for the private sector. PSFU's key mandate includes: research and advocacy on policy issues that affect private enterprise; maintaining institutionalized dialogue with government on behalf of the private sector in Uganda; reviewing of business legislation and regulations to make it more efficient for private sector operations; business development support for SMEs including those involved in chemicals and waste management.

5.1.2 Uganda Manufacturers' Association (UMA)

Uganda Manufacturers' Association (UMA) was founded in 1988, as an industry-association in Uganda that aims to bring together Ugandan industrialists including chemical manufacturers to guide the industrial actors in the country towards global competitiveness on a sustainable basis. The association advises the Government of Uganda in the formulation of national and regional industrial policy. UMA also serves as a collective lobby and mouthpiece for its members.

5.1.3 Uganda National Chamber of Commerce and Industry (UNCCI)

The main objective of UNCCI is to promote and protect the interests of the business community, particularly its members who are represented in all sectors of the economy. The various sectors include, internal and external trade, industry, tourism, transport, services, manufacturers and traders of chemicals. UNCCI puts focus on advocating for appropriate economic policies and interventions that encourage a favourable business and investment climate, and working with its members to enhance their capacity to grow and run efficiently.

5.1.4 The National Organisation of Trade Unions (NOTU)

The National Organisation of Trade Unions (NOTU) was established in 1973 and is the most representative Labour Centre in Uganda with twenty labour union affiliates. NOTU is a non-profit labour organization that represents millions of Ugandan workers. They work with labour unions and community groups in all districts of Uganda to create awareness about their labour rights including chemicals and waste related issues.

5.1.5 The Uganda National Agro-Input Dealers Association (UNADA)

The UNADA is the national apex organisation for all agro-input dealers in Uganda. It was registered under the NGO statute in 2003. Its objective is to foster the growth of an efficient and cost-effective input distribution network that will reach all farmers in Uganda. It coordinates agricultural input promotion activities among agro-input dealers and farmers' organizations; coordinates capacity building programs for private agro-input dealers in business management (development of business plans), credit management and marketing.

5.1.6 National Association of Professional Environmentalists (NAPE)

The National Association of Professional Environmentalists (NAPE) is a membership organization formed in 1997 and registered as an NGO. Its main objective is to advocate for managing natural resources sustainably and respecting the voices of Ugandan communities. It is involved in a sustained struggle to promote sustainable management of natural resources and the environment in general and the main activities include: advocacy, lobbying, community empowerment and participation in national and international networks of environmental advocates. However, the labour unions need to build capacity to assist its members.

NAPE is involved in influencing policies on the management of Chemicals that has promoted the SMC at national and regional level. NAPE is part of a regional network that is promoting the implementation of SAICM. In addition, through the approaches of lobbying, advocacy and capacity building of programme stakeholders, the projects undertaken by NAPE on issues related to the environment include: extractive industries, chemicals management, climate change, forestry, biodiversity and ecosystems restoration.

5.1.7 CropLife Uganda

CropLife Uganda is a national membership association of manufacturers, importers and distributors of crop protection products. Its aim is to improve agriculture through engagement and partnerships for sustainable agriculture through the responsible use of plant science and technologies. It seeks to develop and strengthen the capacities of its members on the responsible use, and sustainability in the crop protection business while taking into consideration local, national and global concerns related to issues of dealing in and use of crop protection products.

5.1.8 Environmental Alert

Environmental Alert (EA) was founded in 1988 with the objective of contributing to improved livelihoods and development in Uganda through several interventions in sustainable agriculture, environment, natural resources management, water, sanitation and hygiene. EA is officially registered with the NGO Board as a Ugandan CSO, incorporated as a company limited by guarantee.

EA has vast experiences in mobilizing stakeholders for civic expression on forestry concerns, developing and nurturing stakeholder participatory structures like networks (both formal and informal) and foras in the Environment and Natural Resources sector with a deeper understanding of Reducing Emissions from Deforestation and Forest Degradation plus (REDD+) issues and the REDD+ processes, drivers of deforestation and forest degradation, institutional arrangements, benefit sharing and facilitating collaborative forest management processes.

5.1.9 Pro-Diversity Conservationists in Uganda (PROBICOU)

PROBICOU is a non-profit, non-governmental organization registered in 2000 under as an CSO and later incorporated as a public limited company (PLC) in 2007. It has three program areas: biodiversity conservation and resource extraction, chemical and waste management, and energy and climate change. PROBICOU implements its activities through raising awareness, advocacy, research, and demonstration projects that promote the most effective environment practices. To effectively implement its projects, PROBICOU works with local communities, governments, organisations and NGOs.

PROBICOU is accredited by Global Environment Facility (GEF) and is a partner to UNEP on a number of Global Mercury Partnership areas, such as mercury waste and mercury found in products. It is the NGO focal point for Strategic Approach to International Chemicals Management (SAICMC) in Uganda, a member of the National Steering Committee on POPs in Uganda, and a member of the National Steering Committee on Elimination of child Labour.

PROBICOU is the host institution for a number of partnerships that include: Coalitions on Environment and Climate Change in Uganda (CECCU), Publish What You Pay Uganda (PWYP-U) and Farmers Union of Uganda (FUU). The organisation subscribes to a number of international networks such as: International POPs Elimination Network (IPEN), Zero mercury Working Group, PCIA (Partnership for Clean indoor Air), GAIA (Global Alliance for Incinerator Alternatives), PCLG (Poverty and Conservation Learning Group), Health Care without Harm Washington DC, Uganda Forestry Working Group, Member of National Steering committee on POPs in Uganda, Member of Network of Sound Management of Chemicals (NESMAC- Uganda), and Civil Society Coalition on Oil and Gas (CISCO).

5.1.10 Environmental Management for Livelihood Improvement (EMLI)

Environmental Management for Livelihood Improvement (EMLI) Bwaise Facility is a national membership environmental non-profit non-governmental organization founded in 2007. EMLI works with others to improve the livelihoods of vulnerable communities by empowering communities to formulate and implement development plans and programmes that promote sustainable development. It applies rigorous knowledge to inform, advocate and lobby for sound environmentally friendly policies through a community centred approach. Its objectives include: promoting sustainable development and public awareness of the need to manage land, air and water resources in a balanced and sustainable manner; involving the people in the formulation and implementation of development plans and programmes which promote and maintain the greening of the environment, improving health, food and nutrition security and increase of income.

EMLI Programmes include: climate change, ecosystems and environment management, environmental governance, chemicals and waste management. The EMLI Chemicals and Waste programme aims at increasing capacity for environmentally SMC and hazardous waste. Through initiatives such as education, awareness-raising and networking with CSOs, communities have been informed of the potential adverse effects of chemicals. EMLI intends to promote and implement some of the activities stipulated in the national action plan on SMC and waste in Uganda.

5.1.11 Uganda National Association of Community and Occupational Health (UNACOH)

Uganda National Association of Community and Occupational Health (UNACOH) is a member of the Uganda National NGO Forum registered in 1991 under the NGO Act specializing in public health. UNACOH collaborates with Government, majorly Ministry of Health, local and international organizations, mainly the World Health Organisation, and is a member of the World Federation of Public Health Associations. The organization has 4 projects in operation namely: Alcohol Control Project (ALCP), Mercury-Free Gold Mining Project (MFGM), Public-Private Partnership in Health Project (PPPH Project) and the Pesticide Use, Health and Environment (PHE) Uganda Project.

5.1.12 Uganda Coalition for Sustainable Development

The Uganda Coalition for Sustainable Development (UCSD) is a network of more than 40 NGOs dedicated to coordinate advocacy and lobby work around issues and commitments made by world governments towards sustainable development. Since its inception in 2001, UCSD has actively participated in Uganda Civil Society preparations for the Johannesburg Summit on sustainable development. One of the key achievements has been preparation of information communication and education materials for awareness raising and advocacy. One of these has been the Civil Society Watchdog Discussion Paper series aimed to influence technocrats and decision-makers involved in the East African Cooperation (especially Lake Victoria basin development) over a wide range of issues including climate change adaptation, solid waste management, among others.

5.1.13 African Centre for Energy and Mineral Policy

The Africa Centre for Energy and Mineral Policy (ACEMP) is an NPO founded in 2012. ACEMP is an Extractive Industries Policy, Research and Advocacy Think Tank and a Centre of Excellence promoting good governance, research, capacity building, equity, socio-economic justice and shared benefits in the development and exploitation of energy and mineral resources in Uganda. It focuses on working with communities living in or around resource-rich areas, facilitating and building relations between government, the mining industry and host communities.

5.1.14 Uganda Chamber of Mines and Petroleum (UCMP)

The Uganda Chamber of Mines and Petroleum (UCMP) is a not-for-profit, Member-based voluntary organization that represents the interests of private players in the mining and petroleum sectors in Uganda by collaborating with the state to develop the country's extractive sector. It is a coordinating and facilitating centre for information and administrative support to prospective and current investors in the mining and exploration sectors in Uganda. It also promotes, encourages, protects and fosters responsible exploration and services in mining and petroleum sectors in Uganda to benefit all the stakeholders.

5.1.15 Environmental Women in Action for Development

Environmental Women in Action for Development (EWAD) is a registered CSO that was founded in 1995, and plays a role as a partner in the social and economic development of Uganda. EWAD is striving to help the lives of Artisanal Gold Miners where people are exposed to high health risks due to poor mining techniques used.

5.1.16 Action Coalition for Climate Change

Action Coalition for Climate Change (ACCC) is an CSO that is involved in advocating for change from mercury use and raising awareness on the dangers of mercury use. It has been engaging the ASGM, health workers and policy makers on the dangers that mercury poses to human health and the environment especially in Mubende and Busia Districts.

5.1.17 Hanns R. Neumann Stiftung

Hanns R. Neumann Stiftung (HRNS) is a CSO founded in 2005 to assist coffee farmers as green coffee traders. It had a project in Kiryandongo District on coffee certification, that included construction of chemical stores and disposal of agro-chemical waste. There have also been efforts to train youth groups in safe use of agrochemicals.

5.2 Summary of Expertise Available

Table 5-1 provides an overview of the nature of expertise which might be available to support national programmes and policies related to chemicals management.

Table 5-1: Summary of Experts Available

#	Field of Expertise	Research Institutes	Universities	Professional Organizations	Industry	Environmental / Consumer	Labour Unions	Laboratories
1.	Data Collection	×	×	×	×	×	×	×
2.	Testing of Chemicals		×		×			×
3.	Risk Assessment	×	×	×	×	×		
4.	Risk Communication	×	×	×	×	×	×	
5.	Risk Reduction		×	×		×		
6.	Policy Analysis	×	×	×	×	×	×	
7.	Classification and labelling	×	×	×	×	×		×
8.	Training and Education	×	×	×	×	×	×	×
9.	Accreditation							×
10.	Research on Alternatives	×	×	×	×	×		
11.	Monitoring	×	×	×	×	×	×	
12.	Healthy Surveillance		×	×				
13.	Enforcement							
14.	Information to Workers	×	×	×	×	×	×	
15.	Information to Specific Professional Group	×	×	×	×	×	×	
16.	Information to the Public	×	×	×	×	×	×	×
17.	Diagnosis and Treatment of Poisons		×					

5.3 Assessment

The government policy concerning opportunities for CSOs whether local or international to obtain government information related to the management of chemicals is guided by the Access to Information Act (2005). The CSOs play a critical role in holding the different players accountable with regard to environmental issues and participate by getting the voices of the disadvantaged groups into designing, monitoring and implementation of programmes related to environment and natural resources management including chemicals and related waste management. The CSOs are consulted in the planning at proposal stages for new or modified chemical legislation and regulations. They also participate by providing their input in meetings and workshops. The voluntary initiatives in industry (or elsewhere) which are successful and may supplement chemical management activities of government include:

i) Establishing CSOs emergency networks, and

ii) Mobilizing both technical and financial resources to supplement government efforts in resourcing sustainable management of the environmental natural resources.

The key roles which CSOs play in informing the public about chemical risks and government activities include:

i) **Awareness:** CSOs undertake direct information campaigns such as programmes providing information about chemical stockpiles and environmentally safer alternatives. This is undertaken by creating awareness through developing and designing materials with messages on different chemicals and waste management aspects.
ii) **Mobilization and advocacy**: CSOs mobilize communities, create and facilitate civil spaces for articulation of needs and demands regarding SMC.
iii) **Research and training:** CSOs engage different sections of the public in activities that promote SMC, for instance, NAPE builds the capacity of communities through trainings, facilitating them to participate in different forums and meetings on SMC and demonstrating alternatives to chemical use. There is a lot of information, studies and previous research[29] conducted by CSOs, including industrial organisations that are relevant for strengthening government's capacity for chemicals and waste management. The Government uses the information for planning and sensitization purposes. In addition, the information provided by NGOs help government to identify partners and avoid duplication of work.
iv) **Collaboration with MALs:** The good cooperation between government and CSOs has resulted into some partnerships to implement some activities together, aimed at eliminating or reducing the use of chemicals like mercury among ASGM. CSOs are part of the government implementation committee and other processes including the review of the National Environment Management Policy (NEMP) and the National Environment Act (NEA) and the related regulations. However, there is need for more collaborative exchange of information among the CSOs and MALs.

The Minamata Initial Assessment Report (2018) findings indicated that in underground processes, family members, especially children and women were at a higher risk of exposure to mercury vapours with devastating effects on pregnancies and children. It further reveals that women in Uganda were more likely to use mercury-containing creams than men and as such, they are more at risk of mercury exposure and should therefore be treated as a higher risk group. In addition, women generally interact more with most of the dangerous chemicals used in our daily life. These exposures lead to gradual poisoning and therefore a priority should be given to women while raising awareness and educating the public on the dangers of chemicals. There is also need for the creation of a centre for monitoring and treatment of chemical poisons.

There are many CSOs working on SMC but they lack funds to carry out chemicals and waste management activities (including research and awareness). The CSOs should collaborate with the government through its agencies and engage the development partners to fund SMC activities. Government through the Ministry of Education and Sports in collaboration with the National Curriculum Development Centre (NCDC) should consider incorporating SMC in the education curriculum from lower level education to tertiary institutions.

[29] Some of the research papers can be obtained on the websites of NAPE, and other NGOs.

Table 5-2 below is a summary of proposed strategic actions for relevant activities of industry, public interest groups, professional bodies and the research sector to address issues of chemicals and waste management.

Table 5-2: Priorities and Possible Actions on Relevant Activities of Industry, Public Interest Groups, Professional Bodies and the Research Sector

Priority Issues (Ranked from highest to lowest)	Level of Existing Capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Actors
Exposure to hazardous chemicals	Low	Exposure to chemicals by especially workers leading to gradual poisoning;	i) Create a chemicals poison monitoring and treatment centre; ii) Create awareness on chemicals safety and risks.	Lead: MOH, MGLSD Others: NEMA, MWE, CSOs, Industry players, research institutions
Fund activities of the NGOs involved in SMC	Low	Inadequate funds for the NGOs involved in SMC activities	i) Develop fundable proposals through recommendations from relevant agencies and engage development partners for possible funding. ii) Lobbying potential donors.	Lead: CSOs, Others: NEMA, MWE, Industry players, research institutions
Awareness on SMC	low	Inadequate awareness on chemical handling and use.	i) Incorporate chemicals and waste management in educational curriculum of primary, secondary and tertiary institutions; ii) Create collaborative information exchange among the CSOs and MALs.	Lead: MOES, NCDC, NEMA, Others: MWE, MGLSD, CSOs, Industry players, research institutions
Expertise in various institutions	Medium	Inadequate expertise in specialised chemicals fields.	Conduct the relevant trainings and build a pool of experts in chemicals testing, risk reduction, accreditation, diagnostic and treatment of poisons.	Lead: NEMA, MOH, Others: MGLSD, MWE, CSOs, Industry players, professional organizations, research institutions
Support for private to invest in SMC	Medium	Inadequate incentives to specifically invest in chemicals and waste management	Create fiscal and non-fiscal incentives for private sector to invest in SMC.	Lead: MOFPED, NEMA, MWE Others: MGLSD, , MOH, CSOs,

CHAPTER 6 : INTER-MINISTERIAL COMMISSIONS AND COORDINATING MECHANISMS

This chapter describes and analyses mechanisms which facilitate coordination and cooperation among ministries, agencies, and other relevant governmental and non-governmental bodies in particular areas of chemicals and waste management.

6.1: Overview of Inter-Ministerial Commissions and Coordinating Mechanisms

The sectoral laws provide for establishment of technical committees to among others advise boards and perform-delegated functions. The Inter-ministerial coordination nature related to chemicals and waste management is reflected in the composition of standing and ad-hoc technical committees.

At the national level, the standing technical committees, which have been instrumental in the area of chemicals and waste management include; the Technical Committee on Control of Pollution and the Technical Committee on Environmental Impact Assessment under NEMA. Their representation is based on appointment by the Board from staff of NEMA or other qualified persons. The Committee, which among others has key inter-ministerial/inter-agency representation, is the Agricultural Chemicals Technical Committee with representation from NEMA, URA, UNBS and DOSH. The Technical Petroleum Committee is appointed from among persons who possess qualifications and expertise in respect of petroleum supply and related matters. The inter-ministerial/inter agency representation includes the Ministry responsible for transport and the UNBS. There is an established inter-ministerial agency known as the National Authority for Implementation of Chemical Weapons Convention under the MGLSD.

The ad-hoc technical committees in chemicals management, which were established and accomplished their assignment include the National Coordination Committee (NCC) for the enabling activities for the Stockholm Convention, which had an oversight role in the preparation of the National Implementation Plans I & II. The preparation of the National Minamata Initial Assessment (MIA) Report was steered by the National Coordination Mechanism/ Core Group. Other ad-hoc committees include the Multi-Stakeholder Technical Committee, which has been responsible for the oversight role for the preparation of this National Chemical Profile. Table 6-1below provides an overview of relevant mechanisms for coordinating chemicals management activities among relevant institutions.

