

NANSANA MUNICIPALITY

ENVIRONMENT ACTION PLAN, 2025-2030



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NANSANA MUNICIPALITY, ENVIRONMENT ACTION PLAN 2025-2030

“A green, healthy, and sustainable Nansana Municipality where people, nature, and enterprise thrive in harmony through responsible stewardship, inclusive participation, and innovative solutions for the present and future generations.”



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The Municipal Environment Action Plan 2025-2030

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TABLE OF CONTENTS

List of Tables	vi
List of Figures	vi
List of Acronyms	vii
FOWARD	viii
ACKNOWLEDGEMENT	ix
EXECUTIVE SUMMARY	x
1.1 Chapter 1: Introduction	1
1.2 Background	1
1.3 Vision of Nansana Municipality	2
1.4 Theme of the MEAP	2
1.5 Objectives of the MEAP	2
1.6 Rationale for the MEAP	2
1.7 Policy and Planning Framework	3
2.0 Issues from the Municipal State of Environment Report for Nansana Municipality	5
2.1 Key issues observed in Nansana Municipality	5
2.1.1 Catastrophic Wetland Loss and Degradation	5
2.1.2 Severe Air Quality Crisis	6
2.1.3 Widespread Noise Pollution	7
2.1.4 Rapid Urban Expansion and Unplanned Development	8
2.1.5 Critical Water Quality Degradation and Access Challenges	9
2.1.6 Inadequate Solid Waste Management Systems	10
2.1.7 Forest Cover Loss and Biodiversity Decline	10
2.1.8 Severe Soil Erosion and Land Degradation	11
2.1.9 Climate Vulnerability and Extreme Weather Events	12
2.1.10 Industrial Growth Without Environmental Safeguards	14
3.0 Methodology and Stakeholder Engagement in the Planning Process	16
3.1 Environmental Vision for Nansana	18
3.2 Guiding Principles	18
3.3 Key Targets (to 2030)	18
3.4 Strategic Objectives and Actions	20
4.0 Outcomes, outputs and actions for strategic objectives	21
1. Enhance sustainable natural resources utilization and conservation in Nansana Municipality	21

2. Promote Clean Transport and Sustainable Energy Solutions in Nansana Municipality	22
3. Improve equitable access to safe and reliable water supply and enhance water quality monitoring in Nansana Municipality	23
4. Promote sustainable industrial growth through robust environmental monitoring, resource protection, and data-driven management.....	24
5. Strengthen Sustainable Urbanisation	25
6. Catalyse improvement in waste management, circular and green economy.....	26
7. Strengthen adaptation and mitigation to climate change	27
8. Enhance environmental management and urban resilience in Nansana Municipality through the adoption of modern technology and digital monitoring systems	28
9. Strengthen strategic policy development, implementation and monitoring	28
5.0 Implementation Arrangements	30
5.1 Overall Coordination Framework.....	30
5.2 Division-Level Coordination	30
5.3 Roles of stakeholders.....	30
5.4 Partnerships and Community Participation	30
6.0 Financing the MEAP	32
6.1 Estimated Budget and Resource Needs.....	32
7.0 Resource Mobilization	34
7.1 Key Resource Mobilization Approaches.....	34
7.1.1 Municipal Budget Allocations.....	34
7.1.2 Central Government Transfers and Conditional Grants:.....	35
7.1.3 Development Partner Contributions:	35
7.1.4 Private Sector Investments:	35
7.1.5 Community Contributions:	35
7.1.6 Innovative Financing Mechanisms:	35
8.0 Monitoring, Evaluation, and Learning.....	36
8.1 Institutional responsibility	36
8.2 Tools and approaches	37
8.3 Learning and Feedback Mechanisms	37
8.4 Reporting and communication	37
8.5 Adaptive Management.....	37
8.6 Risk Management	37

List of Tables

Table 1. Key policies and frameworks aligned to the MEAP.....	3
Table 2: Roles of stakeholders.....	31
Table 3. Costing for action outputs.....	32
Table 4. Funding Sources and Use.....	35
Table 5. MEL structure and Roles	36
Table 6. MEL indicators	37
Table 7. Detailed Action Plan Matrix (with timelines, responsible parties, KPIs)	38

List of Figures

Figure 1. Land use land cover maps of Nansana Municipality (1986-2025)	5
Figure 2. Contributors to degradation of Wetlands of Nansana a) , b) Wetland cutting, c) waste dumping, d) crop farming, e) papyrus harvesting for art and craft, f) large scale brick making, g) car washing in Bukemba-kizawula zone in Migigye ward, Busukuma, h) Factory, sugarcanes, and trees in wetlands in Gombe division, i) Agriculture in wetlands in Gombe division	6
Figure 4a. PM10 Pollution in Nansana Municipality	7
Figure 4b. PM2.5 Pollution in Nansana Municipality.....	7
Figure 5. Map of noise pollution in Nansana Municipality.....	8
Figure 6. Direction and distribution of urbanisation patterns in Nansana Municipality (1986-2025)	9
Figure 7: Illegal solid waste dumping in a drainage channel in Gombe division and on open bare ground	10
Figure 8. <i>Albizia coriaria</i> assembled to burn bricks in Lumansi wetland, Gombe division.....	11
Figure 9. Soil erosion map for Nansana Municipality.....	12
Figure 10. Historical and projected rainfall for Nansana municipality between 1994 and 2030	13
Figure 11. Historical and projected maximum temperature for Nansana municipality between 1994 and 2030	13
Figure 12. Rainfall patterns in Nansana Municipality	14
Figure 13. Industrialization in Nansana Municipality.....	15
Figure 14. Stakeholder participation in the consultative process	17

List of Acronyms

CDM	Clean Development Mechanism
CBO	Community-Based Organization
ENR	Environment and Natural Resources
ENRC	Environment and Natural Resources Committee
LPG	Liquefied Petroleum Gas
MEAP	Municipal Environmental Action Plan
MWE	Ministry of Water and Environment
NDC	Nationally Determined Contributions
NEA	National Environment Act
NEAP	National Environmental Action Plan
NEMA	National Environment Management Authority
NGO	Non-Governmental Organization
NMC	Nansana Municipal Council
NDPIV	Fourth National Development Plan
NWSC	National Water and Sewerage Corporation
PPP	Public-Private Partnership
SDG	Sustainable Development Goal
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change

FOWARD

Nansana Municipality stands at a pivotal moment in its development journey. Rapid urbanisation, population growth, and economic transformation are reshaping our municipality, creating new opportunities while placing unprecedented pressure on our wetlands, forests, water resources, and urban environment. If not managed sustainably, these pressures threaten the health, well-being, and prosperity of our residents today and for generations to come.

The Nansana Municipal Environment Action Plan (MEAP) 2025–2030 provides an evidence-based and community-driven roadmap to safeguard our natural resources, enhance urban liveability, and build resilience to climate and environmental risks. Anchored in Uganda Vision 2040, the Fourth National Development Plan (NDP IV), and global commitments such as the Sustainable Development Goals, the MEAP translates national and international aspirations into concrete local actions. It responds directly to the findings of the Municipal State of Environment Report, which highlighted critical challenges including catastrophic wetland loss, land degradation, air and water pollution, and inadequate solid waste management.

This Plan sets out strategic objectives to restore and conserve key ecosystems, promote sustainable urbanisation, catalyze improvements in waste management and the circular economy, strengthen climate change adaptation and mitigation, and enhance environmental governance and digital monitoring.

The MEAP is the product of extensive stakeholder engagement and collaboration. Local communities, division leaders, technical departments, national agencies, academia, civil society, the private sector, and development partners all contributed their knowledge, experiences, and aspirations to shape a shared vision for Nansana's environmental future. This inclusive process enhanced the quality of the Plan and laid the foundation for collective ownership and joint responsibility in its implementation.

I therefore call upon all stakeholders, residents, community organisations, religious and cultural leaders, the business community, and our partners at national and international levels to actively support and participate in the implementation of this MEAP. Together, we can restore our ecosystems, improve the quality of life in all our divisions, and ensure that Nansana's growth is green, just, and sustainable. The Nansana Municipal Council is fully committed to providing leadership, mobilising resources, and ensuring transparency and accountability in delivering the actions outlined in this Plan



Bakitte Regina Nakkazi Musoke
Her Worship, Mayor
Nansana Municipality

ACKNOWLEDGEMENT

The preparation and formal adoption of the Nansana Municipal Environment Action Plan (MEAP) 2025–2030 marks a key milestone in advancing a green and climate-resilient Nansana Municipality. Developed through sustained institutional collaboration, technical analysis, and structured stakeholder engagement, the Plan operationalises the municipality’s environmental vision within the framework of Uganda Vision 2040, the Fourth National Development Plan (NDP IV), and the Sustainable Development Goals. Its central aim is to systematically embed environmental sustainability and climate resilience into all core planning, budgeting, and service delivery processes of Nansana Municipality.

The MEAP provides a concise strategic framework for restoring and protecting critical ecosystems, improving waste management and pollution control, strengthening sustainable urbanisation, and enhancing climate adaptation and mitigation. It sets clear objectives, targets, and actions across key domains, including wetlands and forest conservation, clean transport and energy, water security, sustainable industry, resilient infrastructure, and digital environmental monitoring. The Plan is underpinned by a financing and resource mobilisation strategy and a practical Monitoring, Evaluation, and Learning framework to guide implementation, track progress, and enable adaptive management.