Table 6-1: Overview of Inter-ministerial Commissions and Coordinating Mechanisms

Name of Mechanism	Policy Committee on Environment
Responsibilities /Scope of Issues	i) To provide guidance in the formulation and implementation of environmental and climate change policies, plans and programmes; ii) To liaise with Cabinet on issues related to the environment; iii) To advise on legislative proposals and standards on the environment; iv) To provide guidance on harmonisation of policies of Government with respect to the environment, natural resources, water and climate change; v) To perform any other function that may be assigned to it by Cabinet.
Secretariat	NEMA
Members	i) The Prime Minister, who shall be the Chairperson; ii) The Minister of Water and Environment; iii) The Minister of Agriculture, Animal Industry and Fisheries;

	iv) The Minister of Finance, Planning and Economic Development; v) The Minister of Education and Sports; vi) The Minister of Health; vii) The of Lands, Housing and Urban Development; viii) The Minister of Local Government; ix) The Minister of Gender, Labour and Social Development; x) The Minister of Tourism, Wildlife and Antiquities; xi) The Minister of Trade, Industry and Cooperatives; xii) The Minister of Works and Transport; xiii) The Minister of Energy and Mineral Development; xiv) The Minister of Internal Affairs; xv) The Minister of Defence and Veterans' Affairs; xvi) The Minister of Information, Communications Technology and National Guidance.
Legislative Mandate/ Objectives	The National Environment Act, 2019
Effectiveness	Medium
Name of Mechanism	**District environment and natural resources committee**
Responsibilities /Scope of Issues	i) To coordinate the activities of the urban or district council relating to the management of the environment and natural resources; ii) To prepare district environment action plans; iii) To ensure that environmental concerns are integrated in all plans and projects approved by the urban or district council; iv) To prepare the district state of the environment report; v) To assist in the formulation and enforcement of ordinances and byelaws relating to the management of the environment; vi) To promote the dissemination of information about the environment; vii) To coordinate with the Authority on all issues relating to the management of the environment; viii) To coordinate the activities of environment and natural resources committees in the management of the environment; and ix) To carry out such other functions as may be prescribed by the urban or district council.
Secretariat	District Environment/Natural Resources Officer
Members	i) The District Chairperson; ii) The Members of Parliament from the district; iii) The Resident District Commissioners; iv) The Secretary for Environment; v) The District Natural Resources Officer; who shall be the secretary; vi) The Chief Administrative Officer; vii) The District Engineer; viii) The Town Clerk; ix) The Mayor, Town Clerk and Secretary responsible for environment at the urban council; x) The District Planner; xi) The Physical Planning Officer; and xii) The Community Development Officer.
Legislative Mandate/ Objectives	The National Environment Act, 2019
Effectiveness	Yet to be operationalized

Name of Mechanism	**Technical Committee on Control of Pollution**
Responsibilities /Scope of Issues	i) Consider applications for pollution licences; ii) Issue pollution licences; and iii) Perform any other functions assigned to it by the board.
Secretariat	NEMA
Members	i) Ministry of Water and Environment; ii) Ministry of Health; iii) Ministry of Trade Industry and Co-operatives; iv) Ministry of Energy and Mineral Development; v) Uganda National Bureau of Standards; vi) Directorate of Government Analytical laboratories; vii) Academia; viii) Uganda Law Society; ix) Private Sector; x) Technical Experts
Legislative Mandate/ Objectives	The National Environment Act, 2019
Effectiveness	High
Working Procedures	Meets quarterly and decisions are informed on technical requirements;
Name of Mechanism	**Agricultural Chemicals Board**
Responsibilities /Scope of Issues	i) Registration and regulations of use of agriculture chemicals ii) Licensing and regulation of quality, importation and distribution iii) Advisory role to Ministry of Agriculture, Animal Industry and Fisheries
Secretariat	Agriculture Chemicals Board, Entebbe
Members	i) Commissioner for Crop Inspection and Certification, MAAIF; ii) Dean, Faculty of Agriculture; iii) Ministry of Education; iv) Head, Agricultural Research; v) Chairman, Technical Committee Agricultural Chemicals; vi) Director, Government Analytical Laboratory; vii) Commissioner, Veterinary Services, MAAIF; viii) Director Medical Services; ix) NEMA representative; x) UNBS representative; xi) Chief Forest Officer; xii) Representative of Chemical Industry.
Legislative Mandate/ Objectives	The Control of Agricultural Chemicals Act
Effectiveness	Medium
Name of Mechanism	**Committee on National Formulary**
Responsibilities /Scope of Issues	Make a national formulary of the national list of essential drugs and such other drugs as NDA may, from time to time, approve.
Secretariat	National Drug Authority, Kampala
Members	i) A chairperson appointed by the Drug Authority on the recommendation of the appropriate professional bodies; ii) A member of the Faculty of Medicine of the universities in Uganda; iii) A member of the Faculty of Veterinary Sciences; iv) A member from the School of Pharmacy; v) A member from the Pharmaceutical Society of Uganda; vi) A member from the Private Medical Practitioners' Association; vii) A member from the Uganda Medical Association;

	viii) The Executive Director of the UNBS; ix) A representative of each of the following specialties: • Physician; • Surgeon; • Pediatrician; • Gynecologist/obstetrician; • Psychiatrist.
Legislative Mandate/ Objectives	The National Drug Policy and Authority Act Cap 206
Effectiveness	High
Name of Mechanism	**Multi-Sectoral Technical Steering Committee (MSTSC) on Sound Management of Chemicals and Waste**
Responsibilities /Scope of Issues	i) Provide policy, technical and functional guidance, including overseeing the implementation of project activities; ii) Oversee the development of a chemicals database on industrial and consumer chemicals and their waste and advise on linkages with other chemical databases; iii) Oversee the review and the update of the National Chemicals Profile including advising on chemical review for purposes of listing for prohibition or restricted use; iv) Advise the Project Management Unit (PMU) on public information and awareness raising activities in collaboration with the project partners; v) Provide technical support in developing training materials for the different target groups; vi) Lobby the necessary support for implementation of project activities and outputs.
Secretariat	NEMA
Members	i) Ministry of Agriculture, Animal Industry and Fisheries; ii) Chemistry Department, Makerere University; iii) Faculty of Science, Kyambogo University; iv) Ministry of Water and Environment; v) Non-Governmental Organisations (NAPE); vi) Private Sector (Uganda Manufacturers Association); vii) Directorate Government Analytical Laboratory, Ministry of Internal Affairs; viii) Directorate of Geological Surveys and Mines (DGSM), Ministry of Energy and Mineral Development (MEMD); ix) Testing Department, Uganda National Bureau of Standards; x) Directorate of Industry, Ministry of Trade Industry and Cooperatives; xi) Ministry of Gender Labour and Social Development; xii) Uganda Cleaner Production Center (UCPC).
Legislative Mandate/ Objectives	Ad-hoc (Draft Chemicals Regulations has provisions)
Effectiveness	Medium
Name of Mechanism	**One Health Platform**
Responsibilities /Scope of Issues	i) Establish and maintain high-level commitment at all relevant levels of government and the key stakeholders including the private sector; ii) Institutionalize One Health within Government of Uganda structures to achieve sustainability, coordination and legitimacy; iii) Strengthen prevention, preparedness and response to zoonotic diseases, AMR and bio-security threats and use drugs.

Secretariat	Ministry of Health
Members	i) Ministry of Health; ii) Ministry of Water and Environment; iii) Ministry of Agriculture, Animal Industry and Fisheries; iv) Ministry of Tourism, Wildlife and Antiquities; v) Uganda Wildlife Authority.
Legislative Mandate/ Objectives	Memorandum of Understanding (MOU) by all the core members.
Effectiveness	Medium
Name of Mechanism	**Technical Committee on the management of ozone depleting substances and products**
Responsibilities	Process applications to trade in restricted substances or products; Conduct inspections that are necessary to make an informed decision while processing applications.
Secretariat	NEMA
Members	Being worked on since the regulation is new.
Legislative Mandate/ Objectives	The National Environment (Management of Ozone Depleting Substances and Products) Regulations, 2020.
Effectiveness (L, M, H)	Yet to be operationalized.
Working procedures	To meet quarterly; informed decisions by consensus.
Name of Mechanism	**National Coordination Committee for Minamata Convention on Mercury**
Responsibilities	Monitor progress of the implementation of the national activities (facilitate exchange, learning and cooperation with other project countries) and support the Executing Agency.
Secretariat	NEMA
Members	i) Ministry of Water and Environment; ii) National Environment Management Authority; iii) Ministry of Energy and Mineral Development; iv) Ministry of Finance, Planning and Economic Development; v) Uganda Revenue Authority (URA); vi) Ministry of Local Government vii) Ministry of Internal Affairs; viii) Ministry of Agriculture, Animal Industry and Fisheries; ix) Uganda Investment Authority; x) District Local Government; xi) Uganda National Council of Science and Technology; xii) Kampala Capital City Authority (KCCA); xiii) Uganda National Bureau of Standards (UNBS); xiv) Uganda Bureau of Statistics (UBOS); xv) Ministry of Health; xvi) Ministry of Education and Sports; xvii) Ministry of Trade, Industry and Co-operatives; xviii) Ministry of Justice and Constitutional Affairs; xix) Ministry of Gender, Labour and Social Development; xx) ASGM representative.
Legislative Mandate/ Objectives	Ad-hoc (Draft Chemicals Regulations has provisions)
Effectiveness (L, M, H)	Medium;
Working procedures	To meet quarterly; Informed decisions by consensus;

Name of Mechanism	**Ministerial Policy Committee (MPC) on disaster preparedness and management**
Responsibilities	i) Ensure that disaster preparedness and management is mainstreamed in the governance of Uganda; ii) Policy formulation and overseeing disaster preparedness and management in the country;
Secretariat	Ministry of Disaster Preparedness and Refugees
Members	i) Ministry of Disaster Preparedness and Refugees; ii) Ministry of Water and Environment; iii) Ministry of Energy and Mineral Development; iv) Ministry of Finance, Planning and Economic Development; v) Ministry of Local Government vi) Ministry of Internal Affairs; vii) Ministry of Agriculture, Animal Industry and Fisheries; viii) Ministry of Information and National Guidance; ix) Ministry of Health; x) Ministry of Education and Sports; xi) Ministry of Works and Transport; xii) Ministry of Justice and Constitutional Affairs; xiii) Ministry of Gender, Labour and Social Development; xiv) Ministry of Land Housing and Urban Development.
Legislative Mandate/ Objectives	The Constitution of Uganda
Effectiveness (L, M, H)	Medium
Working procedures	Informed decisions by consensus.
Name of Mechanism	**Inter-Agency Technical Committee on disaster preparedness and management**
Responsibilities	i) Monitor and analyze hazards, risks and disaster trends in Uganda. ii) Monitor implementation of disaster response strategies.
Secretariat	Office of the Prime-Minister.
Members	i) Ministry of Disaster Preparedness and Refugees; ii) Ministry of Water and Environment; iii) Ministry of Energy and Mineral Development; iv) Ministry of Finance, Planning and Economic Development; v) Ministry of Local Government vi) Ministry of Internal Affairs; vii) Ministry of Agriculture, Animal Industry and Fisheries; viii) Directorate of Information and National Guidance; ix) Ministry of Health; x) Ministry of Education and Sports; xi) Ministry of Works and Transport; xii) Ministry of Justice and Constitutional Affairs; xiii) Ministry of Gender, Labour and Social Development; xiv) Ministry of Land Housing and Urban Development; xv) Uganda Police; xvi) Uganda Human Rights Commission; xvii) Amnesty Commission; xviii) Relevant UN Agencies; xix) Non-Government Organisations.

Legislative Mandate/ Objectives	The Constitution of Uganda.
Effectiveness (L, M, H)	Medium.
Working procedures	Informed decisions by consensus.
Name of Mechanism	**National Authority for Implementation of Chemical Weapons Convention**
Responsibilities /Scope of Issues	To domesticate the Chemical Weapons Convention and implement the Toxic Chemicals Prohibition and Control Act 2016.
Secretariat	Ministry Responsible for Occupational Safety and Health
Members	i) Ministry Responsible for Foreign Affairs; ii) Ministry Responsible for Defense; iii) Directorate of Government Analytical Laboratories; iv) Uganda Police Force; v) Ministry of Agriculture, Animal Industry and Fisheries; vi) Internal Security Organization; vii) Ministry of Finance; viii) Uganda Revenue Authority, Customs Department; ix) Ministry of Trade, Industry and Cooperatives; x) Ministry Responsible of Health; xi) Ministry of Justice and Constitutional Affairs; xii) National Environment Management Authority; xiii) Ministry of Education and Sports; xiv) Uganda Metrological Authority; and xv) Any other organization as the Minister may deem necessary.
Legislative Mandate/ Objectives	The Toxic Chemicals Prohibition and Control Act 2016.
Effectiveness	High
Name of Mechanism	**Technical Petroleum Committee**
Responsibilities /Scope of Issues	i) Advise the Minister on proposed legislation, technical standards and specifications relating to petroleum products and the supply chain; ii) Develop and submit to the Minister proposals for the improvement of the petroleum supply policies, systems, regulations, technical standards and codes of practice.
Secretariat	Department of Petroleum Supply
Members	i) Ministry of Works and Transport; ii) Uganda National Bureau of Standards; iii) Ministry of Finance; iv) Licensees or associations of licensees for petroleum retail operations; v) Consumers of petroleum products; vi) Licensees or associations of licensees for petroleum import, re-export, wholesale or storage operations; vii) Licensees or associations of licensees of petroleum transporters.
Legislative Mandate/ Objectives	The Petroleum Supply Act 2003
Effectiveness	High

6.2 Mechanisms for Obtaining Input from Non-Governmental Organisations

Non-governmental organisations and agencies participate in these mechanisms as board members, members of technical committees and working-groups. They provide input during stakeholders' review workshops in form of advice, decision-making, day-to-day activities of governance and implementation of chemical management.

6.3 Assessment

There are mechanisms that facilitate coordination and cooperation among ministries, agencies, and other relevant governmental and CSOs in particular areas of chemicals management. The Ad-hoc technical committee have successfully delivered chemicals management programmes in the country. The mechanisms, which explicitly address the multi-stakeholder participation in chemicals management by laws include: The Policy Committee on Environment, the Agricultural Chemicals Technical Committee and the National Authority for Implementation of the Chemical Weapons Convention, among others. The models used in these technical committees should be entrenched in upcoming laws and operationalized to ensure participation of all key stakeholders in chemicals management. The legislation will provide for a permanent secretariat and funding that will improve their sectoral functionality. There is need to have explicit mechanism of participation of CSOs and PSOs in these mechanisms.

The National Environment Act 2019 recognizes the need for a National Oil Spill Contingency Plan, which has been developed and approved. The participation of the relevant agencies in the inter-ministerial/ agencies coordination mechanism under the disaster preparedness and management department in the Ministry of Disaster Preparedness and Refugees under the Prime Minister's Office need to have on board NEMA and PAU and other key players. Table 6-2 below presents proposed strategic actions for the inter-ministerial commissions to strengthen issues of chemicals and waste management

Table 6-2: Priorities and Possible Actions on Inter-ministerial Commissions and Coordinating Mechanisms

Priority Issues (Ranked from highest to lowest)	Level of Existing Capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Actors
Strengthening of inter-ministerial/Agency Coordination	Medium	i) Existence of the National Environment Act 2019 and other Sectoral Laws with provisions for inter-ministerial/Agency Coordination mechanisms. ii) Existence of Draft laws for strengthening chemical management; iii) Success stories and lessons learnt from	i) Operationalize existing mandates for inter-ministerial/Agency coordination mechanisms to adequately address participation of key players in chemicals and waste management; ii) Establish National Chemicals Technical Review Committee in the Regulations on SMC;	Lead: NEMA Others: MWE, MOH, OPM, MoDPD, MAAIF PSOs, CSOs

Priority Issues (Ranked from highest to lowest)	Level of Existing Capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Actors
		activities of ad-hoc and standing inter-ministerial/ Agency coordination mechanisms. iv) Inadequate mechanisms for involvement of PSOs, NGOs.	iii) Provide for the mandates of the MSTSC and OHP in the draft chemicals and waste management laws; iv) Mainstream chemicals and waste management into disaster management coordination mechanisms; v) Follow up and monitor the establishment of coordination mechanisms in Table 6-1 and others. vi) Create a National Platform for Technical Infrastructure.	
Resources for coordination mechanisms	Low	inadequate resources for the chemical's coordination mechanisms	Provide for adequate resources for chemicals and waste management coordination mechanisms in the budgets.	Lead: NEMA Others: PAU DPS, DOSH MoFPED, OPM, MoDP, MAAIF

CHAPTER 7 : INFORMATION MANAGEMENT, ACCESS AND USE

This chapter provides an overview of the information management capacity in Uganda related to the sound management of chemicals and waste in particular, the availability of data and how it is used for national and local chemical risk reduction

7.1: Overall Availability of Data for National Chemicals Management

Some national and international data and other information on chemical safety, is available at various institutions mainly in Government offices and international organizations' head offices. Table 7-1 below provides an overview of availability of sufficient data for different decision-making activities which may be required under existing legal instruments.

Table 7-1: Sufficiency (in Quality and Quantity) of Available Information in MDA, CSO, PSO

Data Needed for/to:	Pesticides (Agricultural, Public Health, and Consumer Use)	Industrial Chemicals	Consumer Chemicals	Chemical Wastes
Priority Setting	X			
Assess Chemicals Impact under Local Conditions				
Risk Assessment (Environment/ Health)	X			
Classification/ Labelling	X	X	X	X
Registration	X			
Licensing	X			
Permitting	X			
Risk Reduction Decisions	X			
Accident Preparedness/ Response	X			
Poisoning Control	X			
Emissions Inventories				
Inspections & Audits (Environment/ Health)	X			
Information to Workers	X	X	X	X
Information to the Public	X			

Note: X indicates that sufficient information is available for the tasks listed

7.2 Sources of National Data and their Access and Format

The information in Uganda can be accessed by the public is in accordance to the Access to Information Act (2005) and Access to Information Regulations (2011). Access to information can be gained on request and necessary authorization. Table 7-2 below indicates the nature of national data related to chemicals management which is available and information on how to gain access to such data.

Table 7-2: Sources of National Data Related to Chemicals Management and their Access

Type of Data	Location(s)	Data Source	Who Has Access	How to Gain Access	Format
Production Statistics	UBOS- Kampala; MTIC -Kampala	Producers	Public	Request	Soft and hard copies
Import Statistics	UBOS- Kampala URA-Customs MAAIF, Entebbe	URA, MAAIF	Public	Request	Soft and hard copies

Type of Data	Location(s)	Data Source	Who Has Access	How to Gain Access	Format
Export Statistics	UBOS- Kampala URA-Customs MAAIF, Entebbe	URA, MAAIF	Public	Request	Soft and hard copies
Chemical Use Statistics	MAAIF, Entebbe, MOH Kampala	MAAIF, NDA	Public	Request	Soft and hard copies
Industrial Accident Reports	MGLSD Kampala	DOSH	Public	Request	Soft and hard copies
Transport Accident Reports	Police/ Traffic Directorate - Kampala, UBOS- Kampala	Data Base office, Uganda Police	Public	Request	Soft and hard copies
Occupational Health Data (agricultural)	MAAIF, Entebbe MGLSD Kampala	DOSH	Public	Request	Soft and hard copies
Occupational Health Data (Industrial)	MGLSD Kampala	DOSH	Public	Request	Soft and hard copies
Poisoning Statistics	Ministry. of Internal Affairs	DGAL	Restricted	Request	Hard copies
Pollutant Release and Transfer Register	-	-	-	-	-
Hazardous Waste Data	NEMA, Kampala	NEMA	Public	Request	Soft and hard copies
Register of Pesticides	MAAIF, Entebbe	MAAIF	Public	Request	Soft and hard copies
Register of Toxic Chemicals	MGLSD, Kampala, MAAIF, Entebbe, NEMA, Kampala	MGLSD, MAAIF, NEMA	Public	Request	Soft and hard copies
Inventory of Existing chemicals	NEMA, Kampala MAAIF, Entebbe, NDA, Kampala	MAAIF, NDA, NEMA	Public	Request	Soft and hard copies
Register of Imports	URA-customs MAAIF, Entebbe MOH-Kampala	URA, MAAIF NDA, PSD	Public	Request	Soft and hard copies
Register of Producers	URA, Kampala UBOS, Kampala MTIC, Kampala	UBOS	Public	Request	Soft and hard copies
Prior Informed Consent Decisions	MAAIF, Entebbe MWE, Kampala	MAAIF MWE	Public	Request	Soft and hard copies

7.3 Procedures for Collecting and Disseminating National/Local Data

Data collection procedure is mainly available for agriculture chemicals, medical drugs and pharmaceuticals, and chemical wastes. The Agricultural Chemicals (Control) Act 2006 and the Control of Agricultural Chemicals (Registration and Control) Regulations 1993 provide for issuance of licenses and permits to: manufacture, store, distribute and trade in, use, import and

export agricultural chemicals. During the licensing and the implementations of the licensed activities, appropriate data is collected by MAAIF from the traders and the businesses. The data is kept in both hard and soft copies and can be accessed on request.

The National Drug Policy and Authority Regulations, 1995 mandates the NDA to license and control both imported and manufactured drugs, their use and distribution. During the licensing and the regulation of the licensed activities the data is collected by NDA and can be accessed on request.

Ministry of Gender, Labour and Social Development through the Department of Occupational Safety and Health in collaboration with the Labour Statistics Unit collects data during inspections, analyses and provides information on occupational safety and health issues; some of this data is organised in a computer database (digital) and hard-copies.

The Uganda Police in collaboration with the Directorate of Government Analytical Laboratory (DGAL) investigates chemicals poison cases and keeps records of such cases, however, access is restricted.

The Uganda Revenue Authority Customs Department captures electronic data on all declared imports and exports of goods including chemicals. The data can be accessed on request. In addition, the Uganda Bureau of Statistics collects data through surveys and collaboration with other MALs. The data collected is analysed and disseminated through published statistical abstracts and reports. However, there is need to explicitly include data related to chemicals management along the lifecycle.

Under the National Environment Act 2019, the management of chemical wastes including gathering, analysing and managing environmental information, education and public awareness is regulated by the National Environment Management Authority. The information is collected at licensing, organised on hard- or soft-copies and can be accessed by the public on request. However, there is need to develop a database of information along the chemicals lifecycle and strengthen the capacity of the stakeholders especially at the Local Government (LG) level to utilize the information.

7.4 Availability of International Literature and Databases

Tables 7-3 and 7-4 below provide detailed international literature and data bases that are accessible within the country, including their location.