We gratefully acknowledge the financial and technical support provided through the Greater Kampala Metropolitan Area Urban Development Program (GKMA-UDP), which catalyzed the analytical work, capacity building, and multi-sectoral engagement required to develop a coherent and implementable MEAP. We equally recognise the strategic leadership of the Mayor, Speaker, Councillors, Town Clerk, Division leaders, and Environment and Natural Resources Committees, whose governance and oversight ensured that the Plan reflects Nansana’s development priorities while upholding principles of transparency and inclusivity.

On behalf of Nansana Municipal Council, I reaffirm our commitment to implementing the Municipal Environment Action Plan 2025–2030 and call upon all stakeholders—communities, civil society, private sector, national institutions, development partners, and academia—to align their efforts with this framework. The success of the MEAP will depend on continued collaboration, adequate resources, and shared responsibility as we steer Nansana towards a green, healthy, and climate-resilient urban future.



Tandeka Festo
Municipal Clerk
Nansana Municipality

EXECUTIVE SUMMARY

Nansana Municipality is at a critical juncture, confronted with numerous challenges including rapid urbanisation, environmental degradation, and the urgent need to balance growth with sustainability. The Nansana Municipal Environmental Action Plan (MEAP) 2025–2030 provides a clear, community-driven roadmap for safeguarding natural resources, enhancing urban living conditions, and fostering resilience against environmental and climate-related challenges. Formulated through extensive stakeholder engagement and in alignment with Uganda Vision 2040, the National Development Plan IV (NDPIV), and the Sustainable Development Goals (SDGs), the MEAP delineates five strategic objectives:

Enhance sustainable natural resources utilization and conservation. The plan will demarcate and restore 100 hectares of critical wetlands, such as Lubigi and Katokota; plant 20,000 indigenous trees in Kasozi Forest Reserve; establish two eco-parks for recreation and biodiversity; and implement community-led patrols and awareness campaigns to reduce encroachment and promote the wise use of natural ecosystems.

Strengthen sustainable urbanization. MEAP will upgrade 20 kilometers of key roads and drainage systems to improve flood resilience, formalize and upgrade two informal settlements for improved service delivery, enforce building codes and green standards for all new developments, and expand urban green spaces by planting 10,000 trees and establishing five new parks.

Catalyse improvement in waste management, circular and green economy. The municipality will construct a material recovery facility at Menvu landfill, expand household waste collection coverage to 60%, enforce a ban on single-use plastics in all markets, support the creation of at least ten green SMEs in recycling and composting, and launch public campaigns to increase household waste segregation and recycling rates.

Strengthen adaptation and mitigation to climate change hazards. Actions include mapping and rehabilitating ten flood-prone hotspots, installing four automated weather stations and SMS-based early warning systems, restoring kilometres of riverbanks, and mainstreaming climate risk assessments into all new infrastructure projects.

Strengthen strategic policy development, implementation, and monitoring. MEAP will train 100 municipal staff and community leaders on environmental laws and enforcement, enact and update key by-laws, establish a robust monitoring and evaluation system with annual public reporting, and foster partnerships with national agencies, NGOs, and the private sector for resource mobilization and innovation.

By 2030, Nansana aims to restore at least 60% of degraded wetlands and forests, achieve 90% access to safe water and sanitation, reduce pollution by 50%, and become a national model for green, resilient, and inclusive urban development.

Implementation will be led by Nansana Municipal Council, with clear roles for division-level committees, community groups, and external partners. The plan emphasizes transparency, regular progress tracking, and adaptive management to ensure that actions remain relevant and impactful.

I.1 Chapter I: Introduction

I.2 Background

Nansana Municipality is one of the fastest-growing urban centres within the Greater Kampala Metropolitan Area, reflecting the broader national trends of rapid urbanization, economic transformation, and demographic change. With a youthful and expanding population, Nansana faces both significant opportunities and pressing environmental challenges. Its growth is shaped by Uganda's commitment to long-term, integrated development planning, as articulated in Uganda Vision 2040 and the Fourth National Development Plan (NDPIV), which together emphasize the need for sustainable, inclusive, and resilient urbanization.

The municipality is endowed with vital natural resources, including wetlands, remnant forests, and water bodies. These resources provide essential ecosystem services, such as flood regulation, water purification, climate moderation, and support for local livelihoods. However, the accelerating pace of urban expansion, informal settlements, infrastructure development, and economic activity has placed increasing pressure on these environmental assets. Key challenges include wetland encroachment, deforestation, air and water pollution, land degradation, and inadequate waste management, all of which threaten the health, well-being, and prosperity of Nansana residents.

Recognizing these challenges, the Government of Uganda has advocated for a paradigm shift towards sustainable urban management, integrated land use planning, and the conservation of environmental and natural resources (ENR) as a fundamental basis for socio-economic transformation. The Municipal Environmental Action Plan (MEAP) for Nansana Municipality has been developed within this framework to provide a coordinated action blueprint among local government entities, communities, the private sector, and development partners. This plan aims to rehabilitate and safeguard critical ecosystems, enhance climate resilience, strengthen environmental governance, and ensure that urban development aligns with national and global sustainability objectives.

Through implementing this MEAP, Nansana Municipality aspires to become a model for green, resilient, and prosperous urban development, contributing meaningfully to Uganda's Vision 2040 of transforming from a peasant to a modern and prosperous country, and to the achievement of the Sustainable Development Goals (SDGs) at the local level.

I.3 Vision of Nansana Municipality

A transformed city, prosperous and well-planned society by 2040

I.4 Theme of the MEAP

“A green, healthy, and sustainable Nansana Municipality where people, nature, and enterprise thrive in harmony through responsible stewardship, inclusive participation, and innovative solutions for the present and future generations.”

I.5 Objectives of the MEAP

- 1) To promote sustainable urbanization and well-planned development that enhances quality of life and safeguards the environment.
- 2) To protect, restore, and wisely manage natural resources and ecosystems to ensure long-term environmental health and resilience.
- 3) To strengthen environmental governance, institutional capacity, and stakeholder participation for effective policy implementation and compliance.
- 4) To foster green economic growth, sustainable livelihoods, and innovation through responsible resource use and value addition.
- 5) To increase public awareness, education, and community stewardship to support inclusive and participatory environmental management

I.6 Rationale for the MEAP

The Municipal Environmental Action Plan (MEAP) for Nansana was developed in response to the urgent need for a coordinated, strategic, and sustainable approach to managing the municipality's environment and natural resources. As Nansana rapidly urbanizes and its population grows, the municipality faces mounting pressures on wetlands, forests, water bodies, and other critical ecosystems. These pressures manifest as wetland encroachment, deforestation, air and water pollution, land degradation, and inadequate waste management, all of which threaten the health, well-being, and economic prospects of current and future residents.

Uganda Vision 2040 underscores the importance of long-term, integrated planning to transform the country from a predominantly low-income, agrarian society into a modern, competitive, and prosperous nation. Vision 2040 and the Fourth National Development Plan (NDP IV) both emphasize that sustainable development and economic transformation depend on the careful stewardship of environmental and natural resources, the strengthening of development fundamentals (such as infrastructure, land use, and urban management), and the mainstreaming of environmental concerns into all levels of planning and governance.

The MEAP serves as a practical tool for operationalizing these national aspirations at the municipal level. It provides a unified direction for environmental management for Nansana Municipality by:

- Guiding the mobilization of local stakeholders and resources toward a shared vision of sustainability and resilience.
- Setting clear priorities, targets, and actions for the restoration and protection of ecosystems, pollution control, climate change adaptation, and sustainable urban growth.
- Ensuring environmental considerations are fully integrated into local development plans, infrastructure projects, and service delivery.
- Facilitating compliance with national policies, international commitments (such as the Sustainable Development Goals), and legal frameworks for environmental protection

Implementing the MEAP enables Nansana Municipality to safeguard its environmental assets, enhance the quality of life for its residents, and contribute meaningfully to Uganda's national targets for poverty reduction, climate resilience, and sustainable economic growth. The plan is a critical step toward realizing the aspirations of Vision 2040 of a transformed, green, and prosperous urban future for Nansana and Uganda as a whole

I.7 Policy and Planning Framework

This Plan has been developed to integrate multiple objectives, sectoral, catchment, and local planning for climate-resilient adaptation, in alignment with international, national, and strategic commitments. The frameworks aim to reduce emissions, build resilience to climate impacts, enhance climate-resilient infrastructure and services, and strengthen the knowledge base. Table I outlines the policy, regulatory, and planning frameworks that guide the planning and implementation of climate-resilient mitigation and adaptation strategies.