Table 7-3: Availability of International Literature

Literature	Location(s)	Who has access and in what form	How to gain access
SAICM Information Clearinghouse	http://www.saiChemicals and Waste Management .org/Home/tabid/5410/lnguage/en-US/Default.aspx	Public	Open
Environmental Health Criteria Documents (WHO/IPCS)	https://www.who.int/ipcs/publications/ehc/en/	Public	Open

Literature	Location(s)	Who has access and in what form	How to gain access
Concise International Chemical Assessment Documents (WHO/IPCS)	https://www.who.int/ipcs/publications/cicad/en/	Public	Open
International Chemical Safety Cards (WHO and ILO)	https://www.who.int/ipcs/publications/icsc/en/	Public	Open
Decision Guidance Documents for Prior Informed Consent Chemicals (FAO/UNEP)	https://digitallibrary.un.org/record/465612?ln=en	Public	Open
FAO/WHO Pesticides Safety Data Sheets	https://apps.who.int/iris/handle/10665/63291	Public	Open
Documents from the FAO/WHO Joint Meeting on Pesticide Residues	https://www.who.int/foodsafety/areas_work/chemical-risks/jmpr/en/	Public	Open
Documents from the FAO/WHO Joint Expert Committee on Food Additives	https://www.who.int/foodsafety/publications/jecfa/en/	Public	Open
Globally Harmonized System of Classification and Labelling of Chemicals (GHS)	http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.ht ml	Public	Open
Material Safety Data Sheets (Industry)	http://www.msds.com	Public	Open
OECD Guidelines for the Testing of Chemicals	http://www.oecd.org/document/ 40/0,3343, en_2649_34377_370 51368_1_1_1_1, 00.html	Public	Open
Good Laboratory Practice Principles (OECD)	http://www.oecd.org/document/ 63/0,3343, en_2649_34381_234 6175_1_1_1_1, 00.html	Public	Open
Good Manufacturing Practice Principles (WHO)	http://www.who.int/medicines/areas/quality_safety/quality_assurance/production/en/index.html	Public	Open
Others			

Table 7-4: Availability of International Databases

Database	Location(s)	Who Has Access?	How to Gain Access
ILO CIS	http://www.ilocis.org/	Public	Open
WHO/IPCS INCHEM	http://www.inchem.org/	Public	Open
WHO/IPCS INTOX	http://www.intox.org/	Public	Open
WHO/IPCS Human Health Risk Assessment Toolkit: Chemical Hazards	https://www.who.int/ipcs/methods/harmonization/areas/ra_toolkit/en/	Public	Open
IRPTC	https://books.google.co.ug/books/about/IRPTC_Data_Profile_Series.html?id=-oTqOwAACAAJ&redir_esc=y	Public	Open
Chemicals Abstract Services Database	http://www.cas.org/	Public	Open
Global Information Network on Chemicals (GINC)	https://pubmed.ncbi.nlm.nih.gov/12909401/	Public	Open
STN Database	http://www.cas.org/products/stnfamily/index.html	Public	Open

7.5 National Information Exchange Systems and IT Capacity

The access of information by the public on chemical issues in Uganda is based on the Access to Information Act (2005) and Access to Information Regulations (2011). The national information exchange system is effected using: websites, courses, seminars, workshops, symposia; publications on particular aspects like environmental health for public awareness; newspaper supplements, handouts, etc., by NEMA, NDA, MAAIF, among others. There is also exchange of information amongst other institutions through ICT Platforms. However, there is need for more availability of the data online by the MALs and to ensure that the information on chemicals management and use reach the target groups.

7.6 Assessment

The infrastructure for data management is in existence, however, the quantity and quality of literature/information base on management of chemicals is still inadequate with no explicit data related to chemicals management along the lifecycle. In some circumstances, Material Safety Data Sheet (MSDS) are not provided especially to the waste handlers which increases the handling risk.

The information from different institutions do not conflict among the different sources and nature of information and in most cases is complementary. Most of the institutions have computers which can capture different aspects of chemicals and waste management data and most of the staff have access to computers and internet. Data on chemical imports and exports, use of plant protection products, registered plant protection active ingredients and products are available on

request from the relevant MALs both in soft copies (excel and word formats) and hard copies (print format). However, there is no database management system for chemicals and various types of waste in Uganda. Efforts are being made to develop an integrated system of data base and a developer has already started the work. It is envisaged that when developed, the database will be linked to other relevant MALs for easy access and information sharing online. The existing international data on chemicals allow interpretation and application under conditions in Uganda and most international database can be accessed without restrictions. The data users include: government officials, researchers, traders, policy analysts and academia.

Some of the institutions collecting and maintaining information related to the chemicals have computerized the information and using the existing databases for some specific purposes. Some of the computerized information can be found in NDA, NEMA, URA, UBOS, MGLSD and UIA. It is important to note, however, that many institutions with a lot of information have started computerizing the information, and they include: MAAIF, Agricultural Chemicals Board, DGAL, among others. On the whole, data management is still inadequate. Table 7-5 below summarizes strategic actions to improve information management, access and use for chemicals and waste management.

Table 7-5: Priorities and Possible Actions on Information Management, Access and Use

Priority Issues (Ranked from highest to lowest)	Level of Existing Capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Actors
Database for chemicals and waste management	Low	No automated database for chemicals and waste management	i) Create automated database for chemicals and waste management; ii) Build the capacities of key stakeholders especially at LG levels to manage, access and use information.	Lead: NEMA, Others: MAAIF, MWE, UBOS
Collection and dissemination of information	Low	Inadequate data collection and dissemination of information	i) Establish an online chemicals and waste databases; ii) Build the capacities of key stakeholders especially at LG levels; iii) Ensure that information on chemicals and waste management & use reach the target groups.	Lead: NEMA, Others: MAAIF, MWE, UBOS Industry players

CHAPTER 8 : TECHNICAL INFRASTRUCTURE FOR CHEMICALS MANAGEMENT

This chapter provides an overview of the technical infrastructure and capacity in Uganda for chemical analysis and monitoring to support national programmes and policies for chemicals management. The infrastructure assessed belongs to public and private sectors, facilities of regulating MALs, and academia. Analytical capacity for chemical analysis and monitoring has been recognized internationally as an important element in implementing SMC in a country (UNITAR& IOMC, 2001). Building capacity for chemical analysis and monitoring is one of the most important priorities in chemicals and waste management (UNITAR& IOMC, 2001).

8.1 Overview of Laboratory Capacity

Most laboratories used for chemical analysis in Uganda are used for regulatory purposes, quality control, research, training, environmental monitoring/surveillance programme, trade, consumer protection, among others.

8.2 Available Technical Infrastructure

Table 8-1 below provides an overview of laboratory infrastructure for chemical analysis for selected laboratories. The targeted laboratories in this chapter are those that have analytical capacities (in the field of chemistry) to identify unknown elements, determine quantity and quality, conduct residue analysis and monitor possible adverse effects to humans and the environment. Clinical laboratories were not considered.

Table 8-1: Overview of Selected Laboratory Infrastructure for Chemical Analysis

Name/ Laboratory Description	Location	Equipment/ Analytical Capabilities Available[30]	Condition of the Equipment	Accreditation (if yes, by whom?)	Certified Good Laboratory Practice	Main Purpose
Government /Public Sector Laboratories						
Directorate of Government Analytical Laboratory (DGAL)	Kampala	L chemicals and waste management s, G chemicals and waste management S, GCFID, HPLC, UV -ViS, XRF, AAS, FTIR, Raman Spectrophotometer	Good	No	Yes, ISO/IEC:17025	Forensic and general analysis of chemicals.
Directorate of Water Resources	Entebbe and regional	HPLC, GC, LC, ICP, TOC, UV -	Good	No	Yes, ISO/IEC:17025	Water quality testing and monitoring.

[30] Equipment Abbreviations

IRS - Infra-Red Spectrophotometer
AAS - Atomic Absorption Spectrophotometer
UV -ViS - UV-Vis Spectrophotometer
DT - Dissolution Tester
FTIR - Fourier Transform Infrared Spectroscopy
PCR - Polymerase Chain Reaction
HPLC - High Performance Liquid Chromatography
LCMS - Liquid Chromatography Mass Spectrophotometer
MP AES- Microwave Plasma Atomic Emission Spectrometer
GCMS - Gas Chromatography Mass Spectrophotometer
GC (ECD, FID, NPD) - Gas Chromatography
FP - Flame Photometer
FUR - Furnace
AUT - Auto-analyser
PHO - Photometer
XRF - X-ray Fluorescence
LOV - Lovibond Tintometer
GTA - Graphite tube atomizer

Name/ Laboratory Description	Location	Equipment/ Analytical Capabilities Available[30]	Condition of the Equipment	Accreditation (if yes, by whom?)	Certified Good Laboratory Practice	Main Purpose
Management Laboratory /MWE		ViS, AAS, AUT PHO				
National Drug Quality Control Laboratory	Kampala	HPLC, UV-ViS, FTIR, DT	Good	Yes, by ANSI National Accreditation Board	Yes, ISO/IEC:17025	Testing and monitoring medicines, medical devices and public health products' quality.
Uganda National Bureau of Standards	Kampala	L chemicals and waste management SMS, ICP-OES, HPLC, GC (FID), UV -ViS, AAS, G chemicals and waste management S, FP	Good	Yes, by South Africa National Accreditation System	Yes, ISO/IEC:17025	Chemical analysis of food and non-food products.
Uganda Industrial Research Institute	Kampala	HPLC, GC, UV – ViS, AAS	Good	No	Yes, ISO/IEC:17025	Research, chemical analysis of products.
Chemistry Department Makerere University	Kampala	HPLC, GC(FID), UV -ViS, AAS, FUR,	Good	No	No	Research, teaching and general analysis
Geology Department, Makerere University	Kampala	AAS, UV -ViS, XRF	Good	No	No	Research, teaching and general analysis
Physics Department, Makerere University	Kampala	Geiger Muller	Good	No	No	Research, teaching and general analysis
Food Science and Technology, Makerere University	Kampala	UVS, PEN, LOV,	Good	No	No	Research, teaching and general analysis
Crop Science Department, Makerere University	Kampala	Geiger Muller	Good	No	No	Research, teaching and general analysis
Pest & Disease Diagnostic Laboratory Post-entry quarantine station	Namalere	GC - MS	Good	No	No	Pesticides, formulations and analysis
Physiological Sciences Makerere University	Kampala	GC (ECD, FID)	Good	No	No	Research, teaching and general analysis
Chemistry Department, Mbarara University of Science and Technology	Mbarara	FTIR	Good	No	No	Research, teaching and general analysis
Chemistry Department, Kyambogo University	Kampala	HPLC, AAS, UV-Vis, Flame Photometer	Good	No	No	Research, teaching and general analysis
Natural Chemotherapeutics Research Lab	Kampala	HPLC, UV -ViS, IR	Good	No	No	Research

Name/ Laboratory Description	Location	Equipment/ Analytical Capabilities Available[30]	Condition of the Equipment	Accreditation (if yes, by whom?)	Certified Good Laboratory Practice	Main Purpose
National Water and Sewerage Corporation Laboratory	Kampala	AAS, GC-MS	Good	In the process of acquiring international accreditation	Yes, ISO/IEC:17025	Water quality and waste water analysis.
Luwero Industries Ltd Laboratory	Nakasongola	GC-MS, AAS, UV -ViS, Carbon – Sulpur Analyser	Good	No	Yes, ISO/IEC:17025	Quality Control & Analytical Environmental Monitoring for Waste Disposal
National Environment Management Authority Laboratory	Kampala	L 2000 Analyser DX	Good	No	No	PCBs environmental monitoring
Uganda Revenue Authority Laboratory	Kampala	FTIR, UV -ViS	Good	No	Yes, ISO/IEC:17025	Chemical Analysis of products
Directorate of Geological Survey and Mines (DGSM), Ministry of Energy and Mineral Development (MEMD)	Entebbe	AAS, ICP-OES, UV -ViS, XRF, XRD, Auto-titrator.	Good	In process of acquiring consultancy to help with accreditation acquisition	No	Research and analysis of rocks, ores, minerals & water samples.
Downstream Petroleum Testing Laboratory, Ministry of Energy & Mineral Development (MEMD)	Amber House Kampala Road, Kampala	FTIR, FUR, XRF, LOV, Distillation Apparatuses, Copper corrosion bath, Flash point Testers, Hydrometers, Viscometer	Good	Recognized by UNBS. In the process of acquiring international accreditation	Yes, ISO 17025	Analysis of petroleum products to ensure that all petroleum products imported and distributed in the country are of adequate quality.
Private Sector Laboratories						
Chemiphar (U) Ltd	Kampala	UHPLC – ELSD, AAS, TLC, GC, UV -ViS, PCR, MP AES, GTA, CAMAG-Semi-automatic TLC-spotter	Good	Yes, by Accreditation Board of BELAC	Yes, ISO/IEC:17025	Chemical analyses, physico-chemical analyses, environment analyses
EnviroServ Uganda Limited - Nyamasoga Laboratory	Hoima	ICP-OES, GC-MS, TOC, BOD Meters	Good	Yes, SANAS	Yes, ISO/IEC:17025	Analytical environmental testing of water, waste water, soils and sludge
Guangzhou Dongsong Energy Group Uganda Limited	Tororo	XRFS, FP, UV -ViS	Good	No	Yes, ISO/IEC:17025	Fertilizer and general analysis
Private Laboratories owned by the private sector/manufacturers	Various	Various	Good	No	Yes, ISO/IEC:17025	Quality Control

8.3 Assessment

Most of the assessed laboratories have appropriate basic equipment used for analysis of chemicals and chemical products but lack high-end confirmatory equipment and specialized training for analysis of complex hazardous chemicals and chemical products. The laboratories are constrained due to inadequate funding to handle equipment maintenance. Local technical expertise to repair and service equipment are lacking.

There are four accredited laboratories (two from public sector and two from the private sector) in Uganda carrying out chemical analysis, however, the accreditation scope does not comprehensively cover the regulated chemicals and thus the need to expand the scope; and to support more laboratories to be accredited. The laboratories utilize recognized protocols such as ISO/IEC, Codex, WHO-guidelines, UNEP guidelines, EPA- standard methods, AOAC, Safety Guides, Quality Assurance Manuals, among others.

National programmes for improvement of quality and quantity of the laboratories are few. There were programmes such as Quality Infrastructure and Standards Programme (QUISP), and Private Sector Competiveness Programme that supported laboratories to improve their testing capacities but the programmes ended, thus the need for Government to intervene by investing in the laboratory infrastructure.

The Bureaux of Standards in the East African Community (EAC) region are conducting Proficiency Testing Programmes in analysis but with limited coverage of chemical tests and the schemes are not accredited.

The National Implementation Plan for the Stockholm Convention prepared in 2009 identified implementation of the technical capacity building and accreditation for laboratories as a priority for SMC. The plan was updated (NIP II, 2016) and is under implementation.

Table 8-2: Priority Issues and Possible Actions on Laboratories for Chemicals Management

Priority Issues (Ranked from highest to lowest)	Level of existing capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Actors
Laboratory technical capacity	Low	i) Most laboratories not accredited. ii) Limited scope of accreditation; iii) Inadequate specialized training. iv) Laboratories for chemical analysis not yet designated as required by law; v) Inadequate financial resources for routine activities.	Provide resources to build technical capacity and accreditation of laboratories in line with NIP II	Lead: NEMA, Others: MWE, MOFPED, DGAL, URA, MoH, NDA, UNBS), academia
Local laboratory capacity for supplies and	Low	Lack of local agents for laboratory supplies;	i) Create conducive environment to attract local	Lead: NEMA, Others: MWE, MOFPED, DGAL, URA,

Priority Issues (Ranked from highest to lowest)	Level of existing capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Actors
equipment maintenance		Inadequate local capacity for laboratory equipment maintenance services	suppliers and technical experts; ii) Recruit and train staff/ technicians in servicing of equipment; iii) Solicit for technical assistance from development partners;	MoH, NDA, UNBS), academia, Private Sector
Management of laboratory hazardous waste	Low	Inadequate competence to effectively manage laboratory waste	Train laboratory staff in waste management	Lead: NEMA; Others: All laboratories in public and private sectors
Technical information on OSH measures in use.	Low	i) Inadequate usage of PPEs; ii) Inadequate occupational safety and health skills; iii) Insufficient use of safety data sheets and ECHA website	i) Provide adequate financial resources for OSH skills and PPEs; ii) Train and raise awareness existing technical information;	Lead: NEMA; Others: All laboratories in public and private sectors

CHAPTER 9 : CHEMICAL EMERGENCY PREPAREDNESS, RESPONSE AND FOLLOW-UP

This chapter provides an overview of the capacity in Uganda related to preparedness for, response to, and follow-up of, emergencies involving chemicals.

Industrialization processes going on in Uganda and the rapid development of the oil and gas sector and the anticipated chemical industries will pose challenges to produce, transport, store and use chemicals in a manner safe to humans and the environment (GOU, 2011). The risk of fire hazards is likely to be higher as Uganda invests in exploitation of oil, gas and petroleum resources, which are highly inflammable. Whereas it comes with several benefits, industrialization increases risks of industry hazard such as large-scale chemical spillage, pollution and industrial accidents.

9.1 Chemical Disaster Management

In Uganda, the Ministry of Disaster Preparedness and Refugees (MODPR) under the Office of the Prime Minister (OPM) is responsible for national preparedness for disasters and emergencies. It is the lead agency for coordination of all MALs and other stakeholders on disaster preparedness and management in the country. The national policy for disaster management covers the broad subjects of vulnerability assessment, mitigation, preparedness, response and recovery. The policy provides for coordination of all the lead sectors, local governments, international development and humanitarian partners, the private sector and the NGOs under the principle of a multi-disciplinary and multi-skilled consultative approach. The Department of Disaster Preparedness and Management (DoDPM) in the ministry is mandated to minimize vulnerability levels of the people of Uganda against natural and human induced hazards; and to save lives and livelihood assets when disasters occur (GOU, 2011). The Department is the Lead Agency for developing policies, rules and regulations for disaster management and is responsible for development of a national preparedness and contingency plan and its update. The National Policy for Disaster Preparedness and Management (2011) and the Disaster Preparedness and Management Bill (GOU, 2011) have been developed. The National Environment Act 2019 mandates the Office of the Prime Minister, NEMA and PAU and other relevant lead agencies to establish a National Oil Contingency Plan. The plan has been prepared and approved.

9.2 Chemical Emergency Planning

Uganda's disaster and emergency preparedness and management including chemical emergencies is a multi-sectoral and multi-disciplinary activity involving collaboration of all MALs. The OPM is the lead agency in coordinating all stakeholders on disaster preparedness and management in the country. The Inter-Agency Technical Committee comprising of focal technical officers from line ministries, NGOs and relevant stakeholders monitor and analyze hazards, risks and disaster trends in the country. It also develops plans for preparedness, contingency and response.

National Emergency Coordination and Operations Center (NECOC), which is headed by the National Incidence Commander (NIC), deals with sudden emergencies in Uganda. It is responsible for coordination, early warning and preparedness of various emergency response units in police, army, Red Cross, MOH, NGOs and the private sector. The District Disaster Policy Committee (DDPC) provides a link between the National Disaster Preparedness Management Committee and the Local Government structures responsible for disaster preparedness and

management. DDPC identifies district priorities for disaster preparedness and monitors the implementation of disaster response activities in the districts. Table 9-1 below shows the potential chemical risks in Uganda. There is need to create awareness and mainstream chemical emergency preparedness at national and Local Government level. With increased industrialization in Uganda, there is need to have a hazard preparedness and response plan in case of incidences such as large-scale chemical spillage, pollution and industrial accidents. There is also need for long term follow up programme on exposed individuals.