Table I. Key policies and frameworks aligned to the MEAP

Framework/Policy	Relationship to the MEAP
United Nations Framework Convention on Climate Change (UNFCCC), 1992	It guides the integration of climate change adaptation and mitigation into municipal environmental planning, ensuring actions contribute to global climate goals and benefit from international finance, capacity building, and technology transfer.
Sendai Framework for Disaster Risk Reduction, 2015-2030	It informs the MEAP disaster risk reduction, early warning, and resilience-building components, especially for floods and droughts, by promoting integrated risk management across sectors.
United Nations Convention to Combat Desertification (UNCCD), 1994	It supports the MEAP sustainable land management, ecosystem restoration, and soil conservation actions, particularly in urban farming, wetland, and forest restoration efforts.
Paris Agreement, 2015	It anchors the MEAP emissions reduction, clean energy, and low-carbon development actions, ensuring alignment with Uganda's NDCs and access to climate finance and technology.
Kyoto Protocol & Clean Development Mechanism (CDM), 1997	It enables the MEAP to implement emission-reduction and green technology projects to attract carbon finance and support sustainable urban infrastructure.
Sustainable Development Goals (SDGs), 2015-2030	The MEAP is structured to advance multiple SDGs: SDG 6 (Clean Water), SDG 11 (Sustainable Cities), SDG 12 (Responsible Consumption), SDG 13 (Climate Action), and SDG 15 (Life on Land), ensuring holistic environmental and social progress.
Ramsar Convention on Wetlands, 1971	It directly informs the MEAP wetland conservation, restoration, and wise-use strategies, supporting biodiversity, water regulation, and sustainable livelihoods.
National Planning Frameworks and Policies	
Uganda Vision, 2040	It provides the overarching national vision for green growth, sustainable urbanization, and environmental stewardship, guiding the MEAP strategic objectives and targets for resource management, pollution control, and resilience.
Fourth National Development Plan (NDPIV), 2025-2030	It directs the MEAP to integrate environmental priorities into all municipal development planning, budgeting, and implementation,

	focusing on the green economy, sustainable infrastructure, and climate resilience.
National Environment Act (NEA), 2019	Mandates the MEAP compliance with environmental safeguards, EIA requirements, pollution control, biodiversity conservation, and community participation in all municipal projects and by-laws.
National Environment Management Policy (NEMP), 2017	Establishes the framework for integrating environmental management and sustainability into all MEAP actions, from land use to waste management and resource utilisation.
National Climate Change Policy, 2018 and National Climate Change Act, 2021.	Ensures the MEAP mainstreams climate adaptation and mitigation into municipal planning, infrastructure, and service delivery, while supporting access to climate finance and technology.
National Forestry Policy, 2001 and National Forestry Act, 2003	Guides the MEAP on local forest reserve conservation, afforestation, and community forestry actions, supporting biodiversity and carbon sequestration.
National Water Policy, 1999, Water Act, 1997 and National Water & Sewerage Corporation Act, 1995	Inform the MEAP about sustainable water management, wetland protection, and improved sanitation and sewerage services, especially in urban and peri-urban areas.
Land (Amendment) Act, 2010 and National Land Policy, 2013	Support the MEAP sustainable land use, tenure security, and protection of ecologically sensitive areas (wetlands, forests, riverbanks) in municipal planning and enforcement.
Disaster Preparedness and Management Policy and Act, 2011	Anchor the MEAP risk reduction, preparedness, and response strategies for climate-induced and environmental hazards.
Gender Policy, 2007	Ensures the MEAP actions are inclusive, gender-responsive, and promote equitable participation and benefits for women, youth, and vulnerable groups.
Sectoral and Local Guidelines	
Environmental Guidelines for Local Governments (3)	Direct MEAP to integrate environmental, social, and climate safeguards into all municipal projects, including screening, EIA, stakeholder engagement, and compliance monitoring, as required by NEA 2019 and NEMA.
Municipal Development Plan (MDP)	It provides the local context, priorities, and targets that the MEAP operationalises through actionable projects in waste management, urban greening, infrastructure, and community engagement.
Resource Mobilisation and Project Office Guidelines	Inform the MEAP approach to mobilising financial, human, and technical resources, establishing project offices, and engaging partners for effective plan implementation.
Monitoring and Evaluation Frameworks	Guide the MEAP results-based monitoring, evaluation, and reporting systems, ensuring accountability, transparency, and adaptive management.
Stakeholder Engagement and Environmental Justice Guidance	Guide the MEAP inclusive, participatory planning and implementation, emphasising meaningful engagement with all community segments, especially marginalised and overburdened groups.

2.0 Issues from the Municipal State of Environment Report for Nansana Municipality

The Nansana Municipal Environmental Action Plan emerges from a comprehensive technical assessment following the Municipal State of Environment Report (MSOER), which employed the Drivers-Pressures-State-Impact-Response (DPSIR) framework to systematically analyse environmental conditions, trends, and vulnerabilities across the municipality. This evidence-based approach utilized advanced methodologies, including remote sensing analysis of land use and land cover changes (1986-2025), climate variability assessments using Climate Hazards Group InfraRed Precipitation with Station data (CHIRPS), and hydraulic modelling through HEC-GeoRAS for flood risk mapping.

2.1 Key issues observed in Nansana Municipality

2.1.1 Catastrophic Wetland Loss and Degradation

The most alarming environmental challenge facing Nansana Municipality is the unprecedented loss of wetland ecosystems. Satellite imagery analysis reveals that wetland cover has declined catastrophically from 20% in 1986 to just 3.9% in 2025, representing an 80% loss of these critical ecosystems. This dramatic reduction has occurred primarily due to encroachment for settlements, agriculture, and industrial development.

Key wetlands, including Lubigi, Lumansi, Katokota, Kageye, and Kasolo-Kamponye, have been severely degraded by reclamation activities, sand extraction, and conversion to agricultural land. The municipality's wetlands, once dominated by papyrus and miscanthus vegetation, have been replaced mainly by non-wetland crops, including sugarcane, yams, vegetables, cassava, and bananas. This conversion has eliminated critical ecosystem services, including flood regulation, groundwater recharge, water purification, and biodiversity support.

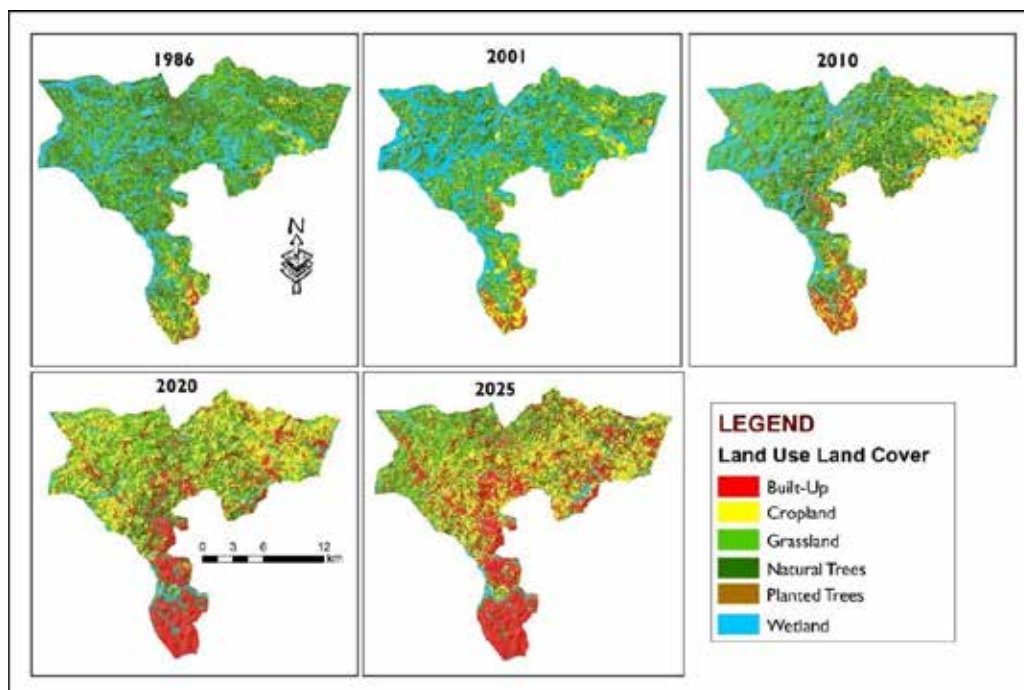


Figure 1. Land use land cover maps of Nansana Municipality (1986-2025)



Figure 2. Contributors to degradation of Wetlands of Nansana a) , b) Wetland cutting, c) waste dumping, d) crop farming, e) papyrus harvesting for art and craft, f) large scale brick making, g) car washing in Bukemba-kizawula zone in Migigye ward, Busukuma, h) Factory, sugarcane, and trees in wetlands in Gombe division, i) Agriculture in wetlands in Gombe division

2.1.2 Severe Air Quality Crisis

Nansana Municipality faces a public health emergency due to extreme air pollution levels. Air quality monitoring shows that over 95% of the municipality experiences unhealthy levels of both

PM2.5 and PM10, with concentrations consistently exceeding WHO guidelines. Specific neighbourhoods, including Kiryamuli, Migigye, Nansana West, and Gguluddene, experience especially severe conditions, with pollution levels reaching very unhealthy to hazardous categories.

The primary sources of air pollution include vehicle emissions from the increasing number of boda bodas, commuter taxis, and poorly maintained trucks; open burning of solid waste in informal settlements; small-scale industries and workshops operating without emission controls; and widespread use of charcoal and firewood for domestic cooking. This pollution crisis poses significant risks to respiratory and cardiovascular health, particularly affecting children, elderly residents, and those with pre-existing health conditions.