Table 9-1: Potential Chemical Risks

No	Potential chemicals Risks	Brief description of problem
1.	Air Pollution	Pollution through: generation of fumes, burning of chemicals' packaging, spraying, dusting, fumigation, use of aerosols.
2.	Pollution of Inland Waterways	Use of pesticides near water ways; washing containers in water ways; direct discharge of chemicals into water bodies.
3.	Marine pollution	Most water ways link up into lakes.
4.	Ground water pollution	Through infiltration of contaminated water
5.	Soil contamination	Through spraying, dusting, transportation, disposal of obsolete chemicals, pesticide residues, disposal of packaging;
6.	Drinking water contamination	Inadequate water treatment; most water ways/bodies are source of drinking water; using chemical containers for drinking water.
7.	Chemical residues in food	Improper post-harvest handling; excessive and frequent use of pesticides; chemical discharged into water bodies accumulate in fish.
8.	Hazardous waste treatment/disposal	Inadequate treatment technologies and disposal facilities.
9.	Storage/ disposal of obsolete chemicals	Lack of adequate storage and disposal facilities
10.	Chemical poisoning and attacks	Mis-use of chemicals; use of charcoal stoves in poorly ventilated places; acid attacks.
11.	Chemical accidents	Due to spills on board; Careless handling / driving/riding
12.	Occupational Health	Chemical exposure; lack of adequate chemical information; non-use or inappropriate use of PPEs;

In the early months of 2020, Uganda was invaded by swarms of locusts and 18,662 litres of pesticides were used to control them. There is need to follow the effect of use of these large quantities of chemicals to environment and the individuals involved.

9.3 Chemical Incident Response

To respond to emergency incidents, a National Emergency Coordination and Operations Center (NECOC) for Uganda was established by the Department of Disaster Preparedness and Management. NECOC is responsible for the effective coordination and networking of various specialised emergency response institutions of government including the Fire Brigade, Police Rapid Response Units, UPDF Emergency Support Units, Uganda Red Cross Society, MOH and the private emergency firms. By coordinating together with humanitarian organizations, development agencies, and the Government of Uganda, NECOC centralizes disaster management

and coordination and also undertakes proactive response to disaster related activities. An Incident Management System (IMS) is used to coordinate response within the center. The center addresses the important aspect of emergence management namely communication of accurate and timely information to the media and the general public. However, there is need for emergency preparedness at Local Government levels to provide timely response.

In Uganda, chemical incidents have mainly been because of petroleum related accidents (UNDP, 2020). Response to chemicals spills, which in most cases result into fires, is conducted by the Directorate of Fire Prevention and Rescue of the Uganda Police Force (UPF). The most recent accidents related to petroleum occurred in 2019. In one incident a petroleum tanker in transit to Kasese lost control ramming into parked vehicles at Kyambura stage sparking an inferno that spread to the nearby buildings resulting into loss of 21 lives and several injured (UPF, 2019; New Vision, 22 August 2019). According to press reports, over 260 persons lost their lives in accidents involving fuel trucks between 1993 and 2013 (New Vision, 22 August 2019). The highest deaths in a single incident were recorded in 2001 when over 100 persons perished when a fuel tanker overturned and burst into flames at Busesa, in Eastern Uganda, along the Northern Corridor route (New Vision, 22 August 2019). There are also incidents of chronic or acute exposure to hazardous chemicals at the work place and in everyday life such as use of charcoal stoves in poorly ventilated environments which in most cases are not detected and reported. There are also chemical incidents that involve the use of chemicals in fishing.

9.4 Chemical Incident Follow-up and Evaluation

Chemical incidents investigation is coordinated by OPM working in collaboration with the MOH and laboratories. If there is any offence committed, the offenders are prosecuted through courts of law. However, there are no known follow-up surveillance and rehabilitation mechanisms in the environmental health service for exposed persons who may suffer long-term disabilities. There is need to create a chemical poisons and information service centre to facilitate the follow-up surveillance and rehabilitation of chemical exposed persons. There is also need to manage chemical pollution due to accidents, by requiring licensees managing chemicals along the lifecycle to have insurance to meet costs of clean up, in case of accidents.

9.5 Assessment

NECOC's functions include: receiving information from the field, processing it and using it for decision making for the management of all emergencies including chemicals. The activities of the center cover all aspects of the disaster preparedness cycle through to response coordination. There is need to mainstream chemical emergency preparedness in NECOC both at national and Local Government levels and build capacities in terms of coordination mechanisms, communication, equipment, databases and information management systems. There is also need to train staff and put in place health service capacity for response, environmental services clean-up capacity, mechanisms for follow-up, and rehabilitation of exposed persons in form of a chemical poisons and information service centre. Table 9-2 below summarises proposed strategic actions to improve chemical and waste emergency preparedness, response and follow up.

Table 9-2: Priorities and Possible Actions: Chemical and Waste Emergency Preparedness, Response, and Follow-up

No.	Priority Issues (Ranked from highest to lowest)	Level of existing capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Actors
1.	Long term follow up programme on exposed individuals	low	No long term follow up mechanisms for chemicals exposed persons;	i) Create a chemical poisons and information service centre; ii) Train Staff; iii) Establish a Programme and Monitor; iv) Follow up exposed individuals such as transporters, store keepers, fumigators, Artisanal and Small-Scale Gold Miners; v) Create awareness on use of charcoal stoves to minimize poisoning due to poor ventilations; vi) Tracking chemicals exported, imported and transiting Uganda.	Lead: MOH Others: MWE, NEMA, MTIC, URA, industry, Labs.
2.	Chemical and waste Emergency Planning	Low	i) National Environment Act 2019 (Part VII) has provisions for Control of Pollution and environmental emergency Preparedness; ii) National Policy for Disaster Preparedness; iii) Policy and petroleum laws that require emergency preparedness and preparations of preparedness contingency plans; iv) Need for enactment of the Draft Disaster Management Act; v) Need for preparation of chemicals and	i) Fast track the enactment of the Disaster Management Act and include chemicals disasters; ii) Enforce preparation of Chemical Spills Contingency Plans; iii) Train stakeholders on disaster management and carry out regular drill exercises; iv) Mainstream chemical emergency preparedness in the LGs; v) Licensees managing chemicals along the lifecycle should be required to have insurance to meet costs of clean up, in case of accidents.	Lead: OPM, MWE, NEMA; Others: MGLSD, PAU, DPS, Laboratories, private sector players

No.	Priority Issues (Ranked from highest to lowest)	Level of existing capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Actors
			waste management Contingency Plans		
3.	Update of Hazard Risk Vulnerability (HRV) Assessment	Medium	i) The Department of Disaster Preparedness and Management (DODPM) carried out HRV assessment in 2016; ii) Need for regular updates of HRV Assessments on development in chemicals productions, use storage and transportation;	i) Update of HRV Assessment Reports; ii) Regularly conduct the assessments.	Lead: OPM, NEMA; Others: MGLSD, PAU, DPS, Laboratories, private sector players, other MALs
4.	Capacities of disaster intervention under the OPM Coordination mechanism and the Task Force in chemicals incidents management	Low	Inadequate prioritization and capacity for chemical incident management;	i) Mainstream Chemical Disasters in the programmes of the Department of Disaster Preparedness and Management and in LGs; ii) Strength capacities of disaster intervention forces from the OPM and the Task Force in chemicals incidents management.	Lead: OPM, MWE NEMA; Others: MGLSD, PAU, DPS, Laboratories, private sector players Task Force, DPS, other MALs
5.	Awareness and preparedness at the local level	Low	i) DODPM has National Disaster Risk Informational Centre; ii) Reference incidents to catalyse sensitization and awareness exist; iii) UNEP has a Programme of awareness and preparedness for emergencies at the local level targeting chemicals and waste management ; v) Lack of awareness and preparedness for chemical disasters at national and LG levels.	i) Mainstream chemicals and waste management in the activities of the National Disaster Risk Information Center; ii) Tap into Existing Programme of disaster management Partners; iii) Create awareness and preparedness for chemical disasters at national and LG levels.	Lead: OPM, MWE NEMA; Others: MGLSD, MOLG, PAU, DPS, Laboratories, private sector players, DPS, CSOs, media, other MALs

CHAPTER 10 : AWARENESS CREATION, TRAINING AND EDUCATION

This chapter provides an overview of legal instruments, programmes, policies and the mechanisms available to provide information to workers and the general public concerning the potential risks associated with chemicals and the capacity for training and education of target groups affected by chemicals.

10.1 Awareness and Understanding of Chemical Safety Issues

The Constitution of the Republic of Uganda has provisions for the promotion of sustainable development and public awareness of the need to manage land, air and water resources in a balanced and sustainable manner for the present and future generations. Sectoral laws setting up institutions for the management of chemicals provide for awareness creation and sensitization of the public. Under Section 5 of the NEA 2019 on principle for environmental management, it is recognized that environmental awareness and literacy form an integral part of education and governance at all levels. Section 147 of the NEA mandates NEMA to carry out public education and awareness on the environment. At the district level, Environment Officers are required to carry out environmental awareness and literacy.

The National Environment (Waste Management) Regulations, 2020 Regulation 5(3) provides for awareness creation and promotion of positive change in attitudes and practices regarding the management of waste. Regulation 3 of the National Environment (Management of Ozone Depleting Substances and Products) Regulations, 2020 mandates NEMA in collaboration with relevant stakeholders to carry out public education and awareness on activities and programmes relating to the elimination of restricted substances and products and to publish and make available information on restricted substances subject to the Access to Information Act, 2005.

The Agricultural Chemicals (Control) Act 2006 mandates the Agricultural Chemical Board to advise the Minister on policies on efficient, prudent and safe use, storage and disposal of agricultural chemicals by conducting public awareness. Under Section 13 of the Occupational Safety and Health Act of 2006, the employer is required to protect workers and the public from dangerous aspects of the employers undertaking at his own cost. The employer is therefore obliged to provide adequate and appropriate information, instructions, training and supervision necessary to ensure the safety and health of employees.

The Ministry of Gender Labour and Social Development (MGLSD), under the Department of Occupational Safety and Health (DOSH) is implementing the Chemical Safety and Security (CHESASE) Project. The project, among others is aimed at promoting education and awareness to the MALs and the public on Chemical, Biological, Radioactive, Nuclear and Explosives (CBRNE) safety and security at work places (MGLSD, 2019). Under the project, DOSH has conducted sensitization on safe handling of chemicals at work places; trained OSH inspectors in pesticide handling to impart skills for investigating chemical related accidents in the agricultural sector and to provide knowledge on the various types of chemicals used in agriculture (MGLSD, 2019).

In 2017, UNDP through its disaster risk management support to Uganda facilitated the emergency response operational training on Chemical, Biological, Radiological, Nuclear and Explosives (CBRNE) for the first responders in the army, police and prisons. The training was conducted in line with thee Uganda National Policy for Disaster Preparedness and Management. CBRNE

safety and security management and assistance and protection against chemical incidents and accidents trainings have also been conducted for the EAC subregion (MGLSD, 2019). Under the IGAD Security Sector Programme, a regional training of trainers (TOT) on CBRNE safety and security was conducted for member states security experts, scientists and medical personnel in January 2020. Plans were underway to conduct mid-level and advanced training in CBRNE safety and security (IGAD – SSP, 2020).

Other Government Ministries Departments and Agencies (MALs) and CSOs have activities that play key roles in awareness raising on chemicals management that include:

The Ministry of Water and Environment through the Directorate of Water Resources Management annually organizes The Uganda Water and Environment Week (UWEWK), which is a weeklong event where awareness is created about various sectoral issues including chemicals and waste management.

The National Environment Management Authority has a Memorandum of Understanding (MOU) with Kyambogo University (KYU**)** to among others:

a) Integrate studies in Refrigeration and Air Conditioning (RAC) in their curriculum;
b) Train students in matters pertaining to RAC;
c) Train technicians in the RAC sector selected from industry and private sector (e.g., hotels, supermarkets, health centers, flower farms), with support from funds provided by the Multilateral Fund Secretariat of the Montreal Protocol;
d) Host the national refrigerants recycling and recovery center to service RAC equipment; and
e) Be a reference point for any study tours by interested parties.

Ministry of ICT and National Guidance through its agencies like the Uganda Broadcasting Corporation (UBC) and Uganda Media Centre, creates awareness on national issues through press releases, radio and telephone broadcasts. However, there is need to disseminate chemical and waste management and safety issues through posters, social media and SMS in English and other local languages.

Ministry of Education and Sports through training at higher levels of Education in chemistry subject creates awareness on chemicals management and safety issues especially at Universities and technical colleges. However, there is need for the training on chemicals management and safety issues to be included in the school curriculum from primary to tertiary institutions. The Directorate of Industrial Training, under Regulation 21 of the National Environment (Management of Ozone Depleting Substances and Products) Regulations, 2020 is mandated to be responsible for certification of services and maintenance technicians. The Director of Industrial Training is mandated in consultation with NEMA and any other relevant Lead Agency to assess whether the person being considered for certification has competencies required achieving high quality services and maintenance of equipment.

Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and National Agricultural Advisory Services (NAADS) through their mandates have activities that include awareness through extension services to farmers and agro-chemicals dealers. However, there is need to build their capacities on issues related to chemicals and waste management.

Uganda National Bureau of Standards (UNBS) carries out awareness campaigns to the public on specific products, which are found to be lacking in standards, especially products with prohibited chemicals such as mercury and hydroquinone.

National Union of Plantation Workers of Uganda (NUPAW) and other organizations affiliated to the National Organizations of Trade Unions (NOTU) raise awareness that focuses on the workers and matters of Occupational Health and Safety. They have branches in most estates in the country.

The CSOs that play key roles in awareness raising on chemicals management include NAPE, PROBICOU, EA, EMLI, UNACOH, CropLife, UNADA, among others.

10.1.1 Awareness to Workers

The activities being undertaken to provide information to workers to protect their health and safety from the risks of chemicals include recruitments of Occupation Health and Safety Officers in well established companies. The officers provide sensitizations and trainings on issues related to health and safety including chemical reacted risks. In additional, the OSH Department in MGLSD has programmes for workers on Occupational Health and Safety. However, these programmes, are limited and in most cases, inadequate to effectively create sufficient awareness among workers. MSMEs and most government ministries and departments do not have such programmes for their employees due to budgetary constraints.

10.1.2 Awareness to the Public

The print media has been instrumental in publishing chemicals and waste management issues such as the Ozone Layer and efforts of government to implement the Montreal Protocol. The media houses both private and government owned can be used to disseminate information on chemicals and waste management and safety issues through print, news broadcast and other forms of media. There is need to provide resources for public awareness through the media. Since chemical management issues are technical, there is also need to sensitize the media houses so that they are more effective on reporting chemicals related issues.

There is a significant number of MALs and some CSOs that play a key role in creating awareness to the public including on chemical risks, however, they are constrained by the limited resources and overwhelmed by the magnitude/scope of the work, compounded by lack of a specific Chemicals Communication Strategy to adequately address awareness raising related to chemicals safety. A number of chemicals are repackaged and sold on the market and carry labels that are scientific (nomenclature) and in languages that cannot be easily understood by the ordinary users and the public. Thus, there is need to create awareness and where possible, translate the messages into local languages to enhance more understanding. This will protect the public from chronic or acute exposure to hazardous chemicals in everyday life, such as the use of charcoal stoves in poorly ventilated environment that is reportedly causing deaths due to Carbon Monoxide poisoning.

10.2 Funding for Awareness-raising Activities and Educational Programmes

Despite chemical use, handling, manufacture, import and export, storage and disposal continue to be a significant area of concern, various MALs have not allocated specific funds in their budgets for awareness raising programmes. Even at the district level, where many of the users are not knowledgeable on the chemical risks, awareness programmes are not specifically budgeted

for. Awareness raising activities need to form part of the core mandates of the MALs for them to be budgeted for.

There is insufficient budgeting for personal protective equipment (PPEs) for employees especially in the MSMEs, thus the labour force is exposed to chemical related risks. Most members of the public in rural areas do not benefit from awareness programmes, yet they are among the key users of agro-chemicals and those used in the medical sector.

The policy-makers, decision-makers and legislators are critical in availability of funds for chemicals management. It is important to specifically target them for awareness raising on issues concerning chemical safety and encourage them to take timely actions to implement sound chemical management measures.

10.3 Availability of Tools and Facilities for Awareness Raising

A significant number of MALs and districts are not equipped with sufficient tools or facilities that would enable them raise awareness. Many districts lack qualified manpower for raising awareness on chemicals, save for the agriculture extension officers who have knowledge on agrochemicals. However, they too are not skilled enough to effectively raise awareness on the diverse chemicals available on the market. There is need to train and facilitate staff at Local Governments to raise awareness on issues of chemical safety.

10.4 Education and Training for Sound Management of Chemicals and Waste

Educational activities on sound management of chemicals and waste include: education of parents, especially mothers, in reducing the risk of children in their care to toxic chemicals; training of agricultural workers in safe application procedures for pesticides and the use of PPEs against exposures; and education of workers in cottage industries to reduce exposures to chemicals and waste and practice environmentally sound disposal/recycling of waste. Whereas education on SMC needs to start at primary and secondary education and continue into a variety of courses at higher education levels, it is only students undertaking courses such as chemistry, toxicology, environmental sciences and environmental engineering that are trained on some aspects related to SMC and related waste. There is need to develop a chemical safety education curriculum for primary, secondary, technical and tertiary levels of education to promote awareness on SMC.

10.5 Assessment

MALs, media houses and CSOs play key roles in raising awareness on chemical management in Uganda, however this is not effective. There is need for a communication strategy for the awareness to be effective. Activities being undertaken to provide information to the public and the workers to protect their health and safety from the risks of chemicals include; sensitizations and trainings on issues related to chemical risks, health and safety. The MGLSD through OSH Department has programmes for workers on OSH however, they need to be facilitated with adequate resources to carry out the trainings and the sensitizations. Similarly, MSMEs and most MALs do not have such programmes for their employees due to budgetary constraints.

Due to inadequate funding, most members of the public especially in rural areas are not sensitized on the chemicals risks and the use of PPEs and yet they are among the key users of agro-chemicals and drugs. To broaden awareness on chemicals issues in the general public, SMC aspect needs to be mainstreamed in primary, post-primary/secondary and tertiary education and training

curriculum in collaboration with the National Curriculum Development Centre (NCDC) and the Ministry of Education and Sports (MOES).

Staff at the LGs implement most of the Government Programmes. They should be trained and facilitated to raise awareness on issues of SMC especially to the MSMEs and farmers.

Policy-makers and legislators are critical in taking decisions to allocate funds for chemical management and therefore need to be specifically targeted for sensitization on the matters of chemical safety. They should also be encouraged to take timely actions to implement SMC measures. Table 10-1 below is a summary of strategic actions that have been proposed to make awareness creation, training and education on chemicals and waste more effective.

Table 10-1: Priorities and Possible Actions: Awareness Creation, Training and Education

Priority Issues (Ranked from highest to lowest)	Level of Existing Capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Key Actors
Developing a SMC Communication Strategy	Medium	i) Availability of chemicals and communication experts; ii) No guide for SMC awareness and sensitizations.	i) Develop and prepare a national communications strategy on SMC to guide all the awareness and sensitizations; ii) Train and sensitize key players on SMC along the chemicals life cycle to implement the strategy; iii) Farmers should get advice from qualified professions when handling chemicals.	Lead: NEMA, MWE, Others: MGLSD, CBOs, Media houses, Industry players
Mainstreaming SMC in education curriculum	Medium	Inadequate chemicals safety management in education curriculum.	i) Develop a chemicals safety education in the curriculum for primary, secondary/post- primary and tertiary levels. ii) Develop short courses on SMC at higher institutions of learning.	Lead: NCDC and MoES Others: NEMA, MWE, academia
Funding for raising awareness on SMC	Low	i) Existing platforms /media for awareness raising; ii) Limited funding.	i) Include awareness raising activities as MDA mandate and allocate adequate resources; ii) Sensitize employees and the public on chemical safety; iii) Use available awareness raising platforms to disseminate information; iv) Train and facilitate staff especially at LGs to raise awareness.	Lead: NEMA, MWE Others: MOFPED, MWE, MGLSD, CSOs, Media, other MALs, Industry.
Sensitization of critical decision-makers on chemical safety	Medium	i) Parliament with diverse professionals including scientists; ii) Inadequate sensitization to provide sufficient funds for	i) Target and sensitize key policy-makers, decision-makers and legislators on the issues concerning chemical safety to take timely actions to implement SMC measures; ii) Mainstream chemicals and waste management and awareness creation in the activities of LGs.	Lead: NEMA, MWE, MGLSD, Others: CSOs, Media, Industry.

Priority Issues (Ranked from highest to lowest)	Level of Existing Capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Key Actors
		chemicals safety and risk issues.		
Building the capacities of media houses to effectively report SMC	Medium	i) Existing public and private sector media houses; ii) Chemicals issues are technical.	Sensitize and train media houses' staff on SMC issues for more effective reporting on chemicals risks, health and safety.	Lead: MWE, NEMA, Others: MWE, CSOs, Media, Industry.

CHAPTER 11 : INTERNATIONAL LINKAGES

This chapter provides a summary of Uganda's involvement in international activities and agreements and contacts to the relevant international organizations. It also shows projects recently implemented or under implementation with technical and financial assistance from international organizations.

The main ministries involved in the activities of international agreements are: Ministry of Water and Environment (MWE), Ministry of Agriculture Animal Industry and Fisheries (MAAIF), Ministry of Health (MoH), Ministry of Trade Industry and Cooperative (MTIC), Ministry of Finance Planning and Economic Development (MOFPED), among others, where each international organisation has a National Focal Point nominated from the relevant Ministry, Department and Agencies (MALs).

11.1 Cooperation and Involvement with International Organisations Bodies and Agreements

The summary of contacts in relevant international organizations, relevant actions or programmes undertaken and other ministries or agencies involved are shown in Table 11-1 below.

Table 11-1: Membership in International Organisations, Programmes and Bodies

International Organisation/ Programme/ Body	National Focal Point (MDA and Primary Contact Point)	Other Ministries/ Agencies Involved	Related National Activities
UN Environment United Nations Development Programme United Nations Industrial Development Organization (UNIDO)	The Executive Director, National Environment Management Authority (NEMA)	i) Ministry Water and Environment (MWE); ii) Ministry of Health (MOH); iii) Ministry of Agriculture, Animal Industry and Fisheries; iv) Ministry of Trade, Industry and Cooperatives (MTIC); v) Ministry of Tourism Wildlife and Antiques (MTWA); vi) Ministry of Local Government (MoLG); vii) Ministry of Energy and Mineral Development (MEMD).	i) National Implementation for Sound Management of Chemicals; ii) Support implementation of National Environment Act; iii) Institutional capacity building; iv) Public awareness on chemicals; v) Implementation of SDGs (12,15) on chemicals; vi) Uganda Cleaner Production Centre services and other interventions in target sectors. vii) Support implementation of Mercury Convention.
World Health Organisation (WHO)	The Director General Health Services, Ministry of Health,	i) National Drug Authority; ii) Ministry of Water and Environment; iii) National Environment	Health medication and its management.

International Organisation/ Programme/ Body	National Focal Point (MDA and Primary Contact Point)	Other Ministries/ Agencies Involved	Related National Activities
		Management Authority	
Food and Agricultural Organisation (FAO)	The Coordinator FAO Desk, Ministry of Agriculture, Animal Industry and Fisheries	i) Ministry of Water and Environment; ii) Ministry of Local Government; iii) Ministry of Lands and Urban Development.	Food and agricultural issues/management.
International Labour Organisation (ILO)	Assistant Commissioner, Child Labour, Ministry of Gender, Labour and Social Development	i) Ministry of Trade Industry and Cooperatives ii) Ministry of Agriculture, Animal Industry and Fisheries.	Programme on elimination of child labour in potentially dangerous working condition such as those relating to commercial agriculture and industry.
World Bank	Ministry of Finance Planning and Economic Development	i) Ministry of Water and Environment; ii) Ministry of Health iii) Various other sectors.	Sector development projects and support (numerous).
African Development Bank (ADB)	Ministry of Finance Planning and Economic Development	i) Ministry of Water and Environment; ii) Ministry of Health iii) Various other sectors.	Sector development projects and support (numerous).
East African Development Bank (EADB)	Ministry of Finance Planning and Economic Development	i) Ministry of Water and Environment; ii) Ministry of Health iii) Various other sectors.	Sector development projects and support (numerous).
East African Community (EAC)	Ministry of East African Community Affairs	i) Ministry of Finance Planning and Economic Development; ii) Ministry of Trade Industry and Cooperatives; iii) Ministry of Foreign Affairs.	Trade and Regional integration issues.
Common Market for Eastern and Southern Africa (COMESA)	COMESA Coordinator, Ministry of Trade Industry and Cooperative	i) Ministry of Finance Planning and Economic Development; ii) Ministry of Foreign Affairs.	Trade and Regional integration issues.
UN Economic Commission for Africa (ECA) - The Sub-regional Office for	Ministry of Finance Planning and Economic Development.	Ministry of Foreign Affairs.	Contribute to structural transformation for inclusive and sustainable development with a focus

International Organisation/ Programme/ Body	National Focal Point (MDA and Primary Contact Point)	Other Ministries/ Agencies Involved	Related National Activities
Eastern Africa (SRO-EA)			on deepening regional integration.
Intergovernmental Authority on Development (IGAD)	Ministry of Gender, Labour and Social Development;	i) Ministry of Defence; ii) Ministry of Internal Affairs; iii) National Environment Management Authority iv) Ministry of Foreign Affairs.	Facilitating emergency response on Chemical, Biological, Radiological, Nuclear and Explosives (CBRNE).
African Ministerial Conference on the Environment (AMCEN)	Ministry of Water and Environment	National Environment Management Authority.	Promoting awareness and consensus on global and regional environmental issues.
Nile Basin Initiative	Ministry of Water and Environment	i) National Environment Management Authority ii) Ministry of Foreign Affairs.	Sustainable management and development of the shared Nile Basin water and related resources.

Source: Literature review and interviews

The summary of participation in international agreements or procedures related to the chemicals and waste management life-cycle and the respective primary agencies, contact points and relevant national implementation activities is shown in Table 11-2 below.

Table 11-2: Participation in International Agreements/Procedures Related to Chemicals Management

International Agreements	Primary Responsible Agency	Relevant National Implementation Activities
Strategic Approach to International Chemicals Management (SAICM)	Executive Director, National Environment Management Authority (NEMA) Email: info@nema.go.ug	Developing strategies to assist the Ugandan Government in incorporating Sound Management of Chemicals (SMC) into the national development policies and planning to achieve the Millennium Development Goals (MDGs).
Stockholm Convention on Persistent Organic Pollutants	Executive Director, National Environment Management Authority (NEMA) Email: info@nema.go.ug	Carrying out inventories of POPs, the National Implementation Plan (NIP) review, national capacities assessment and priority setting for management of new POPs and awareness raising.
Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and	Commissioner Crop Inspection and Certification, Ministry of Agriculture Animal Industries and Fisheries (MAAIF); Email: info@agriculture.go.ug	Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade.

International Agreements	Primary Responsible Agency	Relevant National Implementation Activities
Pesticides in International Trade	Commissioner Environment Sector Support Services, Ministry of Water and Environment Email: mwe@mwe.go.ug	
Basel Convention on the control of transboundary movements of hazardous wastes and their disposal	Executive Director, National Environment Management Authority (NEMA), Email: info@nema.go.ug	Control of transboundary movements of hazardous wastes and their disposal through Regulations and laws; Improving E-waste management; Control of pollution; Capacity building on waste management.
Minamata Convention on Mercury	Executive Director, National Environment Management Authority (NEMA), email: Email: info@nema.go.ug	Minamata Initial Assessment Study (Report, 2018); National Action for Artisanal and Smal-l Scale Gold Mining (ASGM) in Uganda; Enhancing stakeholder collaboration in minimizing emissions and releases of mercury and mercury compounds; Baseline estimates of mercury use and practices in ASGM in Uganda (2019); Documentary on mercury practices in Uganda (2019); East African Dental Amalgam Phase Down Project - constructed 3 demonstration sites hosting amalgam separations and sensitization meetings conducted.
Vienna Convention and Montreal Protocol on Ozone depleting substances and products	Executive Director, National Environment Management Authority (NEMA), Email: Email: info@nema.go.ug	Phased out the use of ODS in Uganda; Enhanced institutional capacity through training, awareness and enforcement of regulations;
International Health Regulations (IHR) (2005)	IHR National Focal Point (NFP), Ministry of Health Email: info@health.go.ug	Integrated Disease Surveillance and Response (IDSR)
ILO Convention	Commissioner Occupational Safety and Health, Ministry of Gender, Labour and Social Development Email: ps@mglsd.go.ug	Labour related issues
Chemical Weapons Convention	Commissioner Occupational Safety and Health, Ministry of Gender, Labour and Social Development Email: ps@mglsd.go.ug	Domesticated the convention
Protocol for sustainable development of Lake Victoria Basin	Ministry of Water and Environment Email: mwe@mwe.go.ug	Sustainable development and management of the basin in the areas of water resources, fisheries, agricultural and land-use practices.

Source: Desk review and interviews

11.2: Participation in Relevant Development and Technical Assistance Projects

Table 11-3 below provides an overview of all on-going and planned multilateral and bilateral assistance activities related to the management of chemicals in Uganda. It also includes projects which are specifically directed to chemical management and projects related to the environment and sustainable development (e.g. concerning National Environmental Action Plans), and projects concerning, for example, agricultural and industrial development which involves the transfer of chemicals or chemical-related technology. It Includes technical cooperation activities with the UN agencies, such as FAO, ILO, UNEP, UNIDO, UNITAR, WHO, and UNDP, as well as capacity building projects with GEF and bilateral donors.

Table 11-3: Participation as Recipient in Relevant Technical Assistance Projects

Name of Project	International/Bilateral Donor Agency Involved	National Contact Point	Relevant Activities
Project for Strengthening National Institutional Capacity in SMC and Waste	UN Environment	NEMA	i) Establishing and operationalizing the multi-stakeholder technical committee on Sound Management of Chemicals; ii) Developing a database on industrial chemicals and other consumer products and wastes; iii) Training of key stakeholders and the private sector in sound management of chemicals and wastes; iv) Creating awareness to different target groups in public and private sectors.
Enabling Activities to Review and Update the National Implementation Plan for the Stockholm Convention on Persistent Organic Pollutants.	GEF/UNEP	NEMA	i) Coordination mechanism and awareness raising; ii) Inventories of new POPs and NIP review; iii) National capacities assessment and priority setting for management of new POPs; iv) NIP formulation, endorsement and submission.
Uganda/UNDP/UNEP partnership Initiative for the implementation of SAICM	UNDP/UNEP	NEMA	i) National action plan for SMC in Uganda ii) National situation reports on chemicals and waste management iii) Mainstreaming the SMC into National Action Plans and NDP III
Project on Capacity Building to Alleviate Poverty through Synergistic	UNEP funded project on Partnership for Development of Environmental Law and Institutions (PADELIA)	NEMA	Develop a Training Manual on the Application of National Environmental Laws and Policies Implementing Rio MEAs to Poverty Alleviation

Name of Project	International/Bilateral Donor Agency Involved	National Contact Point	Relevant Activities
Implementation of RIO MEAs			

Source: NEMA, Desk review

11.3 Assessment

Uganda is a signatory to several conventions and agreements related to the management of chemicals and is involved in international activities and agreements through various MALs. The MWE and NEMA manages projects in the environment and natural resources sub sector by identifying needs and priorities for management of air quality, waste, chemicals, climate change and industrial pollution in accordance with the requirements of signed international agreements, guidelines, national laws and regulations. However, there are limitations in implementing the requirements of international agreements that are related to the inadequate capacity in number of employees and technical capacities in the responsible institutions. The National Environmental Act, 2019 has provisions for SMC and related waste. The Chemicals Regulations being drafted is expected to clarify on the institutional mandate for management of industrial and consumer chemicals in accordance with the requirements of international conventions. There is need for technical assistance projects for the development of technical capacities in chemicals and waste management at national and local levels. The capacities of environmental inspectors, occupational safety and customs staff needs to be strengthened as a priority to effectively manage the chemicals along the life-cycle. The need for a national lead agency for effective coordination and regulation of chemicals and to develop and enforce the procedures related to import, export and use of chemicals and disposal of their waste according to the requirements of the Rotterdam, Stockholm, Minamata and Basel Conventions should be considered as high priority. Table 11-4 below provides proposed strategic actions to make international linkages for chemicals and waste more effective.

Table 11-4 Priorities and Possible Actions on International Linkages

Priority Issues (Ranked from highest to lowest)	Level of Existing Capacity (L, M, H)	Summary of Capacity Strengths, Gaps and Needs	Possible Action	Concerned Actors
Limitations in implementing international agreements requirements related to chemicals	Medium	i) The New National Environment Act (2019) addresses most emerging legal aspects; ii) Existing technical capacity in NEMA, MWE, MAAIF, URA; iii) Inadequate capacity in number of employees and technical capacities in the other mandated institutions; iv) No clear lead national agency with mandate for management of	i) Increase number of staff handling chemicals and train them to improve their technical capacities; ii) Establish a lead national agency with a clear mandate for management of industrial and consumer chemicals; iii) Provide in the law for creation of inter-ministerial chemicals coordinating	Lead: NEMA, MWE Others: MGLSD, MOFPED, LG, MAAIF

Priority Issues (Ranked from highest to lowest)	Level of Existing Capacity (L, M, H)	Summary of Capacity Strengths, Gaps and Needs	Possible Action	Concerned Actors
		industrial and consumer chemicals	mechanism for chemicals and waste management; iv) Retain membership to the conventions by regularly subscribing.	
Technical assistance for development of technical capacities in chemicals and waste management at national and LG levels.	Low	i) Existing MALs handling chemicals management; ii) Inadequate technical capacity;	i) Provide technical assistance to build capacity in chemicals and waste management at central and LG levels; ii) Strengthen the capacities of environmental inspectors, occupational safety and customs staff to effectively manage the chemicals along the life-cycle.	Lead: NEMA, MWE Others: MGLSD, MOFPED, LG, MAAIF Donor Partners

CHAPTER 12 : RESOURCES AVAILABLE AND NEEDED FOR CHEMICALS MANAGEMENT

This chapter provides an overview of resources available within government and community-based organisations related to various aspects of chemical management (including human and financial resources).

12.1 Resources Available in MALs for Chemicals and Waste Management

Table 12-1 below shows an overview of the MALs responsibilities and existing resources available specifically to address governmental responsibilities with respect to the SMC.

Table 12-1: Resources Available in the MALs for Chemicals and Waste Management

Ministry/ Agency	Specific Responsibilities for which Resources are Allocated	Number of Professional Staff Involved	Type of Expertise Available	Financial Resources Available (per year)
Ministry of Water and Environment (MWE)	The Directorate of Environmental Affairs (DEA) is responsible for environmental policy, regulation, coordination, inspection, supervision and monitoring; Prior Informed Consent Procedure for Certain Hazardous Chemicals	Not Determined (ND)	Chemicals and waste specialists, environmental technicians, compliance officers and manager, environmental lawyers, Environmental policy and management persons, Chemists, environmental engineers, climate change specialist.	Government appropriation
National Environment Management Authority (NEMA)	Responsible for coordinating, monitoring, regulating and supervising environmental management in the country. It spearheads the development of environmental policies, laws, regulations, standards and guidelines; and guides Government on sound environment management in Uganda.	ND		Government appropriation
Ministry of Health	Responsible for Human health and safety	ND	Physicians, Occupational Hygienist, Pharmacists, Dispensers, Pharmaceutical managers, Chemists.	Government appropriation
National Drug Authority (NDA)	Responsible for regulation of drugs and pharmaceutical devices.	ND		Government appropriation
Ministry of Agriculture Animal Industry and Fisheries	Agricultural productivity, crop and animal health and safety.	ND	Agricultural Scientists, Chemists, Entomologist.	Government appropriation
Ministry of Gender Labour	Directorate of Labour, Employment and	ND	Chemists, Engineers,	UGX 1 billion

Ministry/ Agency	Specific Responsibilities for which Resources are Allocated	Number of Professional Staff Involved	Type of Expertise Available	Financial Resources Available (per year)
and Social Development (MGLSD)	Occupational Safety and Health is responsible for occupational safety and health at the work place.		Physicians, Economists.	
Ministry of Trade Industry and Cooperatives (MTIC)	Responsible for standards, industrial productivity and trade.	ND		Government appropriation
Uganda National Bureau of Standards (UNBS)	Responsible for standards formulation, use, enforcement and protection of public health and safety and the environment against dangerous and sub-standard products.	ND		Government appropriation
Ministry of Finance planning and Economic Development (MOFPED)	Budgeting, resources mobilization and allocations.	ND	Economists, Chemists, Engineers, Accountants. Lawyers.	Government appropriation
Uganda Revenue Authority (URA)– Customs Department	Imports and exports regulation, trade facilitation and tax administration.	ND		Government appropriation
Ministry of Works and Transport	Road construction and transport regulation.	ND	Economists, Chemists, environmental engineers.	Government appropriation
Ministry of Internal Affairs / Uganda Police/ Directorate of Government Analytical Laboratories	Law and order, Laboratory chemical testing, expert witness.	ND	Chemists, Forensic Toxicologists, Environmental experts, Food Technologists.	Government appropriation
Ministry of Energy and Mineral Development (MEMD)	Development of mineral resources, Regulation of energy sector and SMC and related waste.	ND	Chemists, Geologists, Geochemists, Paleontologists. Petrologists, Chemical Engineers, Petroleum Engineers, Environmental	Government appropriation

Ministry/ Agency	Specific Responsibilities for which Resources are Allocated	Number of Professional Staff Involved	Type of Expertise Available	Financial Resources Available (per year)
			and Risk Assessment Specialists.	
Ministry of Justice and Constitutional Affairs	Provision of Justice and Legal Advice, Drafting Legislation, Research for reform of laws.	ND	Lawyers, Judges.	Government Appropriation

Source: Desk review and interviews

12.2 Resources Needed by Government Institutions to Fulfil Responsibilities Related to Chemicals Management

Table 12-2below outlines an overview of resources needed within the national government (including government ministries, agencies, and other institutions) in order to fulfil their responsibilities for chemicals management.

Table 12-2: Resources Needed by MALs to Fulfil Responsibilities Related to Chemicals Management

Sector	Specific Responsibilities for which Resources are Required	Number/Type of Professional Staff Needed	Training Requirements
Water and Environment	i) Promote sound management of hazardous chemicals and e-waste including establishment of modern waste management infrastructure. ii) To develop and implement a policy for chemical and hazardous Substances.	ND	Training MALs and LG staff on SMC and disposal.
Health	i) Sound management of pharmaceuticals and medical waste; ii) Establishment of a Poison and Information Centre.	ND	i) Training staff in good waste management practices; ii) Training on management of a Poison and Information Centre.
Agriculture, Animal Industry and Fisheries	Pest and disease control. Improve sound management of agrochemicals;	ND	Training MAAIF and LG staff on sound agro-chemicals management along the lifecycle.
Gender, Labour and Social Development	Promoting occupational safety and health standards; and chemical safety and security.	ND	Training on OSH management, chemical safety and security.
Trade, Industry and Cooperatives	Promoting sustainable trade and industrialization.		Setting standards for chemicals and their disposal.

Sector	Specific Responsibilities for which Resources are Required	Number/Type of Professional Staff Needed	Training Requirements
Finance, Planning and Economic Development - Customs	Enforcement of restricted and prohibited chemicals in collaboration with other MALs.	ND	Training on control and inspection of chemicals and related waste at importation and exportation.
Internal Affairs	i) Laboratory analysis of chemicals; ii) Investigate chemicals related cases; iii) Monitoring of pesticide residues.	ND	i) Specialised training on chemicals samples preparations and analysis; ii) Specialised training in chemicals related investigations.
Energy and Mineral Development	i) Efficient and effective management of the oil and gas resources. ii) Energy related issues;	ND	i) Training on sound management of petroleum and related waste; ii) Specialised chemical analysis of oil and gas.
Local Government	Implementation Central Government Programmes.	ND	i) Training on SMC and waste along the chemical's lifecycle; ii) Training on awareness creation on SMC.

Source: Interviews and Ministerial Policy Statements

12.3 Resources Available in CSOs for Chemicals Management

Table 12-3 provides an overview of resource availability within the non-governmental community to address governmental responsibilities and other non-governmental efforts with respect to the sound management of chemicals.