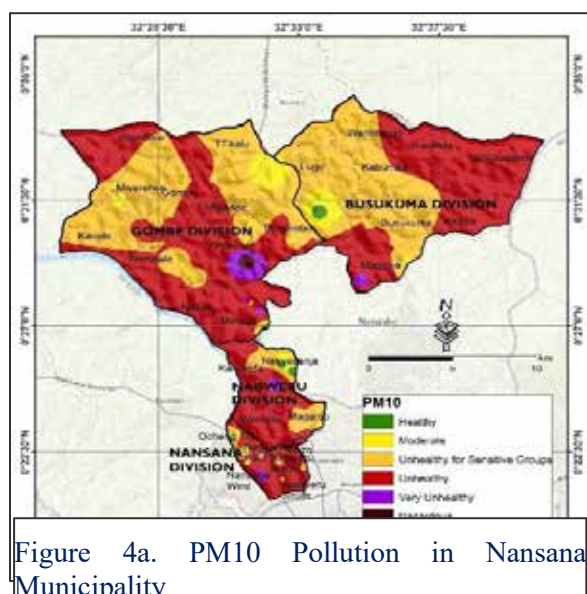


Figure 4a. PM10 Pollution in Nansana Municipality

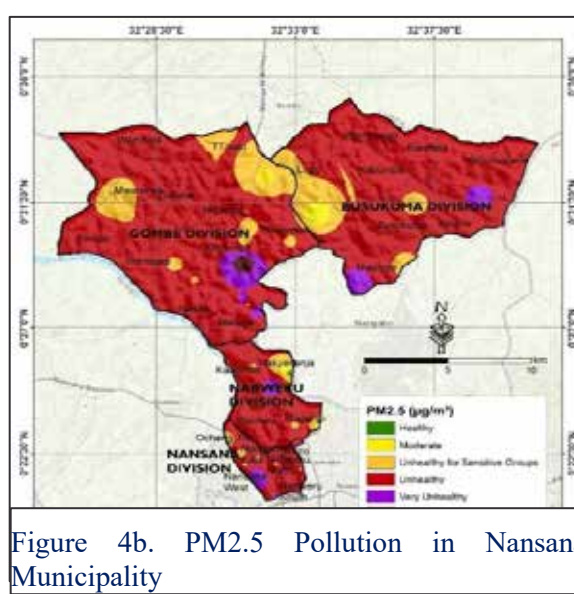


Figure 4b. PM2.5 Pollution in Nansana Municipality

2.1.3 Widespread Noise Pollution

Noise pollution has emerged as a critical quality-of-life issue, with over 85% of Nansana Municipality classified as unhealthy for sensitive groups. The most severely affected areas include Maganjo, Nansana East, Wamala, Migigye, and Nasse, where noise levels frequently reach levels that are very unhealthy or hazardous.

Key contributors include late-night prayers and amplified worship services at churches, loud music from bars and nightlife establishments, persistent street-level noise from boda bodas and commuter taxis, and inadequate enforcement of existing noise control regulations. This pollution has been linked to sleep disturbance, reduced productivity, increased stress, hearing loss, hypertension, and mental health issues among residents.

The Municipality's population has grown from 365,124 in 2014 to an estimated 692,478 in 2024, representing an annual growth rate of 8.9%, which is substantially higher than the national average of 3.0%. This unprecedented growth has created enormous pressure on housing, infrastructure, and basic services while contributing to wetland encroachment and environmental degradation.

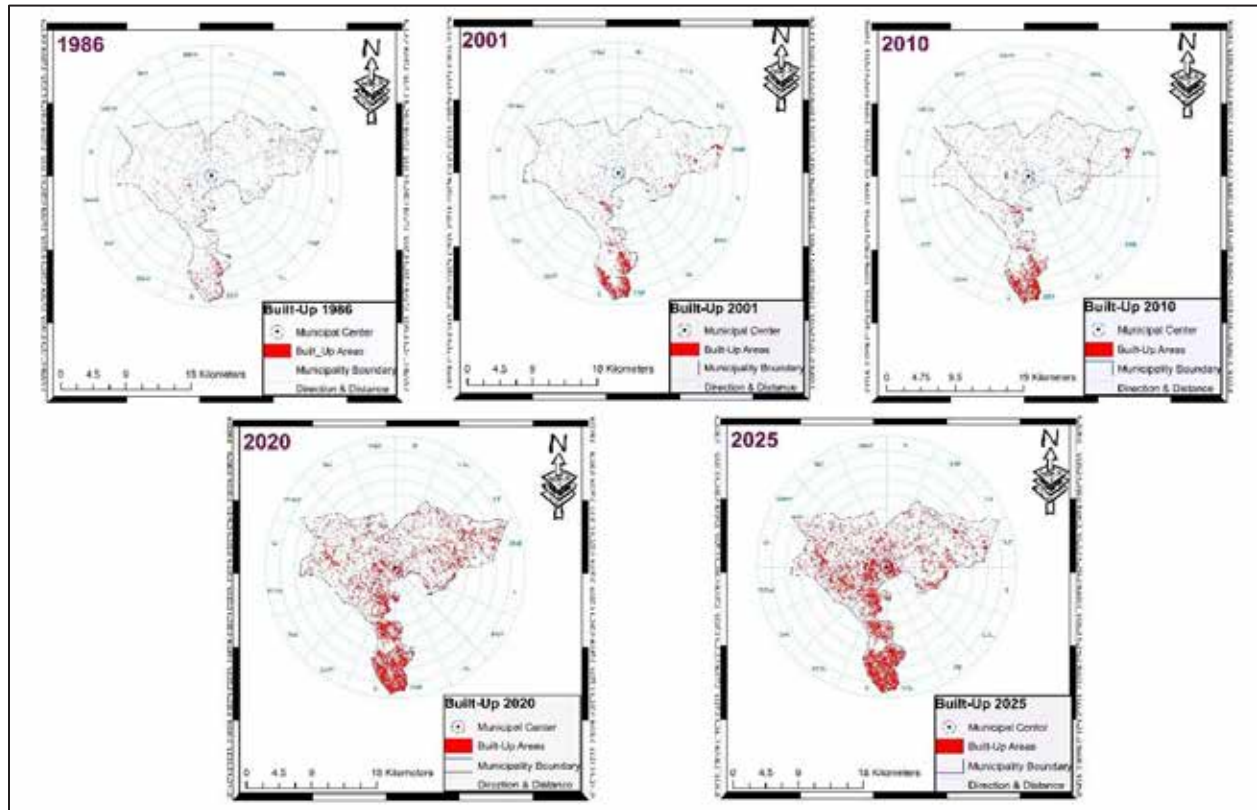


Figure 6. Direction and distribution of urbanisation patterns in Nansana Municipality (1986-2025)

2.1.5 Critical Water Quality Degradation and Access Challenges

Water resources in Nansana Municipality face multiple contamination threats that compromise both quality and accessibility. There has been a noticeable increase in nutrient loading (nitrogen and phosphorus) in surface waters, leading to eutrophication, algal blooms, and reduced oxygen levels, particularly in wetlands and drainage channels receiving untreated wastewater.

Microbial contamination has risen significantly, with high levels of coliform bacteria detected in water samples from informal settlements and peri-urban areas, driven by poor sanitation, open defecation, and the direct discharge of sewage into water bodies. Heavy metal concentrations and chemical pollutants are increasing, especially near small-scale industries and workshops lacking effective regulation of industrial effluents. While 54.4% of households access piped water, many peri-urban and informal settlements still rely on unprotected sources, exposing residents to waterborne diseases.

2.1.6 Inadequate Solid Waste Management Systems

Solid waste management represents a growing environmental and public health challenge across Nansana Municipality. The municipality generates diverse waste types, including polythene bags (21.6%), wastewater (5%), food waste (5%), textile waste (4.9%), paper waste (4.9%), and plastic waste (4.2%), at the household level. Daily household waste generation ranges from 5kg to 100 kg.

Critical challenges include unregulated dumping in wetlands, roadside areas, streams, and drainage channels; delays in waste collection due to limited infrastructure (only two collection trucks serving four divisions); lack of proper waste management facilities, including landfills; poor management of industrial and liquid waste; and limited knowledge about waste separation and segregation. These problems contribute to air pollution through open burning, land degradation from plastic waste, and contamination of water bodies.



Figure 7: Illegal solid waste dumping in a drainage channel in Gombe division and on open bare ground

2.1.7 Forest Cover Loss and Biodiversity Decline

Natural forest cover in Nansana Municipality has been extensively lost due to encroachment, urbanization, and land conversion for settlements and agriculture. While satellite analysis shows some recovery in tree cover from 18.7% in 2020 to 27% in 2025 (likely due to afforestation efforts), the municipality remains largely devoid of its original natural forests.

The notable Kasozi Forest Reserve, a 44-hectare plantation forest, shows evidence of farm encroachment within its boundaries. Other small forested areas, including Namawatta, Tefo-Kavule, and Biiso, continue facing pressure from human activities. What remains are highly fragmented patches with scattered indigenous tree species, making Nansana one of the most forest-deficient urban areas in the region.