Table 12-3: Resources Available in Non-governmental Organisations

Concerned Institution/ NGO	Specific Responsibilities for which Resources are Allocated	Number of Professional Staff Involved	Type of Expertise Available	Financial Resources Available (US$) (2020/2021)
UNACOH	Pesticides use, health and environment Uganda	4	1 Agronomist 1 Medical Doctor 2 Environmental Health Specialists	200,000
UNACOH	Mercury Free Artisanal Small-Scale Mining	7	1 Chemist/ Environmentalist 1 Environmental Scientist 1 Agro-Ecologist 3 Medical Doctors 1 Environmental Health Specialist	140,000

12.4 Resources from Development Assistance Activities

Table 12-4 below shows an overview of the resources available to the country through development assistance and technical cooperation with the UN agencies

Table 12-4: Resources Available through Development Assistance and Technical Cooperation Activities

Funding Institution(s) and International Supporting Institutions	Title of Project and its Duration (start and finish dates)	Number of Professional Staff Involved	Type of Expertise Provided	Financial Resources of Project (from Donor and local sources), US$
GEF UN Environment	Strengthening National Capacities for SMC	ND	Training	250,000
UNDP	Mercury control	ND	Training	
Norwegian SMOGP	Oil and gas	ND	Training	8,000,000

12.5 Assessment

MALs obtain funding through Government budget appropriation. However, most MALs lack the capacity to handle or address chemical management due to limited or no direct budget for chemicals management. The support from development partners is also inadequate. Therefore, most government ministries have restricted themselves to policy issues without, putting in place adequate structures to monitor and implement the policies they put in place, and in some cases such policies are also still inadequate in as far as chemicals management is concerned. In some ministries/sectors where the technical staff is available, there is inadequate funding and equipment to facilitate them to perform, which contributes to poor service delivery.

The MALs require awareness on their roles in the management of chemicals, as many of them consider this as not being their direct responsibility. Therefore, there is great need for capacity-building and human resource training in almost all areas of chemicals management along the lifecycle. The key training needs that have been identified with respect to chemicals management, among others, include: storage, disposal, chemicals waste management, safe chemicals use, chemicals handling and awareness creation. There is need for additional funding to support activities of the MALs and the CSOs in chemicals and waste management.

Table 12-5: Priorities and Possible Actions on Resources Available and Needed for Chemicals and Waste Management

Priority Issues (Ranked from highest to lowest)	Level of Existing Capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Actors
Resources to implement chemicals mandates	Medium	Inadequate resources for implementation of chemicals mandates.	i) Develop fundable proposals; ii) Look for resources from possible development partners;	Lead: NEMA, MWE MOFPED, Others: Respective MALs.

Priority Issues (Ranked from highest to lowest)	Level of Existing Capacity (L, M, H)	Summary of Capacity Strengths, Gaps, and Needs	Possible Action	Concerned Actors
			iii) Allocate more resources in the budget.	
Awareness on issues related to chemicals management	Low	Lack of awareness on roles of MALs in the chemicals and waste management	Sensitize the MALs on their roles in chemicals management and awareness raising techniques.	Lead: NEMA, MWE Others: Respective MALs, LGs, CBOs.
Capacity building	Low	Inadequate capacity to raise awareness	Train the MALs on chemicals and waste management; Provide equipment for chemicals analysis;	NEMA, Respective MALs, LGs, NGOs.

CHAPTER 13 : CONCLUSIONS AND RECOMMENDATIONS

This chapter provides the conclusions on the situation of chemicals management in Uganda and the most important priorities and recommendations. This updated National Profile of Chemicals Management gives an assessment of the legal, institutional, infrastructural, technical aspects of chemicals management in Uganda. In Uganda, there have been tremendous efforts to address issues of chemicals and chemical waste management.

13.1 Conclusion

All the sectors of the economy (agricultural, industrial and services sectors) in Uganda use various chemicals as raw materials and inputs to produce several products. The contribution of these sectoral activities to GDP has been growing. For instance, in 2017/18, the agricultural, industrial and services sectors grew by 4%, 6% and 8% respectively (UBOS, 2018). This growth increases the quantities of chemicals used and related wastes generated leading to emissions and pollutions. Therefore, there is need for SMC and related waste to minimize potential risks to life and the environment. To address this need, the Government of Uganda responded with various tools such as laws, policies and practices at all levels, from international to national. However, there are still gaps that need to be addressed across the chemicals lifecycle to achieve SMC in Uganda.

The following key issues of importance are recommended to achieve SMC in Uganda:

i) Strengthen the legal and regulatory framework;
ii) Support the MALs and CBOs to improve their capacity;
iii) Strengthen coordination and institutional collaboration;
iv) Improve awareness, training and education on chemicals;
v) Improve chemicals information management system.

13.2 Recommendations

13.2.1 Strengthen Legal and Regulatory Framework for Chemicals Management and Associated Waste

The different sectoral laws on management of chemicals and waste have provisions for administrative mechanisms. The National Environment Act was reviewed and enacted in 2019 to address the previous gaps and cater for emerging issues such as climate change and adaptation, oil and gas issues, electronic waste, plastic waste, restrictions under the Stockholm Convention and Montreal Protocol and domestication of Multilateral Environmental Agreements and Conventions related to chemicals management that Uganda is Party to. However, the laws need to be fully operationalized through development of regulations and guidelines. Also, there are some gaps in the laws regarding domestication of multilateral chemicals management Agreements. It is, therefore, recommended that the relevant regulations stipulated in the Act be made and also local governments to be provided with support to prepare bye-laws for SMC.

In addition, mainstreaming chemicals and waste management needs to be maintained and further strengthened in the National Development Plan whenever opportunities arise.

13.2.2 Strengthen Capacities of MALs, Private Sector and NGOs Implementing Chemicals Related Mandates and Activities

The responsible for the formulation of sectoral environmental policies, laws and regulations within the National Environment Management Policy (NEMP) Framework lies with the respective MALs. Sectoral Agencies are responsible for regulatory aspects of chemicals and

waste management. Whereas the MALs try their best to execute their responsibilities, they are constrained by inadequate resources to effectively perform. It is, therefore, recommended that they are supported to strengthen their capacities to effectively implement their chemicals related mandates and activities.

Additionally, Uganda has various CBOs that play a critical role in holding the different players accountable with regard to chemicals issues and participate in getting the voices of the disadvantaged groups into designing, monitoring and implementation of programmes in environment and natural resources management including chemicals management. However, they are also constrained by lack of funds to carry out chemical management activities (including research and awareness). It is therefore recommended that MALs support the CBOs to be able to access the necessary support from potential donors to enable them effectively support their activities. The private sector should also be encouraged to participate in chemicals and waste management as well as supported with incentives that encourages them to invest in chemicals and waste management.

13.2.3 Strengthen Institutional Collaboration Among Stakeholders for SMC

Uganda has some mechanisms which facilitate coordination and cooperation MALs, private sector and CBOs in areas of chemicals and waste management. The CBOs, PSOs and agencies participate as Board members, technical committee members, working-groups and other committees in these established coordinating mechanisms. However, their participation is still inadequate. It is therefore, recommended that the effectiveness of these mechanisms is improved by their mandates and activities being strengthened by law.

13.2.4 Improve Awareness, Training and Education on Chemicals and Waste

MALs, media houses and CBOs play key roles in raising awareness on chemicals and waste management in Uganda through various means and platforms. There are activities being undertaken to provide information to the public and the workers to protect their health and safety from the risks of chemicals. However, it is recommended that a communication strategy for effective awareness, training and education on chemicals and waste related issues be developed and implemented.

13.2.5 Improve Chemicals Information Management System

Infrastructure for data management is available in Uganda as well as data on chemical imports and exports which are availed on request from the relevant MALs both in soft copies and hard copies. However, the quantity and quality of information base on management of chemicals is still inadequate with no explicit data related to chemicals and waste management along the lifecycle and the related waste. It is, therefore, recommended a chemicals data information management system be created and stakeholders trained to be able to use the system.

CHAPTER 14 : STRATEGIES FOR CHEMICALS MANAGEMENT IN UGANDA

This section presents key strategies that are proposed to enhance sound management of chemicals and associated waste in Uganda. These strategies were developed through an analysis of strengths, weaknesses, opportunities and threats (SWOT) for chemicals and waste management.

14.1 Introduction

The 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs) highlight a comprehensive vision of sustainable development that embraces economic, social and environmental dimensions. Sound management of chemicals (SMC) and waste is a specific target under SDG 12 on Sustainable Consumption and Production. Chemicals and waste management play an important and increasingly significant role in every economic and social sector. SMC throughout their lifecycle is essential to avoiding complex risks to human health and ecosystems, and substantial costs to national economies. Chemicals and waste management are reflected explicitly in a number of goals and targets, including those addressing health, water, cities and human settlements, and responsible consumption and production.

SMC and waste underpin the effective implementation and achievement of the Goals at the country level. Mainstreaming SMC and waste within national development plans is therefore vital. Failing such integration, the complex and interlinked range of hazards and risks of chemicals will continue to cause adverse impacts on the environment, human health, and economic development. In this regard, the Uganda's Vision 2040, undertakes to attain a green and clean environment with no water and air pollution. Specifically, the National Development III (NDPIII) has a component on promoting sound management of hazardous chemicals and e-wastes which includes the establishment of modern waste management infrastructure and a proposed increase in the sustainable use of Environment and Natural Resources.

Uganda is signatory to international multilateral environment agreements related to chemicals and waste management including: Basel, Rotterdam, Stockholm, Minamata and SAICM initiatives that have influenced approach to chemicals management in Uganda.

14.2 SWOT Analysis for Sound Management of Chemicals

The purpose of this SWOT analysis is to clearly identify the internal strengths that can be built upon, weaknesses that need to be addressed, external threats that require mitigation as well as the opportunities that should be taken advantage of. This SWOT analysis was based on the readiness in terms of availability of the legal framework, infrastructure for collaboration, functional capacity, awareness and information sharing.

The current chemicals and waste management situation is characterized by the following strengths, weaknesses, opportunities and threats (SWOT).

14.2.1 Strengths

The internal competences and resources for chemicals and waste management in Uganda that can be used to exploit the external environment with measures to enhance them is shown in Table 14.1 below.

Table 14-1: Strengths

No.	STRENGTH	MEASURE TO ENHANCE STRENGTH
1.	There are established MALs with mandates to manage and regulate chemical and waste issues.	Facilitate and support them.
2.	Availability of CBOs and private sector that are involved in chemicals and waste management	Engage and facilitate them with incentives.
3.	Existing policies and legal instruments that supports the regulatory function for SMC.	Operationalise the laws Strengthen enforcement Review regularly to respond to emerging issues and challenges.
4.	Uganda has ratified international multilateral environment agreements related to chemicals and waste management.	Benchmark best practices for chemicals management Domesticate the MEAs
5.	There are a number of draft Bills and regulations that are being developed to enhance regulatory function for SMC;	Advocate and fast-track their enactment and ensure SMC issues are addressed.
6.	Existence of Multi-Sector Technical Steering Committee on sound chemicals management.	Provide for legally backed mandate for the committee. Facilitate activities of the committee
7.	Existence of some accredited laboratories and laboratories using certified laboratory practices, standard operating procedures (SOPs and guidelines).	Advocate for support of accreditation of more laboratories.
8.	Available electronic communication infrastructure (websites, computers, staff emails, etc).	Regularly update the websites; Timely and uninterrupted payments of subscription fees to the service providers.
9.	Existence of Professional bodies and CBOs handling chemicals and environment issues.	Engage, collaborate and support them.
10.	Good collaboration among the stakeholders (MWE, NEMA, LGs, UBOS, NGOs, NAPE, MOFPED, URA, DGAL, UNITAR, UN Environment, GEF, etc).	Develop mechanisms to enhance collaboration among the stakeholders
11.	Existence of reference materials on SMC.	Update the materials at all times.
12.	Mainstreamed chemicals issues in the National Development Plans (NDP).	Monitor implementation.
13.	Existence of general awareness of chemicals and waste management issues and risks by the private sector	Put in place measures to strengthen the participation of the private sector in issues of chemicals and waste management
14.	Availability of funds through Government budget appropriation and donor support;	Advocate for more funding to effectively implement SMC activities;
15.	Qualified and skilled staff of MALs and CBOs competent in chemicals management and waste management.	Continuous staff training to acquire additional skills. Provide the necessary budgetary support and equipment
16.	Available academic institutions training chemists and other professionals.	Collaborate and partner for training and research.

No.	STRENGTH	MEASURE TO ENHANCE STRENGTH
		Develop course units in sound chemical management. Mainstream SMC in relevant courses.
17.	Existence of national chemicals imports and exports data sources.	Build on to develop an automated chemicals data base.

14.2.2 WEAKNESSES

There are negative factors related to chemicals management in Uganda that need to be improved upon to be more effective as shown in Table 14-2.

Table 14-2: Weakness

No.	WEAKNESS	INTERVENTION REQUIRED
1.	No specific legal framework for industrial and consumer chemicals.	Fast track the enactment of industrial and consumer chemicals' related bills and regulations.
2.	Lack of a national chemicals database.	Develop easily accessible automated chemicals database. Train relevant stakeholders on use of the data base
3.	Lack of legally backed multi-Sectoral Technical Steering Committees on chemicals and waste management.	Formalize operations of the committees through legal instruments.
4.	Laboratories accredited in a narrow scope.	Advocate for more funding to widen the scope.
5.	Inadequate support for private sector to invest in chemicals and waste management	Create fiscal and non-fiscal incentives for private sector to get involved in SMC.
6.	Inadequate awareness by public;	Develop a communication strategy and implement programs to create awareness.
7.	Inadequate resources to effectively execute MALs chemicals and waste mandates.	Develop proposals for donor support. Advocate and lobby for increased budget support;
8.	Inadequate number of qualified and skilled staff in the MALs for SMC.	Recruit additional staff. Train the existing staff
9.	Lack of chemicals poison response centre.	Establish a fully-fledged poison assessment and response centre.

14.2.3 OPPORTUNITIES

These are the factors in Uganda that need to be exploited to contribute to sound management of chemicals as indicated in Table 14-3.

Table 14-3: Opportunities

No.	OPPORTUNITIES	MEASURE TO EXPLOIT OPPORTUNITIES
1.	Draft laws and policies to strengthen chemicals and waste management.	Exploit and ensure chemicals issues are comprehensively addressed.
2.	International guidelines and best practices in chemicals management.	Exploit and domesticate them. Ensure national and international obligations and best practices are addressed.

No.	OPPORTUNITIES	MEASURE TO EXPLOIT OPPORTUNITIES
3.	Existence of International organisations such as UN Environment, International Standards Organization (ISO), SAICM, International Accreditation Forum (IAF).	Advocate for patronships and support.
4.	Existence of International Conventions on chemicals management.	Meet the required obligations to continue benefiting.
5.	Existence of international databases on chemicals management.	Sensitize stakeholders on its use.
6.	Existence of local and international professional bodies and NGOs handling chemicals and environment issues;	Advocate for partnerships and support.
7.	Existence of vibrant media.	Advocate for partnerships and support.
8.	Availability of testing laboratories.	Designate and improve their competences for chemicals testing.
9.	Good will from Government.	Lobby for support.
10.	Programmes supporting chemicals and waste management.	Exploit possibilities for collaboration and support.
11.	Available capacity building programmes relevant to chemicals and waste management.	Exploit possibilities for sponsorship and attendance.

14.2.4 THREATS

The external factors that affect chemicals and waste management in Uganda and require putting in place contingency plans to address them are shown in Table 14-4 below.

Table 14-4: Threats

No	THREATS	MEASURES TO MITIGATE THREATS
1.	Laws take long to be enacted.	Engage and lobby relevant bodies to fast-track passing of the laws.
2.	Sectoral laws not incorporating national and international obligations and best practices.	Strengthen stakeholder coordination mechanism and participation.
3.	Declining donor support.	Continue engaging the development partners for support.
4.	Inadequate budget allocations chemicals and waste management.	Justify and lobby additional funds allocations.

14.3 Key strategic priority issues for chemicals and waste management emerging from SWOT Analysis

i) Strengthening the legal and regulatory framework for management of chemicals in Uganda;
ii) Strengthening the capacities of the MALs and CBOs to effectively implement their chemicals related mandates and activities;
iii) Strengthening coordination and institutional collaboration among the MALs and CBOs for sound management of chemicals;
iv) Improving awareness, training and education on chemicals;
v) Improving the chemicals information management system;
vi) Strengthening monitoring and evaluation.
vii) Enhance participation of the private sector in chemicals and waste management

These identified priority issues provide the framework for the strategies for sound management of chemicals in Uganda as shown in Table 14-5 below.

Table 14-5: Strategic Objectives and Strategies to Enhance SMC

NO.	STRATEGIC OBJECTIVES	STRATEGIES TO ENHANCE SOUND MANAGEMENT OF CHEMICALS
1.	Strengthen the legal and regulatory framework for sound management of chemicals and associated waste	i) Advocate and put in place the required regulations for the entire lifecycle of chemicals; ii) Review the legal and regulatory framework regularly to respond to emerging issues, e.g. Minamata Convention on Mercury, e-waste, etc; iii) Advocate, lobby and fast-track the enactment of the draft Bills and ensure SMC and related waste issues are incorporated therein and addressed; iv) Establish a legally backed Multi-disciplinary chemicals management coordination mechanism that brings the stakeholders together (e.g. Multi-Stakeholder Technical Committee on Chemicals Management /National Chemicals Technical Review Committee; v) Domesticate International guidelines and best practices in chemicals management; vi) Provide guidelines for sectors to put in place mechanisms for phase out mercury of added products including dental amalgam where mercury free alternatives exist; vii) Provide guidelines to sectors to facilitate the formalization of Artisanal and Small-Scale Gold Mining (ASGM) sector and implement actions in National Action Plan (NAP)for ASGM in Uganda.
2.	Strengthen the capacities of the MALs and CBOs to effectively manage chemicals and associated waste	i) Facilitate and enhance the capacities of the MALs to effectively regulate their respective chemicals mandates; ii) Designate laboratories for Chemical analysis and support them to get accredited; iii) Continuously train staff to acquire additional skills; iv) Motivate staff by maintaining morale and facilitating development and promotions; v) Incorporate COP outcomes in sector plans and budget for implementation; vi) Support MALs to develop fundable proposals to support budget activities for sound management of chemicals; vii) Undertake resource mobilizations and lobby for support from relevant international organisations to implement the provisions of the International Conventions on chemicals and related waste; viii) Provide adequate equipment, recruit and train more staff to improve chemicals management; ix) Provide for adequate resources for the coordination mechanisms in the budgets; x) Support CBOs involved in SMC activities to partner with potential donors; xi) Advocate and lobby for increased budget support for SMC; xii) Promote private sector financing; xiii) Establish a national poison and assessment centre; xiv) Develop a monitoring plan for mainstreamed chemicals issues in the NDPs.
3.	Strengthen coordination	i) Provide in the law for Multi-Sector Technical Coordination Mechanism on chemicals and related waste;

NO.	STRATEGIC OBJECTIVES	STRATEGIES TO ENHANCE SOUND MANAGEMENT OF CHEMICALS
	and institutional collaboration for SMC and associated waste	ii) Facilitate the coordination mechanism to execute its mandate; iii) Establish partnerships among the MALs, industry players, international organisations, professional bodies and NGOs handling chemicals related issues through MOUs; iv) Domesticate International Conventions on chemicals management to enhance collaboration; v) Establish a mechanism for using international databases and reference materials on chemicals management; vi) Establish partnerships with relevant institutions of learning for sound management of chemicals and related waste; vii) Strengthen collaboration with local governments and community-based CBOs handling chemicals related issues.
4.	Improve awareness, training and education on SMC	i) Develop a communication strategy and implement programs for general awareness on chemicals management and related risks; ii) Mainstream SMC in school curriculum and relevant courses at higher institutions of learning; iii) Target and sensitize key policy-makers, decision-makers and legislators on the issues concerning chemical safety to take timely actions to implement SMC measures iv) Provide for adequate resources for awareness raising activities including at Local Govt levels; v) Sensitize the media houses' staff on chemicals issues for effective reporting on chemicals management and risks; vi) Create awareness through available platforms such as: social media, media houses, sensitization workshops and seminars; vii) Train and sensitize key players on SMC along the chemicals life cycle.
5.	Improve the chemicals information management system	i) Link the MALs using ICT and regularly update the websites; ii) Establish a chemicals database with information sharing mechanism; iii) Sensitize the key stakeholders and the public on the existing local and international chemicals databases, accessibility and use; iv) Facilitate the MALs and other stakeholders to access and use the information.
6.	Strengthening monitoring and evaluation (M&E)	i) Develop and implement effective M&E system; ii) Ascertain the required capacities in terms of facilities, resources (logistics, human, financial etc) to realise the objectives; iii) Periodically analyse Key Performance Indicator (KPIs) to determine the extent to which set targets are being realised and address interventions for variances;