Figure 8. *Albizia coriaria* assembled to burn bricks in Lumansi wetland, Gombe division

2.1.8 Severe Soil Erosion and Land Degradation

Soil erosion has become a critical environmental challenge, with erosion rates ranging from 0 to over 2,500 t ha⁻¹ yr⁻¹ in degraded wetland areas. The intensity of erosion is closely linked to land use changes, particularly the expansion of agricultural activities and unplanned urban development. Wetland areas such as Lubigi and Katokota are among the most affected due to encroachment and removal of stabilizing vegetation.

The problem is exacerbated by uncontrolled runoff from steep slopes, road construction, poor farming practices, and rapid urban infrastructure expansion. As wetlands are degraded, sedimentation in water bodies increases, reducing their ecological function and exacerbating flooding risks in low-lying areas.

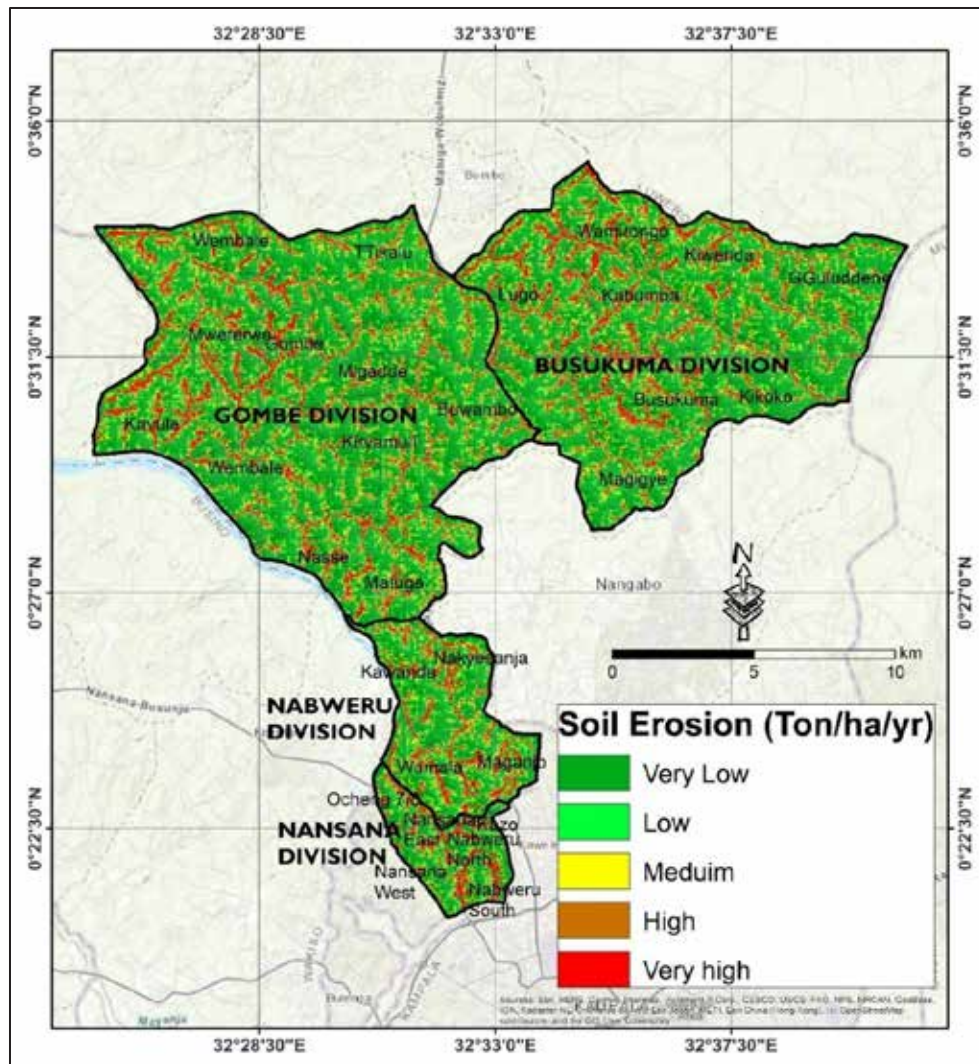


Figure 9. Soil erosion map for Nansana Municipality

2.1.9 Climate Vulnerability and Extreme Weather Events

Nansana Municipality faces increasing vulnerability to climate-related hazards, with significant implications for infrastructure and community safety. Rainfall data from 1986-2024 reveals an upward trend with average annual precipitation of 1,439.59 mm, but with significant inter-annual variability ranging from 1,114.91 mm (2013) to 1,814.94 mm (1997).

Recent spatial analysis shows dramatic intensification, with very high rainfall areas (above 1,450 mm) increasing from 17.4% in the 1990s to 37.6% in 2020-2025. Temperature projections indicate increases of 0.3°C under moderate scenarios and 0.6°C under high greenhouse gas concentration scenarios by 2025-2030. The municipality experiences alternating wet and dry periods, with flood

risks in low-lying areas and drought conditions affecting 64.5% of the municipality classified as low drought hazard areas.

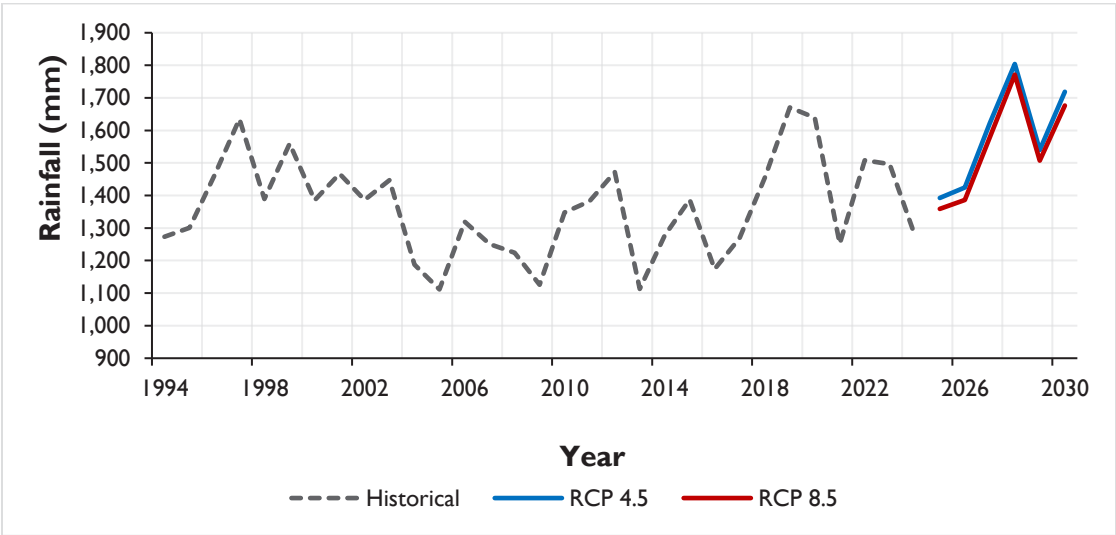


Figure 10. Historical and projected rainfall for Nansana municipality between 1994 and 2030

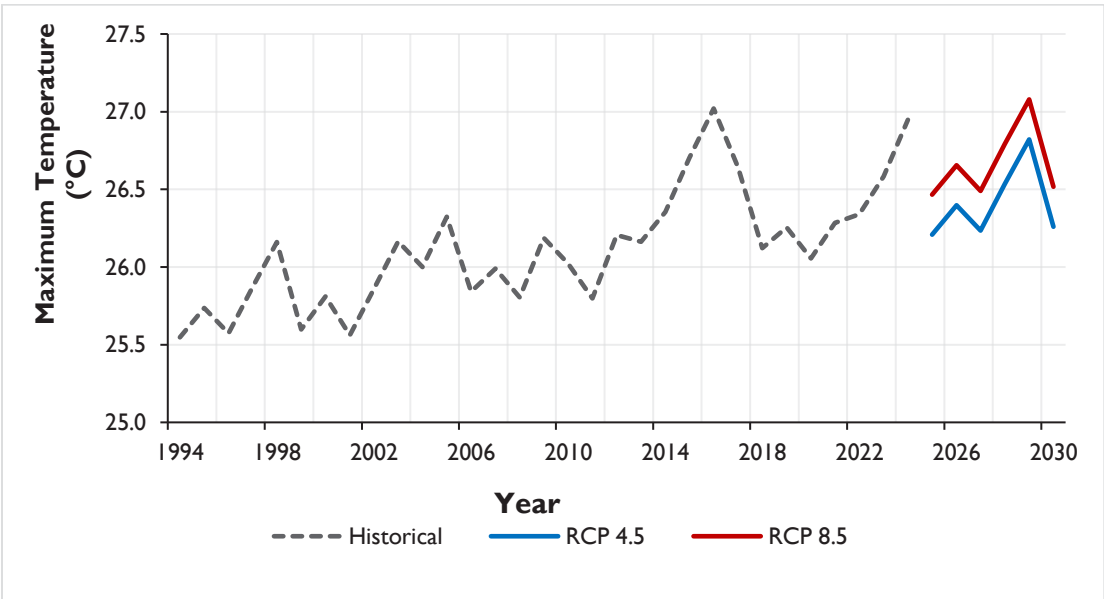


Figure 11. Historical and projected maximum temperature for Nansana municipality between 1994 and 2030