ANNEX 1: PROFILE GLOSSARY

Agricultural chemical	Includes plant protection chemicals, fungicides, insecticides, nematicides, herbicides, miticides, bactericides, rodenticides, molluscides, avicides, fertiliser, growth regulators, wood preservatives, bio-rationals, biopesticides, bio-fertilisers or any other chemicals used for promoting and protecting the health of plants, plants products and by products.
Chemical identity	A name that will uniquely identify a chemical. This can be a name that is in accordance with the nomenclature systems of the International Union of Pure and Applied Chemistry (IUPAC) or the Chemical Abstracts Service (CAS), or a technical name.
Chemical product	A chemical substance and/or mixture/preparation of chemical substances with certain percentages or percentage ranges of the chemical substances.
Chemical substance	Chemical elements and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurities deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.
Chemicals	Used in a broad sense to include pesticides, fertilizers and other agricultural chemicals, chemicals used in industrial processes, petroleum products, chemicals marketed for consumer usage, pharmaceuticals, cosmetics, food additives, chemicals of natural organic and biological origin as well as unintended chemicals such as produced in combustion processes, appearing in food residue, biota and consumer goods.
Disposal	Any operation related to waste management which is not a recovery operation even where the operation has as a secondary consequence the extraction of substances or energy.
Fertilizers	Any product containing three basic plant nutrients (nitrogen, phosphorus, and potassium) and micronutrients, is proposed or used for making soil more fertile
General waste	Commercial, domestic or yard waste generated from normal, day-to-day operations. It poses little or no threat to its handlers or the environment.
Hazard	Any source of potential damage, harm or adverse health effects on something or someone under certain conditions at work.
Hazardous materials	Waste that is dangerous or potentially harmful to our health or the environment. Hazardous wastes can be liquids, solids, gases, or sludges. They can be discarded commercial products, like cleaning fluids or pesticides, or the by-products of manufacturing processes.
Industrial chemicals	Chemicals that are used by industry to produce a broad range of articles, products and formulations.
Life cycle	Life cycle of a chemical means all stages of the life of a chemical with production of the chemical, mixtures, and articles containing the chemical, storage, transport, distribution, export, import, professional use, consumer use, recycling, and waste management of the chemical, mixtures, and articles containing the chemical.
Liquid waste	Any waste in the liquid state of matter. It includes industrial waste such as by products from food-processing and production plants, municipal waste, chemical by-products, agricultural waste and wastewater.
Mixture/ preparation	A mixture or a solution composed of two or more substances in which they do not react.
Obsolete Chemicals	Chemicals that cannot be used for legal or technical reasons, which may include the following: banned for use, physically degraded, chemically degraded,

	ineffective for purpose, expired, not needed, unidentified (e.g. no label or labelled in a foreign language), non-compliant with local Regulations (e.g. wrong package), unsuitable formulation (e.g. cannot be used with available application equipment) .
Party	A State or regional economic integration organization that has consented to be bound by a Convention and for which the Convention is in force.
Pesticides	Any substance which by itself, or in combination with other substances, is proposed, represented, or used for destroying or controlling pests but does not include any antiseptic, disinfectant, drug or preservative.
Production chemicals	Chemicals used in the petroleum industry to enhance oil recovery, maximize production, processing and transporting of petroleum and petroleum products. These include corrosion inhibitors, scale inhibitors, asphaltene inhibitors, biocides, demulsifies, scavengers, surfactants, and others.
Recycling	Any recovery operation by which waste materials are re-processed into products, materials or substances whether for the original or other purposes, and includes the reprocessing of organic material.
Re-Use	Any operation by which products or components that are not waste are used again for the same purpose for which they were intended.
Special waste	Termed due to the handling and disposal processes that it requires. This waste type may be injurious to the population and environment, and can range from tyres and condemned Foods, to asbestos and industrial waste from processing plants. Special Waste is generated mainly by industries.
Stockpiles	A reserve of a chemical as a substance and/or preparation, and/or of articles containing the chemical accumulated within a country that still can be used.
Toxin	Any substance which may be harmful to the environment or hazardous to health if inhaled, ingested or absorbed through the skin and can cause death, temporary incapacitation or permanent harm.
Trade name	A name that is given to a chemical, a mixture or an article by the company that markets/ supplies it. The trade name normally specifically identifies the chemical, mixture, or article and sometimes gives information on the company.
Trivial or common name	A name that is given to a chemical to be able to communicate more easily, especially with the public, than through the often complicated systematic chemical name.
Unintentional POPs	Persistent organic pollutants (POPs) that are listed in Annex C Part I of the Stockholm Convention.
Urban	All trading centres (gazetted and ungazetted) with more than 1,000 people are taken to be urban.
Waste	Substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law.

ANNEX 2: AVAILABLE NATIONAL REPORTS AND PAPERS ADDRESSING VARIOUS ASPECTS OF CHEMICALS MANAGEMENT

1. MICT (2012), The Electronic Waste (e-waste) Management Policy for Uganda.
2. MICT (2013), Strategy for E-Waste Management in Uganda.
3. MICT (2016), Guidelines for E-Waste Management in Uganda
4. MEMD (2010). Strengthening the Management of Oil and Gas Sector in Uganda.
5. NEMA (2009), The National Situational Report on National Action Plan for Sound Chemicals Management.
6. NEMA (2010), The National Action Plan for Sound Chemicals Management. Integrating Chemical Safety into Human Progress.
7. NEMA (2015), National Inventory and Quantification of Unintentionally Produced Persistent Organic Pollutants (UPOPs).
8. NEMA (2016), National Implementation Plan II (NIP II) for the Stockholm Convention on Persistent Organic Pollutants (2016 – 2025). ISBN: 978-9970-881-24-6 Secretariat of the Stockholm Convention [SSC] (2008b). What are POPs?
9. NEMA (2016), National Implementation Plan II for the Stockholm Convention on Persistent Organic Pollutants (2016-2025).
10. NEMA (2009), The National Situation Report On Sound Management of Chemicals in Uganda.
11. NEMA (2010), The National Action Plan for Sound Management of Chemicals in Uganda "Integrating chemical safety into human progress.
12. NEMA (2014), East African Dental Amalgam Phase Down Project (EADAP)-Kenya, Tanzania and Uganda: Country Report for Project Implementation Activities in Uganda.
13. NEMA (2016), National Implementation Plan II (NIP II) for the Stockholm Convention on Persistent Organic Pollutants (POPs) (2016- 2025).
14. NEMA (2018), National Minamata Initial Assessment (MIA) Report
15. UBOS (2018), Statistical Abstracts.
16. NEMA (2010), National Action Plan on SMC in Uganda.

ANNEX 3: KEY ACTORS FOR THE WORK AREAS LISTED IN TABLE A OF THE SAICM GLOBAL PLAN OF ACTION

N#	Work Area	Activity in the SAICM Global Action Plan	Lead Agency /Stakeholder	Other Participating Agencies/ Stakeholders
1.	Assessment of national chemicals management to identify gaps and prioritize actions	1, 165, 207	NEMA, MWE	MAAIF, DGAL, MGLSD, UCPC, Academia, NGO.
2.	Human health protection	2-6	MOH	MAAIF, DGAL, UCPC, MGLSD, Academia, NEMA, MWE, NGO.
3.	Children and chemical safety	7-10, 150-153, 245-246	MGLSD	MOH, MAAIF, DGAL, Academia, NEMA, MWE, NGO.
4.	Occupational health and safety	11-21, 138-149, 255	MGLSD	MOH, MAAIF, DGAL, Academia, NEMA, MWE, NGO.
5.	Implementation of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)	22, 99-101, 168, 248-250	NEMA	MAAIF, DGAL, NGO, MGLSD, UCPC, MWE, Academia.
6.	Highly toxic pesticides risk – management and reduction	23-30, 114-117	MAAIF	NEMA, MWE, DGAL, MGLSD, UCPC, NGO, MOH, Academia, NARO.
7.	Pesticide programmes	31	MAAIF	MOH, NEMA, MWE, DGAL, MGLSD, UCPC, Academia, NGO, NARO.
8.	Reduced health and environmental risks of pesticides	32-42	MAAIF	MOH, NEMA, MWE, DGAL, MGLSD, UCPC, Academia, NGO
9.	Cleaner production	43-46, 118, 238-242	UCPC	MTIC, NEMA, MWE, DGAL, MGLSD, UCPC, Academia, Industry.
10.	Remediation of contaminated sites	47-48, 243	NEMA	MOH, MAAIF, MWE, DGAL, MGLSD, UCPC, Academia, NGO.
11.	Lead in gasoline	49, 156, 244	MEMD	MWE, NEMA, DGAL, UCPC, Academia, NGO, UNBS.
12.	Sound agricultural practices	50-53, 158-160	MAAIF	NEMA, MWE, NARO, Academia, NGO
13.	Persistent, bio-accumulative and toxic substances (PBTs); very persistent and very bio-accumulative substances; chemicals that are carcinogens or mutagens or that adversely affect, inter alia, the reproductive, endocrine, immune or nervous systems; persistent organic pollutants (POPs).	54-56	NEMA	MOH, MAAIF, MWE, DGAL, MGLSD, UCPC, Academia, NGO, NARO.

N#	Work Area	Activity in the SAICM Global Action Plan	Lead Agency /Stakeholder	Other Participating Agencies/ Stakeholders
14.	Mercury and other chemicals of global concern; chemicals produced or used in high volumes; chemicals subject to wide dispersive uses; and other chemicals of concern at the national level	57-60, 157	NEMA	MOH, MAAIF, MWE, DGAL, MGLSD, UCPC, Academia, NGO, NARO.
15.	Risk assessment, management and communication	61-67, 127-137, 247	NEMA	MOH, MAAIF, MWE, DGAL, MGLSD, UCPC, Academia, NGO, NARO.
16.	Waste management (and minimization)	68-73, 161-162, 258-262, 272-273	NEMA	MOH, MAAIF, MWE, DGAL, MGLSD, UCPC, Academia, NGO, NARO.
17.	Formulation of prevention and response measures to mitigate environmental and health impacts of emergencies involving chemicals	74-79, 237	MODP	NEMA, MOH, MAAIF, MWE, DGAL, MGLSD, UCPC, Academia, NGO, NARO.
18.	Research, monitoring and data	80-87	DGAL	NEMA, MOH, MAAIF, MWE, MGLSD, UCPC, Academia, NGO, NARO
19.	Hazard data generation and availability	88-97	DGAL	NEMA, MOH, MAAIF, MWE, MGLSD, UCPC, Academia, NGO, NARO.
20.	Promotion of industry participation and responsibility	98, 189-192	NEMA	MOH, MAAIF, MWE, DGAL, MGLSD, UCPC, Academia, NGO, NARO.
21.	Information management and dissemination	102-113, 256	UBOS	NEMA, MOH, MAAIF, MWE, DGAL, MGLSD, UCPC, Academia, NGO, NARO.
22.	Life cycle	119-123	NEMA	MOH, MAAIF, MWE, DGAL, MGLSD, UCPC, Academia, NGO, NARO.
23.	Pollutant release and transfer register (PRTRs) – creation of national and international registers	124-126, 177-180	NEMA	MOH, MAAIF, MWE, DGAL, MGLSD, UCPC, Academia, NGO, NARO
24.	Education and training (public awareness)	154-155	NEMA	MOH, MAAIF, MWE, DGAL, MGLSD, UCPC, Academia, NGO, NARO.
25.	Stakeholder participation	163-164	NEMA	MOH, MAAIF, MWE, DGAL, MGLSD, UCPC, Academia, NGO, NARO.
26.	Implementation of integrated National programmes for the sound management of chemicals at the national level in a flexible manner	166-167	NEMA	MOH, MAAIF, MWE, DGAL, MGLSD, UCPC, Academia, NGO, NARO.
27.	International agreements	169-176	NEMA	MOH, MAAIF, MWE, DGAL, MGLSD, UCPC, Academia, NGO, NARO.

N#	Work Area	Activity in the SAICM Global Action Plan	Lead Agency /Stakeholder	Other Participating Agencies/ Stakeholders
28.	Social and economic considerations	181-188, 257	NEMA	MOFPED, MOH, MAAIF, MWE, DGAL, MGLSD, UCPC, Academia, NGO, NARO.
29.	Legal, policy and institutional aspects	193-198	NEMA	MOH, MWE, MAAIF, DGAL, MGLSD, UCPC, Academia, NGO, NARO.
30.	Liability and compensation	199	MOJA	NEMA, MOH, MAAIF, MWE, DGAL, MGLSD, UCPC, Academia, NGO, NARO.
31.	Stock-taking on progress	200-201	NEMA	MOH, MAAIF, MWE, DGAL, MGLSD, UCPC, Academia, NGO, NARO.
32.	Protected areas	202-203, 253-254	MOTWA	NEMA, NFA, UWA, MWE, NGO, NARO.
33.	Prevention of illegal traffic in toxic and dangerous goods	204, 263-271	NEMA	MIA, UP, URA, MOJCA, NGO, DGAL.
34.	Trade and environment	205, 251-252	NEMA	MTIC, MAAIF, MWE, DGAL, UNBS, UCPC, Academia, NGO, URA.
35.	Civil society and public interest non-governmental organization (NGO) participation	206	NEMA	MOH, MAAIF, MWE, MGLSD, Academia, NGO.
36.	Capacity-building to support national actions	208-236	NEMA	MWE, MOH, MAAIF, MGLSD, Academia, NGO.

ANNEX 4: NAMES AND ADDRESSES OF KEY INDIVIDUALS AND ORGANISATIONS CONTACTED

NO	ORGANIZATION	NAME	TITLE	E-MAIL ADDRESS
1.	Directorate of Government Analytical Laboratory (DGAL)	Thomas Kalifa Mwanawakuno	Senior Government Analyst	thomaskalifa@yahoo.com thomaskalifa@gmail.com
2.	Kyambogo University	Dr. Kwetegyeka Justus	Dean Faculty of science	jkwetegyeka@kyu.ac.ug/ justkwete@gmail.com
3.	Makerere University	Dr. Tebandeke Emmanuel	Lecturer	emmanuelaocns@mak.ac.ug emmanuel.tebandeke@gmail.com
4.	Ministry of Agriculture Animal Industry and Fisheries	Steven Byantwale	Commissioner Crop Protection/ DNA Rotterdam Convention-Agricultural Chemicals	byantwale@yahoo.com / byantwale@gmail.com
5.	Ministry of Energy and Mineral Development	Muheirwe Morris Tabaaro	Inspector	muheirwetabaaro@minerals.go.ug
6.	Ministry of Gender labour and social Development	Franco Oyara.A.	Senior General Safety Inspector	foyara@yahoo.com/ foyara@mglsd.go.ug
7.	Ministry of Trade Industry and Cooperatives	Peter Odong	Senior Industrial Officer	yellemot@yahoo.com
8.	Ministry of Water and Environment	Mugabi Stephen David	Commissioner Environment Support Services / DNA for Rotterdam Convention Industrial Chemicals	mugabisd@gmail.com
9.	Ministry of Water and Environment	Maureen Anino	Principal Environment Officer	maureenanino2@gmail.com
10.	National Association of Professional Environmentalist (NAPE)	Peruth Atukwatse	Project Coordinator	atukwaste@nape.or.ug
11.	National Environment Management Authority	Richard Mugambwa	Chair of the National Technical Coordination Committee for SWITCH AFRICA Programme	Richard.mugabwa@nema.go.ug
12.	National Environment Management Authority	Nancy Allimadi	Focal Point-Basel Convention	nancy.allimadi@nema.go.ug
13.	National Environment Management Authority	Ann Nakafeero	Focal Point-Minamata Convention	ann.nakafeero@nema.go.ug
14.	National Environment Management Authority	Isaac Ntujju	Focal Point-SAICHEMICALS AND WASTE MANAGEMENT	isaac.ntujju@nema.go.ug
15.	National Environment Management Authority	Patience Nsereko	Focal Point-Stockholm Convention	patience.nsereko@nema.go.ug
16.	National Environment Management Authority	Arnold Waiswa Ayazika	Director Environmental Monitoring and Compliance	waiswa.ayazika@nema.go.ug
17.	National Environment Management Authority	Christine Akello	Deputy Executive Director	christine.akello@nema.go.ug

NO	ORGANIZATION	NAME	TITLE	E-MAIL ADDRESS
18.	National Environment Management Authority	Dr. Tom Okurut	Executive Director	info@nema.go.ug
19.	National Environment Management Authority	Fred Onyai	Internal Monitoring and Evaluation Manager	fred.onyai@nema.go.ug
20.	Uganda Cleaner Production Centre	Twinomujuni Edson	Senior Technical Officer	etwinimujuni@ucpc.co.ug
21.	Uganda Manufacturers Association	Sarah Nanziri	Policy Officer	sarah.nanziri@uma.or.ug
22.	Uganda National Bureau of Standards	Aziz Mukota	Head Chemistry Laboratory	aziz.mukota@unbs.go.ug
23.	Uganda Revenue Authority Customs	Nsiyona Wilber	Compliance Officer	wnsiyona@ura.go.ug

ANNEX 5: ADDITIONAL DETAILS ON KEY LEGAL INSTRUMENTS RELATING TO CHEMICALS

Legal Instrument (Type, Reference, Year)	Means of publicity of the Legal Instrument	Administrative Procedures (i.e. Permitting)	Mechanism of monitoring (i.e. Audits, Inspections etc.)	Database Created	Relevant Articles/ Provisions
National Environment Act 2019.	https://nema.go.ug/sites/all/themes/nema/docs/National%20Environment%20Act,%202019%20(1).pdf ; https://nema.go.ug/sites/all/themes/nema/docs/National%20Environment%20(Waste%20Management)%20Regulations%20S.I.%20No.%2049%20of%202020.pdf	i) Environment Management Systems. ii) Establishment of a technical committee on control of pollution. iii) Issuance of pollution control licenses. iv) Standards for emissions and discharges. v) Approval Certificates of Environmental and Social Impact Assessment. vi) Designation of Analytical Laboratories. vii) Designation of Environmental Inspectors. viii) Records related to chemicals management ix) National Oil spill contingency Plan. x) Lead agency emergency preparedness and response systems, contingency plans and other plans for major incidents. xi) License to export waste. xii) Prior Informed Consent Procedure. xiii) Establishment of standards	i) Environmental compliance Audits ii) Environmental compliance and Inspections. iii) Sample Testing by Designated Laboratories	Register of all pollution control licenses. Database of waste	Section 49, 81, 89, 91, 92, 93, 100 and 101, Part IX on establishment of standard, Section 103, 104, 105, Part X on environmental and social impact assessment (ESIA), Section 110 – 116, Part XII on environmental Compliance and Enforcement, Section 124, 127, Section 176.

Legal Instrument (Type, Reference, Year)	Means of publicity of the Legal Instrument	Administrative Procedures (i.e. Permitting)	Mechanism of monitoring (i.e. Audits, Inspections etc.)	Database Created	Relevant Articles/ Provisions
The National Environment (Waste Management) Regulations 2020	https://nema.go.ug/sites/all/themes/nema/docs/National%20Environment%20(Waste%20Management)%20Regulations%20S.I.%20No.%2049%20of%202020.pdf	i) Environmental Management System ii) Certificate of Environmental and Social Impact Assessment. iii) Publishing of Notice of intention to issue a license. iv) Technical Committee on Pollution Control. v) Written Consent of the local government for waste management facility. vi) License to manage waste. vii) Financial guarantee in form of Bank Guarantee, insurance, performance bonds and Escrow Agreements. viii) Waste management facility. ix) Decommissioning Plan.	i) Inspections and monitoring. ii) Environmental Audits	Data base of licenses. Database of waste	Regulation 11, 12, 15, 16, 18, Regulation 73, Part X – Regulations 89 – 91, 102 and 103
National Environment (Management of Ozone Depleting Substances and Products) Regulation, 2020	https://www.nema.go.ug/projects/regulations	i) Authorization ii) Publication of Authorizations Granted; iii) Trading license iv) Certificate of registration of work place v) Certificate of Export of restricted products and substances; vi) Certification of Service and Maintenance Technicians; vii) Consent of designated national authority of the state to which the	i) Inspections ii) Report of Compliance with conditions of Authorization	Data Base of Authorizations Granted for restricted products and substances.	Regulation 16 ,17, 18 , 21 and 30

Legal Instrument (Type, Reference, Year)	Means of publicity of the Legal Instrument	Administrative Procedures (i.e. Permitting)	Mechanism of monitoring (i.e. Audits, Inspections etc.)	Database Created	Relevant Articles/ Provisions
		restricted substance or product is to be exported; viii) Code of Practice for business.			
The Petroleum (Waste Management) Regulations 2019	http://www.pau.go.ug/site/assets/files/1131/petroleum_waste_regulations_2019.pdf	i) Certificate of approval of Environmental and Social Impact Assessment for a separate entity waste handling facility. ii) Waste Management System. iii) License to manage petroleum waste (License for Transportation of Petroleum Waste; License for Storage of Petroleum Waste; and License for Treatment or Disposal of Petroleum Waste). iv) Publishing a notice of intention to issue a license. v) Approval to utilize treated non-hazardous petroleum waste. vi) Approval of petroleum waste treatment or disposal methods. vii) Financial security. a. On demand Bank Guarantee. b. Insurance Policy, c. Performance Bonds d. Escrow Agreements. viii) Waste characterization by licensees and Waste handler. ix) Approved lay out plan of a petroleum waste management facility.	Inspections. Environmental Audits Compliance Reports. Laboratory analysis of samples of petroleum waste.	Electronic tracking system for records and reports	Regulation 5(1), 7 ,11, 13,15,16, 22, 23, 33, 34,35, 36, `41, Part VII –43 – 46, 46(3), 46 (4), 49, 51 and 52.