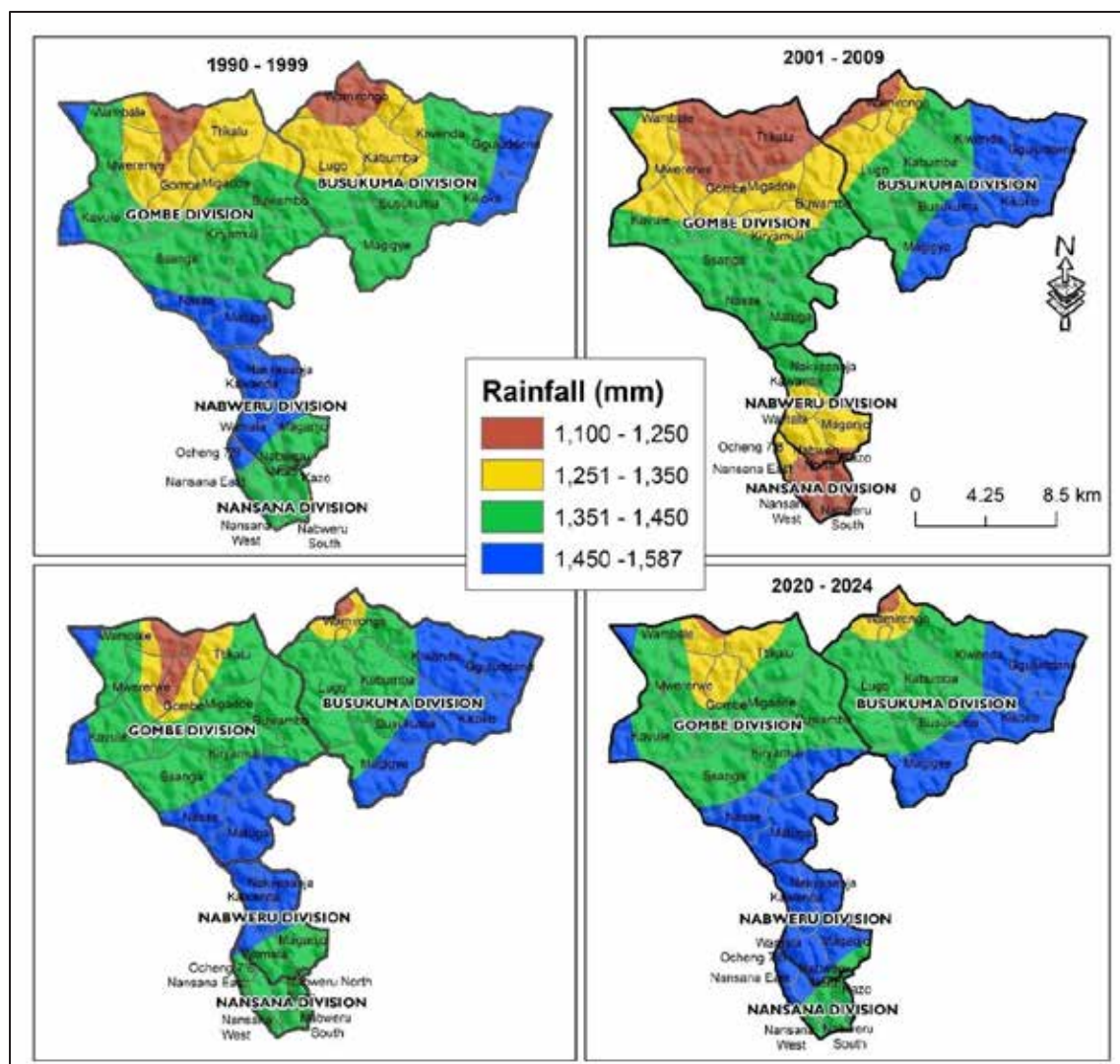


Figure 12. Rainfall patterns in Nansana Municipality

2.1.10 Industrial Growth Without Environmental Safeguards

Rapid industrialization across all four divisions has brought economic opportunities but also significant environmental challenges. Industries include agro-processing, petroleum products, plastics manufacturing, bottling and packaging, and pharmaceuticals, with notable companies like Dei Bio Pharma, Acacia Foundation, and Migo Industries establishing operations.

Environmental challenges from industrialization include habitat destruction through wetland clearing and backfilling; air pollution from industrial emissions; noise pollution from heavy machinery affecting residential areas; limited occupational health and safety compliance; and water pollution from increased nutrient loading and toxic substance releases. Most concerning is the tendency for industries to locate in lowland-wetland areas due to land availability, directly contributing to ecosystem destruction.



Figure 13. Industrialization in Nansana Municipality

These and additional issues constitute the foundation for the Municipal Environmental Action Plan's strategic interventions, necessitating coordinated responses across various sectors to achieve sustainable urban development while safeguarding the remaining natural resources of Nansana Municipality and enhancing the quality of life for its residents.

3.0 Methodology and Stakeholder Engagement in the Planning Process

The development of the Nansana Municipal Environmental Action Plan followed a highly participatory and inclusive methodology, ensuring that the plan is grounded in the priorities and realities of local stakeholders. Consultative workshops were held across all four divisions- Nansana, Nabweru, Busukuma, and Gombe- bringing together a diverse group of participants, including local leaders, NGOs, youth groups, and residents. Through these forums, communities identified the most pressing environmental challenges, such as wetland encroachment, industrial pollution, and solid waste mismanagement. To validate and enrich these community perspectives, the planning process incorporated a thorough analysis of municipal data, including water quality, waste generation, land use changes, and mapping biodiversity hotspots like Lubigi Wetland. This approach ensured that both local knowledge and empirical evidence shaped the plan's priorities and interventions.

The plan was developed through a consultative and iterative process, reflecting the principles of fairness, equity, gender, and social inclusion. Stakeholder consultations were conducted at municipal, division, and parish levels, and the process involved the identification of key environmental risks, analysis of vulnerabilities, and validation of proposed interventions. The plan integrates multiple objectives-sectoral, catchment, and local-while aligning with national and international commitments such as Uganda Vision 2040, the National Development Plan IV, and the Sustainable Development Goals. Datasets collected and analysed included environmental indicators and socioeconomic and infrastructure data, with results presented in accessible formats such as maps and tables. This robust, stakeholder-driven methodology has resulted in an action plan that is evidence-based, contextually relevant, and broadly owned by the Nansana community



Figure 14. Stakeholder participation in the consultative process

3.1 Environmental Vision for Nansana

Nansana Municipality envisions a green, resilient, and prosperous urban community where natural resources are sustainably managed, urban growth is well-planned, and all residents enjoy a high quality of life in harmony with the environment. This vision is anchored in the Nansana Municipal Development Plan, 2020/21 – 2024/25 ambition for a transformed municipality from an unplanned state to a prosperous and well-planned society by 2040, Uganda Vision 2040 aspiration for a modern and prosperous country, commitment to sustainable urbanisation and environmental stewardship under NDPIV, and the Sustainable Development Goals (SDGs) call for inclusive, safe, resilient, and sustainable cities and communities. The Nansana Physical Development Plan further guides this vision by promoting integrated land use, restoration of degraded ecosystems, and climate-resilient infrastructure, ensuring that environmental sustainability underpins all aspects of municipal development.

3.2 Guiding Principles

The implementation of the Nansana Municipality Environmental Action Plan is guided by the following principles, which are consistent with Uganda Vision 2040, NDPIV, the SDGs, and the Nansana Physical Development Plan.

- **Sustainable and Equitable Development:** Promote the use of resources to meet present needs without compromising the ability of future generations to meet their own, ensuring equitable access to environmental benefits for all residents (NMDP, Vision 2040, SDG 10, SDG 11).
- **Good Governance and Participation:** Uphold transparency, accountability, and inclusive decision-making, engaging all stakeholders, the government, private sector, civil society, and communities in environmental management (NMDP, Vision 2040, NDPIV, SDG 16).
- **Integrated Planning and Implementation:** Mainstream environmental concerns into all municipal plans, policies, and infrastructure projects, aligning with national and global development frameworks (NMDP, NDPIV, SDG 17).
- **Resilience and Adaptation:** Build the capacity of the municipality and its residents to anticipate, withstand, and recover from environmental shocks, climate change impacts, and disasters (Vision 2040, NDPIV, SDG 13, SDG 16).
- **Innovation and Knowledge:** Foster a culture of learning, innovation, and application of best practices and scientific knowledge in environmental management (Vision 2040, NDPIV, SDG 9).
- **Balanced Development:** Ensure that economic growth, social well-being, and environmental protection advance together, with special attention to vulnerable groups and ecologically sensitive areas (NMDP, Vision 2040, NDPIV, SDG 1, SDG 15).

3.3 Key Targets (to 2030)

In alignment with Uganda Vision 2040, NDPIV, the Nansana Physical Development Plan, and the SDGs, the following targets will guide environmental action in Nansana Municipality up to 2030:

- Restore and protect at least 30% degraded wetlands and forest patches by 2030, contributing to national targets for increasing forest cover to 24% and wetland cover to 13% (NMDP, Vision 2040, NDPIV, SDG 15).
- Achieve 80% access to safe piped water and improved sanitation for all residents, reducing waterborne diseases and supporting SDG 6 (NMDP, NDPIV, SDG 6).

- Take actions to reduce air, water, and noise pollution levels by at least 50% from 2025 baselines, through enforcement of environmental regulations and promotion of clean technologies (NDPIV, SDG 3, SDG 11).
- Expand green infrastructure and public spaces so that at least 30% of urban land is dedicated to parks, tree cover, and recreational areas (Vision 2040, Nansana Physical Plan, SDG 11.7).
- Mainstream climate adaptation and disaster risk reduction into all municipal plans, with at least 80% of new infrastructure projects designed for climate resilience (NDPIV, SDG 13).
- Strengthen environmental governance and community engagement, ensuring that at least 40% of local leaders, especially ENR committees, participate in regular environmental monitoring and restoration activities (NMDP, Vision 2040, NDPIV, SDG 16, SDG 17).
- Promote a circular economy by increasing municipal waste collection to at least 40%, promoting waste recycling and reducing solid waste sent to landfills by 30% (NDPIV, SDG 12).

3.4 Strategic Objectives and Actions

1.0 Sustainable natural resources utilisation and conservation
1.1 Wetland conservation
1.2 Forest conservation and urban forests
1.3 Natural resources restoration
1.4 Wise use of natural ecosystems
2.0 Clean Transport and Sustainable Energy Solutions
1. Green Mass Transport
2. Capacity building for eco-friendly Public Transport
2.3 Transition to Clean Cooking Energy
3.0 Equitable access to a safe and reliable water supply
3.1 Water Supply Infrastructure
3.2 Water Quality Monitoring
3.3 Water Conservation and Protection
3.4 Sewage and Sanitation
4.0 Promote sustainable industrial growth through robust environmental monitoring, resource protection, and data-driven management
4.1 Industrial Activity Monitoring
4.2 Water Source Protection enforced
4.4. Air/Noise Pollution enforced
4.5 Climate Data Collection
5.0 Strengthen Sustainable Urbanisation
5.1 Enhance compliance with settlements/ building standards
5.2 Improve urban infrastructure for public transport
5.3 Reduce urban heat island impacts (greening)
5.4 Integrated human settlement development
5.5 Promote mass density green transport
5.6 Behavioural change in public transport
5.7 Enhance Air & Noise Monitoring
6.0 Catalyse improvement in waste management, circular and green economy
6.1 Enhance solid waste management across all divisions.
6.2 Support waste-to-products entrepreneurship
6.3 Green investments and partnerships in waste
7.0 Strengthen adaptation and mitigation to climate change
7.1 Restore wetlands, rivers, waterways, Forests

7.2 Improve flood-risk mapping & early warning
7.3. Investing and transition to a green economy
7.4 Climate Data Collection
8.0 Enhance environmental management and urban resilience in Nansana Municipality through the adoption of modern technology and digital monitoring systems
8.1 Procure digital monitoring infrastructure (Computer system/servers)
8.1 Acquire Environmental Sensors
8.2 Create Protocol Data accessibility
8.3 Capacity building of staff to utilise the system
8.4 Create E-tools for environmental monitoring
9.0 Strengthen strategic policy development, implementation and monitoring
9.1 Capacity building for policy and by-law implementation
9.2 Promote public awareness for sustainable development
9.3 Advocate for Air and Noise Monitoring Standards

4.0 Outcomes, outputs and actions for strategic objectives

1. Enhance sustainable natural resources utilization and conservation in Nansana Municipality

This objective seeks to guide the growth of Nansana Municipality in a manner that is orderly, inclusive, and resilient. It emphasizes the development of infrastructure, housing, and services that protect natural resources, minimize environmental risks, and improve the overall well-being of all residents.

Outcome: Improved ecosystem health, increased biodiversity, and sustainable livelihoods

Action Area	Output	Action	Baseline	Area (Hotspot)	Timeframe			Lead Dept /Partner
					2025-2027	2027-2028	2028-2030	
Wetland conservation	30% of wetlands demarcated, 100 ha restored	Map, demarcate, and erect pillars	10%	All Municipality				Environment Dept, MWE, NEMA
		Enforce buffer zones	0	All Municipality				Environment Dept, NEMA, MWE
		Annual restoration/ encroachment reports	0	All Municipality				MENR Department
		Evict, Relocate unlicensed wetland occupants	1	All Municipality				NEMA, MWE, NMC
Forest conservation & urban forests	1,000,000 trees planted	Annual tree planting campaigns	0	All Municipality				NFA/NMC, PPP, NGO, Community Groups
		Establish community nurseries; replant CFR	0	Busukuma				NFA, Environment Dept, NGOs, Community Groups

		Create green corridors along 4 major roads	0	Nansana, Nabweru				Physical Planning and Environment Dept
		Annual tree counting and auditing	0	All Municipality				Environment Dept
Natural resources restoration	Riverbanks /wetlands restored	Rehabilitate riverbanks (Mayanja, Lumansi)	0	Busukuma, Gombe				MWE, Environment Dept
Wise use of natural ecosystems	2 eco-parks established and operational	Develop eco-park master plans	0	Lumansi Wetland				Environment Dept
		Launch pilot eco-parks (Lumansi, Lubigi)	0	Lumansi, Lubigi				MWE, Environment Dept, PPP

2. Promote Clean Transport and Sustainable Energy Solutions in Nansana Municipality

Enhance the quality of urban life and environmental health in Nansana Municipality by reducing air and noise pollution, increasing the adoption of green transport systems, and promoting clean cooking energy. This will be achieved through improved monitoring, enforcement, public awareness, and strategic partnerships.

Outcome: reduced air and noise pollution levels in Nansana Municipality by 2030

Action Area	Output by 2030	Action	Baseline	Area (Hotspot)	Timeframe			Partner/Lead Dept
					2025/2027	2027/2028	2028/2030	
Green Mass Transport	30% increase in green mass-transport usage	Promote the adoption of green mass-transport systems	Low adoption; most public transport is fossil fuel-based	Major transport corridors				Transport Dept, Private Operators, MoWT
Eco-friendly Public Transport	70% of public transport operators trained;	Train public transport operators on eco-friendly practices and	<10% of operators trained;	All Municipality				Transport Dept, Environment Dept, NGOs
	60% of the public aware of pollution reduction	Raise public awareness on pollution reduction	Low public awareness of the need for pollution reduction	All Municipality				Transport Dept, Environment Dept, NGOs
Clean Cooking Energy	5000 households use clean cooking energy	Promote the use of clean cooking energy	~10% households use clean cooking energy; the majority rely on charcoal/biomass	All Municipality				Environment Dept, NGOs, Health Dept, MEMD
		Carry out trainings on sustainable energy solutions	Low public awareness					Environment Dept, NGOs, Health Dept, MEMD
		Advocate for PPP on LPG	Very Low investment in clean energy					Environment Dept, NGOs, Health Dept, MEMD

3. Improve equitable access to safe and reliable water supply and enhance water quality monitoring in Nansana Municipality

Expand and upgrade water supply infrastructure by providing community spring wells, constructing boreholes, installing rainwater harvesting systems, and conducting regular water quality tests. Build community and institutional water conservation and protection capacity, and partner with Lubigi waste treatment plant to improve sewage management.

Outcome: Access to safe, reliable water from protected sources, with regular quality monitoring and improved sanitation services

Action Area	Output	Action	Baseline	Area (Hotspot)	Timeframe			Partner/Lead Dept
					2025/2027	2027/2028	2028/2030	
Water Supply Infrastructure	10 new spring wells constructed and operational	Provide community spring wells	<10 spring wells	All Municipality				Health Dept, Environment Dept, MWE, NGOs, Community
	5 New boreholes constructed and operational	Construct boreholes	< 10 operational boreholes	Busukuma, Gombe				Health Dept, Environment Dept, MWE, NGOs, Community
	40% of households with rainwater harvesting systems	Promote rainwater harvesting systems	<20% of households covered	All Municipality				Health Dept, Environment Dept, MWE, NGOs, Community
Water Quality Monitoring	100% of public water sources tested quarterly	Regular water tests	Irregular testing	All public water points				Health Dept, Environment Dept
Water Conservation & Protection	80% of community leaders trained in water conservation	Capacity building on water conservation, sustainable use, and protection	Limited training	All Municipality				Health Dept, Environment Dept, MWE, NGOs, Community
Sewage & Sanitation	Lubigi sewage system extended to Nansana and operational	NWSC funded to take sewage from Nansana	No Lubigi sewage service extended to Nansana	Nansana and Nabweru				Lubigi treatment plant, NEMA, Health Dept, Environment Dept, MWE, NGOs, Community

4. Promote sustainable industrial growth through robust environmental monitoring, resource protection, and data-driven management.

Establish centralized digital systems for the monitoring of industrial activities, the enforcement of water and wetland protection measures, and the requirement for real-time reporting of water, air, noise, and climate data from factories. Such measures will ensure that industrial expansion is in alignment with municipal environmental standards and contributes to climate resilience.

Outcome: All major industries in Nansana Municipality operate within strict environmental compliance, with real-time data reporting.