Legal Instrument (Type, Reference, Year)	Means of publicity of the Legal Instrument	Administrative Procedures (i.e. Permitting)	Mechanism of monitoring (i.e. Audits, Inspections etc.)	Database Created	Relevant Articles/ Provisions
		x) Petroleum waste manifest. xi) Journey Management Plan. xii) Emergency Preparedness and Response System. xiii) Decommissioning Plan for the petroleum waste facility. xiv) Completion of Decommissioning Report. xv) A Site Verification Report Local Government Verification Report. xvi) Post Decommissioning Audit. xvii) Annual Report on the condition of the decommissioned site to PAU. xviii) Record of petroleum waste handled. xix) Journey management Plan. xx) Quarterly operating Records/ Monitoring Reports of air quality, water and soil quality at the landfill. xxi) Incident Reports. xxii)Health and safety statistics. xxiii) Annual Report on Petroleum waste managed.			
The National Environment (Standards for Discharge of Effluents	https://nema.go.ug/sites/all/themes/nema/docs/effluent_discharge_regulations.pdf	i) Effluent or wastewater standards. ii) Waste amount Records. iii)Guidelines on methods of treatment of effluents iv)Parameters of Discharges.	i) Inspections ii) Compliance Audits	_	Regulation3 and 5

Legal Instrument (Type, Reference, Year)	Means of publicity of the Legal Instrument	Administrative Procedures (i.e. Permitting)	Mechanism of monitoring (i.e. Audits, Inspections etc.)	Database Created	Relevant Articles/ Provisions
into Water or on Land Regulations (1999)		Effluent discharge Permit			
The Water Act Cap 152	https://www.mwe.go.ug/sites/default/files/library/Uganda%20Water%20Act.pdf	i) Waste Discharge Permit ii) Monitoring Programme	Inspections		Section 29 and 105
The Water (Waste Discharge) Regulations 1998	http://extwprlegs1.fao.org/docs/pdf/uga14390a.pdf	i) Standards for prescribed substances in the treated effluent or waste. ii) Waste Discharge Permit. iii) Guidelines on methods of Treatment	Inspections	Register of Applicants, every works approved or waste discharge permit granted.	Regulation 3, 4, 17(1) and 19
The Agricultural Chemicals (Control)Act 2006	http://agriculture.go.ug/wp-content/uploads/2019/04/Agricultural-Chemicals-Control-Act-2007.pdf	i) Licenses ii) Permits iii) Registration of persons and premises for selling of Agricultural chemicals. iv) Agricultural Chemicals Board. v) Agricultural Chemicals Technical Committee.	i) Inspections. ii) Analysis of Agricultural Chemicals	Registers of agricultural chemicals, fumigators and commercial applicators; and register of premises.	Section 4, 5, 8 ,9 and 11
The Control of Agricultural Chemicals (Registration and Control) Regulations 1993	http://extwprlegs1.fao.org/docs/pdf/uga119022.pdf	i) Certificate of Registration for Agricultural chemicals; ii) a certificate of registration to a fumigator and commercial applicant. iii) Labelling iv) Monitoring of Chemicals in the Environment	i) Inspections. ii) Analysis of chemical samples	This regulation is made under Section 18 of the Act which retained some operational regulations under the regulation of 1993 in absence of new regulation and among others is intended to:	Regulation 3, 9, 18, 21, Part VI on Labelling, packaging and Transportation 24 & 25, 26 and 35(4).

Legal Instrument (Type, Reference, Year)	Means of publicity of the Legal Instrument	Administrative Procedures (i.e. Permitting)	Mechanism of monitoring (i.e. Audits, Inspections etc.)	Database Created	Relevant Articles/ Provisions
.				registers of chemicals; fumigators and applicators; and premises.	
The Petroleum (Exploration, Development and Production) Act 2013	https://www.pau.go.ug/about-us/resources/laws/	i) Environmental Impact Assessment of proposed new area to be opened up. ii) Reconnaissance Permit iii) Petroleum Exploration License iv) Permit to operate a drilling rig v) Approval of drilling well vi) A detailed report on the techniques to be employed in drilling a well. vii) Production License. viii) Notification of the operator's intention to abandon any well. ix) Production schedules contained in the field development plan x) Annual Production Permit xi) Work Programme. xii) Decommissioning Plan. xiii) Directions disposal of decommissioned facilities	i) Inspections and taking samples for testing ii) Audits	Petroleum Register.	Section 47, 49,58, 68,74 92, 93, 94, 96, 100, 107, 112 and 115
The Petroleum (Exploration, Development and Production) (Health, Safety and	https://www.pau.go.ug/about-us/resources/regulations/	i) Risk Assessment ii) Hot work Permit iii) Major Accident Prevention Policy iv) Strategies and principles for design, use and maintenance of the facility of petroleum facility. v) Record of all hazardous substances and biological substances.	i) Inspections by PAU officers ii) Compliance Audit. iii) Independent Health and safety Audit.	Register of Analyses of Effluents and drainage water. Records of all hazardous substances and biological substances	Regulation 8, 9, 10, 16 & 17, 13, 27, 29, 37, 161, 164 and 165.

Legal Instrument (Type, Reference, Year)	Means of publicity of the Legal Instrument	Administrative Procedures (i.e. Permitting)	Mechanism of monitoring (i.e. Audits, Inspections etc.)	Database Created	Relevant Articles/ Provisions
Environment) Regulations, 2016		i) Annual health and safety audits ii) Process Safety Management iii) Emergency Action Plan. iv) Work environment Committee			
The Petroleum (Exploration, Development and Production) Regulations, 2016	https://www.pau.go.ug/about-us/resources/regulations/	i) Reconnaissance Permit ii) Exploration License iii) Well proposal iv) Drilling Fluid Programme v) Casing Programme vi) Consent to drill. vii) Consent to construct a facility viii) Certificate of drilling rig ix) Suspension Programme x) Petroleum production license xi) Approved methods for production of petroleum. xii) Annual Programme for HAZOP; and xiii) Risk Analysis and management	Inspection i) Audits		Regulation 8(2f), 42(3), 42, 43, 44, 51, 53, 66, 76, 99(4)
The Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013	https://www.pau.go.ug/about-us/resources/laws/	i) License to construct facility for refining of crude oil. ii) License to construct or conversion of natural gas. iii) License to construct transmission pipeline. iv) License to construct midstream storage facility. v) Certificate of Approval of Environmental Impact Assessment	i) Environmental Impact Assessment studies and reports. ii) Environmental Audits and reports. iii) Environmental Inspections and reports.		Section 9 & 10(6c), 64 (2), 66, 69 and 70.

Legal Instrument (Type, Reference, Year)	Means of publicity of the Legal Instrument	Administrative Procedures (i.e. Permitting)	Mechanism of monitoring (i.e. Audits, Inspections etc.)	Database Created	Relevant Articles/ Provisions
		vi) Plans and abilities of applicant to comply with all applicable labour, health, safety and environmental legislation vii) Risk Assessment. viii) Contingency Plans. ix) Health and Safety Plan. x) Recruitment of Qualified Persons	.		
The Petroleum (Refining, Conversion, Transmission and Midstream Storage) (Health, Safety and Environment) Regulations, 2016	https://www.pau.go.ug/about-us/resources/regulations/	i) Risk Assessment ii) Hot work Permit. iii) Major accident prevention policy iv) A safety concepts v) Strategies and principles that form the basis for design, use and maintenance of barriers. vi) Avoidance of use of hazardous substances in the work place. vii) Process safety Management System. viii) Strategy for emergency preparedness ix) Emergency Preparedness and Response Plans. x) Notification of spillage of hazardous xi) Regular complete analyses of effluents and drainage water. xii) Work environment Committee,	i) Inspections ii) Independent Health and safety Audits iii) Compliance Audits	i) Register of Analyses of Effluents and drainage water. ii) Records of all hazardous substances and biological substances.	Regulation 8, 9, 10, 16 & 17, 13, 14, 27 (1), 29, 37, 112(1), Part VIII on emergency preparedness. Regulation, Regulations 113,114, 115 & 117, 120, 121 & 122, 160, 161, 163 and 164.
The Petroleum (Refining, Conversion, Transmission	https://www.pau.go.ug/about-us/resources/regulations/	i) Control and instrumentation system. ii) Waste disposal Programme iii) Hazard and operability (HAZOP) Report; iv) Safety analysis function evaluation (SAFE) Chart.	i) Inspection; and ii) Compliance Audits	i) Register of licenses and charges. ii) Register of all underground and above ground	Regulation 4, 5, 11, 12, 16 ,17(3), 48, 49, 81, 84, 102 & 103, 109,110,

Legal Instrument (Type, Reference, Year)	Means of publicity of the Legal Instrument	Administrative Procedures (i.e. Permitting)	Mechanism of monitoring (i.e. Audits, Inspections etc.)	Database Created	Relevant Articles/ Provisions
and Midstream Storage) Regulations, 2016		v) Baseline Environmental Conditions from an independent site survey. vi) License to construct refinery, conversion plant or other petroleum process plants. vii) All over Plan incorporating aspects of the environment viii) Flare minimization plan ix) Operation permit for Refinery, conversion plant or other petroleum process plant. x) License to commence operation of a Refinery, conversion plant or other petroleum process plant. xi) License to construct a pipeline. xii) License to commence operation of the pipeline. xiii) Code of operation of pipeline. xiv) Annual Programme of operation of Pipeline. xv) Annual Maintenance Plan xvi) Permit to commence operations of the pipeline. xvii) License to transmit petroleum commodities or petroleum products by road or rail. xviii) Permit to transport bulk commodities or petroleum products. xix) License to construct and operate a midstream storage tanks		midstream storage tanks.	118, 138, 139, 140 (2) and 143(1.)

Legal Instrument (Type, Reference, Year)	Means of publicity of the Legal Instrument	Administrative Procedures (i.e. Permitting)	Mechanism of monitoring (i.e. Audits, Inspections etc.)	Database Created	Relevant Articles/ Provisions
		xx) Standards for testing above the ground tanks. xxi) Standards for Design, Construction and testing of gas Unit and Storage. xxii)Risk Assessment. xxiii) License to commence operation of the midstream storage tank xxiv) Permit to commence operations of the midstream storage tanks from PAU. xxv)Code of operation for midstream storage tank system xxvi) Registration of underground midstream tanks and above the ground tanks owned or operated. xxvii) Waste Disposal Programme. xxviii) Safety consideration utility provision. xxix) Air quality Standards xxx)Flare Minimization Plan xxxi) Annual Maintenance Plan for the pipeline system. xxxii) Records of flare Operating Parameters xxxiii) Standards of Operating a Pipeline System. xxxiv) Risk Assessment xxxv) Records of petroleum commodities or petroleum products usage.			

Legal Instrument (Type, Reference, Year)	Means of publicity of the Legal Instrument	Administrative Procedures (i.e. Permitting)	Mechanism of monitoring (i.e. Audits, Inspections etc.)	Database Created	Relevant Articles/ Provisions
The Petroleum Supply Act 2003	http://energyandminerals.go.ug/policies/petroleum-supply/	i) Petroleum Construction Permit. ii) Petroleum Operating License. iii) International standards, technical specifications and codes of practice. iv) Environmental Impact Assessment	i) Inspections ii) Compliance Environmental Audits	National Petroleum Information System	Regulation 5 & 21, 8, 9 &10, 17 & 18, 25 ,27, 32 and 33.
Occupational Safety and Health Act 2006	https://mglsd.go.ug/wp-content/uploads/2019/05/occupational-saftey-and-Health-Act-2006.pdf	i) Registration; and ii) Certification of Works places iii) Environmental impact Assessments process	Inspections		Section 3, 6, 41
The Toxic Chemicals Prohibition and Control Act, 2015	https://www.google.com/search?sxsrf=ALeKk03i_Mx9cnlrvF4cPRjzqHF6AvdUUQ%3A1590454043382&source=hp&ei=G2fMXsr8FKbDlwTU6ZCgDA&q=toxic+chemical+weapons+act&oq=toxic+chemical+weapons+act&gs_lcp=CgZwc3ktYWIQAzoECCHEMICALS AND WASTE MANAGEMENT QJzoICAAQgwEQkQI6BQgAEJECOgIIADoFCAAQgwE6BAgAEEM6	i) Licenses ii) Permits iii) Consents iv) Certificate of End- User for Chemical listed in Annex 3	Inspections		Section 11, 12, 21 and 23 and 35

Legal Instrument (Type, Reference, Year)	Means of publicity of the Legal Instrument	Administrative Procedures (i.e. Permitting)	Mechanism of monitoring (i.e. Audits, Inspections etc.)	Database Created	Relevant Articles/ Provisions
	BggAEBYQHjoECAAQDToICAAQDRAFEB46CAgAEAgQDRAeUKQYWO6IAmDFmgJoAHAAeACAAbAMiAGxVZIBEDItMTMuOC4yLjAuMS4xLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab&ved=0ahUKEwiK9gOCp9DpAhWm4YUKHdQ0BMQQ4dUDCAY&uact=5				
The Mining Act 2003	http://www.dgsm.go.ug/home	i) Licenses & Leases mining ii) Licenses to discharge in excess of standards and guidelines prescribed by the National Environment Act. iii) Environment management plan iv) Written reports of the accident v) Environmental Restoration Plans. vi) Environmental performance bond vii) Written Consent from the Commissioner to dispose of minerals.	i) Inspections of prospecting, exploration and mining operations. ii) Environmental Impact Assessment. iii) Environmental Compliance Audits.		Section 14, 66, 64, 65, 68, 108, 109, 110,112 and 115
The National Drug Policy and	https://www.unodc.org/res/cld/document/uga/national-drug-policy-	i) Issuance of import and operation licenses. ii) Drug Assessment and Registration.	i) Inspections of premises within and outside the Country.	The National Drug Register (or the National Formulary)	Section 30,35,43, 44 and 45.

Legal Instrument (Type, Reference, Year)	Means of publicity of the Legal Instrument	Administrative Procedures (i.e. Permitting)	Mechanism of monitoring (i.e. Audits, Inspections etc.)	Database Created	Relevant Articles/ Provisions
Authority Act Cap 206	act_html/THE_NATIONAL_DRUG_POLICY_AND_AUTHORITY_STATUE.pdf		ii) Sample Testing at National Drug Quality Control Laboratory (NDQCL)		

ANNEX 6: TERMS OF REFERENCE

Procurement Reference Number: NEMA/CON.SRVCS/18-19/00100

Terms of Reference (TORs) for the Consultancy for review and update of the National Chemicals Profile and development of strategies for chemicals management under the Special Programme Project for Strengthening National Institutional Capacity in Sound Management of Chemicals and Waste in Uganda

1.0 Background

The Special Programme aims to support developing countries and countries with economies in transition in strengthening institutional capacity for the implementation of the Basel, Rotterdam and Stockholm Conventions, the Minamata Convention and SAICM. The objective of the special programme is to support country driven institutional strengthening at the national level, in the context of an integrated approach to address the financing of the sound management of chemicals and waste.

Uganda with support from the UN Environment is implementing a project on strengthening national institutional Capacity in sound management of chemicals and waste in Uganda under the special programme. The overall objective of the project is to strengthen the national institutional capacity to monitor and coordinate the implementation of the regulatory framework for SMC. The project is being executed by the National Environment Management Authority (NEMA) in partnership with the Ministry of water and Environment, and the National Association for Professional environmentalists (NAPE).

A National Chemicals Profile was carried out in the year 2003 with the aim of providing a comprehensive initial assessment of the national chemical management infrastructure relating to the institutional, legal, administrative as well as technical aspects, along with the understanding of the nature and extent of chemicals availability and use in Uganda.

A national Consultant is being sought to update the national chemicals profile and develop strategies for chemicals management taking into consideration the new emerging areas such as oil and gas, Minamata Mercury convention, new chemicals listed under the Stockholm and Rotterdam conventions, e-waste challenges among others.

2.0 Overall objective of the consultancy

To undertake a review and update the existing national profile on chemicals management and associated waste along the entire life cycle and develop strategies for sound management chemicals.

3.0 Tasks

Specific tasks will include;

(i) to review and document data and information on the import, export, production, transport, use, storage and disposal of chemicals in different sectors including oil and gas;

(ii) to gather information on stockpiles and chemical waste including e-waste;

(iii) undertake evaluations and specifications of the existing chemicals management framework within the country;

(iv) assess the effectiveness of legislative, regulatory and enforcement framework for chemicals and waste management within the country;

(v) assess the existing initiatives towards sound management of chemicals by industry, public interest groups and/ or the scientific community in terms of chemicals management;

(vi) assessing the extent of existing public awareness of sound chemicals management, including waste, and the nature and scale of current national programs for awareness raising among workers and the general public;

(vii) assess the implementation of relevant international multilateral agreements related to chemicals and waste management including the Basel, Rotterdam, Stockholm, Minamata and SAICM initiatives including compliance to the requirements under the said conventions and any other applicable multi-lateral environmental agreements;

(viii) participating in capacity building and sharing of information, through attendance of meetings and training programmes within the period of the consultancy;

(ix) develop strategies for sound management of chemicals;

(x) Presenting the draft reviewed and updated National chemicals profile and draft strategies for sound management of chemicals at the National Stakeholders Workshop.

5.0. Expected Outputs:

1. An inception report for the review and update of the National Chemicals profile for Uganda within a period of two (2) months upon signing the contract
2. A draft report of the reviewed and updated National Chemicals profile for Uganda and draft strategies for sound management of chemicals
3. A final reviewed and updated National chemicals profile for Uganda and strategies for sound management of chemicals

6.0 Professional Competencies and Experience

a) Lead National Consultant/Team Leader

The Lead National Consultant (Team Leader) shall possess the following or broadly equivalent qualifications and experience:

- Advanced degree in physical sciences, environmental sciences, natural sciences, engineering or economics from a recognized university.
- First degree in chemistry with a relevant combination of academic and professional qualifications.
- Have experience in the field of chemicals management for a period of not less than 5 years
- Conversant with the legislation in the area of environment and chemicals management relevant to the assignment
- Knowledge of chemical related conventions.
- Evidence of experience in similar assignments.

b) Team Members

The Team members shall possess the following or broadly equivalent qualifications and experience

- An understanding of legislation in the area of environment and chemicals management relevant to the assignment;
- Professional experience in the field of chemicals management;
- Knowledge of Multilateral Environmental agreements (MEAs) related to chemicals and waste;
- Experience in similar assignments.

7.0 Time frame for the assignment

The assignment shall be carried out in a period of one year commencing from the time of signing the contract and deliverables shall be as per schedule below;

Inception report	3 months upon signing of the contract
Draft report	6 months upon signing the contract
Final report	12 months after signing the contract

8.0 Reporting:

- The Consultancy team shall report to the Executive Director NEMA through the Project Management Unit (PMU).
- The Consultant shall work under the supervision of the Ministry of Water and Environment and NEMA in undertaking this assignment;

9.0 Duty Station

The Consultancy team will hold office outside NEMA but should be available for discussion on the progress of the activities and to address any outstanding issues for the duration of the assignment and submit the reports as agreed in the plan/schedule.

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