Action Area	Output	Action	Baseline	Hotspot	Timeframe			Partner/ Lead Dept
					2025/ 2027	2027/ 2028	2028/ 2030	
Enhance Industrial Activity Monitoring	100% of industries integrated into a centralized monitoring system	Establish servers and systems for tracking industrial activity (emissions, waste, compliance)	No centralized system	Industrial zones				IT Dept, Environment Dept, NEMA,
Enforcement of Water Source Protection	100% compliance with water source protection guidelines by industries	Enforce wetland protection plans for industries in wetlands	Limited enforcement of wetland buffers	Wetland-adjacent industries in the municipality				NWSC, Health Dept, MWE, NEMA, Environmental Dept
Enforcement of Water Quality Monitoring	100% of industries discharge water meeting national quality standards	Industries will install water quality meters, feeding real-time data to the Municipality, MWE, and NEMA	<20% of industries monitored	All Municipality				Health Dept, NEMA, Environment Dept
Enforcement of Air/Noise Pollution regulation	60% reduction in industrial air/noise pollution violations	Install air/noise sensors linked to municipal servers; enforce emission standards	No real-time monitoring; frequent violations	Industrial zones, urban fringes				, AirQo, NEMA, Environment Dept
Enhance insitu Climate Data Collection	All factories/ industries contribute temperature/rainfall data to municipal climate models.	Industries will install rain gauges and temperature sensors	No factory-based climate data	Industrial hubs				Meteorology Dept, Industries, Environment Dept

5. Strengthen Sustainable Urbanisation

This objective focuses on integrated planning, upgrading urban infrastructure, promoting green spaces, and fostering community participation to create a well-managed, livable municipality that can adapt to future challenges.

Outcome: Organized, resilient, and inclusive urban growth

Action Area	output	Action	Baseline	Area (Hotspot)	Timeframe			Partner/ Lead Dept
					2025/ 2027	2027/ 2028	2028/ 2030	
Enhance compliance with settlements/ building standards	80% compliance in new developments	Conduct routine building inspections	Irregular inspection,	All Municipality				Physical Planning, Land use Planning Dept, Environmental Dept,
		Enforce standards in all divisions	Low compliance to standards	All Municipality				Physical Planning, Land use Planning Dept, Environmental Dept,
Improve urban infrastructure for public transport	30 km of roads upgraded, five new bus stops constructed	Upgrade Nansana–Nabweru–Kawala Road and Kampala–Hoima Road; install bus stops	20 km roads upgraded,	Nansana and Nabweru				Physical Planning, Land use Planning Dept, Environmental Dept,
Reduce urban heat island impacts (greening)	8,000 trees planted, four parks established	Launch a campaign to green Nansana Municipality by planting 8000 trees along roads.	<100 trees planted in the last 2 years	All Municipality				Physical Planning, Land use Planning Dept, Environmental Dept,
		Establish four parks, one in each division; plant trees along road reserves.	0 new parks established; minimal tree planting along roads	All Municipality				Physical Planning, Land use Planning Dept, Environmental Dept,
Integrated human settlement development	2 slums upgraded, 1,000 households formalized	Upgrade Kibwa and Kibuloka with basic services	No formal slum upgrading	All Municipality				Physical Planning, Land use Planning Dept, Environmental Dept,
Promote mass density green transport	2 mass transit corridors are operational	Pilot e-bus services along Kampala–Hoima Road;	0 e-bus services operational	Nansana Division				NMC, Environmental Dept, Kira Motors
		Document boda-bodas operating in the Municipality;	No boda-boda registry in Nansana	All Municipality				NMC, Environmental Dept, Revenue Dept
		Promote the use of electric motorcycles for all Boda-boda.	Unknown electric motorcycles in use;	All Municipality				NMC, Environmental Dept, Kira Motors
Behavioural change in public transport	3 Annual campaigns, code of conduct adopted	Conduct bi-annual public transport hygiene and safety campaigns,	No regular campaigns; no code of conduct for public transport	All Municipality				Environmental Dept, Community, NEMA, NGOs

Enhance air/Noise monitoring		Install noise sensors in all major towns and trading centres, feeding data to the Municipality and NEMA.	No noise sensors installed; air monitoring ad hoc	Entire Municipality				AirQo, Environmental Dept, NEMA
		Enforce locations for churches/bars/ noisy businesses out of residential areas.	No zoning enforcement for noise-generating businesses	Entire Municipality				Environmental Dept, NEMA

6. Catalyse improvement in waste management, circular and green economy

This objective is focused on reducing environmental pollution, supporting local green jobs, and advancing a circular economy where materials are reused and waste is minimised, ultimately contributing to a cleaner, healthier, and more sustainable municipality.

Outcome: Cleaner, resource-efficient municipality

Action Area	output	Action	Baseline	Area (Hotspot)	Timeframe			Partner/ Lead Dept
					2025/ 2027	2027/ 2028	2028/ 2030	
Enhance solid waste management across all divisions.	60% collection coverage, 10% waste recycled	Increase collection points	30	Entire Municipality				Health Dept, Environmental Dept, PPP, NEMA
		Pilot recycling at Menvu landfill	0	Entire Municipality				
Support waste-to-products entrepreneurship	10 SMEs supported, two recycling hubs operational	Lobby grants to community-led recycling businesses	1	Entire Municipality				Health Dept, Environmental Dept, PPP, NEMA
	Capacity building for SMEs carried out	Conduct training on waste recycling and waste business models	0	Entire Municipality				Health Dept, Environmental Dept, PPP, NEMA
Green investments and partnerships in waste	3 PPPs established, two green investment forums	Host an annual green economy investment forum and sign PPPs		Entire Municipality				Health Dept, Environmental Dept, PPP, NEMA

7. Strengthen adaptation and mitigation to climate change

This objective focuses on implementing proactive measures to protect vulnerable communities and critical infrastructure, restore and conserve natural ecosystems like wetlands and forests, promote climate-smart livelihoods, and integrate disaster risk reduction into all planning and development processes

Outcome: Reduced vulnerability to floods and droughts

Action Area	output	Area (Hotspot)	Baseline	Action Area	Timeframe			Partner/ Lead Dept
					2025/ 2027	2027/ 2028	2028/ 2030	
Restore wetlands, rivers, and waterways and forests	Twenty acres of Lubigi and 30 acres of Mayanja wetlands restored. Two retention ponds established for each wetland	Rehabilitate 10 drainage channels in all divisions.	0<5 acres restored in Lubigi, <5 acres in Mayanja; 0 retention ponds; <2 drainage channels rehabilitated	Entire Municipality				
		Construct two retention ponds along the course of river Mayanja and Lubigi wetland.	0 retention ponds constructed	Nansana and Gombe				
4.2 Improve flood-risk mapping & early warning	Flood-risk maps, four early-warning centres	Procure and install flood sensors on the four major wetland systems in the	No comprehensive flood-risk maps; 0 early-warning centres; 0 flood sensors installed	Entire Municipality				
		Establish four divisional information centres on natural disasters.	No dedicated information centres for disasters	Entire Municipality				
Investing and transition to a green economy	Clean energy	Advocating for LPG and clean cookstoves among local communities	<30% of households use LPG	Entire Municipality				
	Public transport	PPP on e-buses, e-motorcycles	Public transport is almost entirely fossil-fuel based	Entire Municipality				
Climate Data Collection			No systematic climate data collection	Entire Municipality				

8. Enhance environmental management and urban resilience in Nansana Municipality through the adoption of modern technology and digital monitoring systems

Deploy integrated servers, environmental sensors, and web-based platforms to monitor air, water, noise, and flood risks in real time. Build capacity among municipal staff and stakeholders by providing e-tools, computers, and training, ensuring accessible, accurate data for decision-making and public transparency

Outcome: Fully operational, technology-driven environmental monitoring system, enabling rapid response, data-driven planning, and policy action

Action Area	Output	Action	Baseline	Area (Hotspot)	Timeframe			Actors (Lead /Partners)
					2025/ 2027	2027/ 2028	2028/ 2030	
Procure digital monitoring infrastructure (Computer system/servers)	Centralized servers and a web platform for real-time data access	Establish servers and technology monitoring systems; enable web-based data access	No central system	Municipal HQ, IT Unit				IT Dept, Environment Dept, Vendors
Acquire Environmental Sensors	100% coverage of key sites with air, water, noise, and flood meters	Install meters for air, water, noise, and flood monitoring	0% coverage	Industrial areas, wetlands, and major towns				Environment Dept, AirQo, NEMA
Create Protocol Data accessibility	All monitoring data accessible online to stakeholders	Enable data access through the web and user-friendly dashboards	Data not accessible to support monitoring	All Municipality				IT Dept, Environment Dept
Flood risk monitoring	Flood meters in all flood-prone zones; real-time alerts	Install and network flood meters for early warning	No flood meters	Low-lying/flood-prone areas				Environment Dept, OPM, IT Dept
Capacity building	100 staff and community members trained in e-monitoring	Conduct capacity building on the use of e-tools, servers, and dashboards	Minimal training	All Municipality				HR Dept, IT Dept, NGOs
E-tools for environmental monitoring	All divisions equipped with computers/tablets for field monitoring	Procure and deploy computers, iPads, and rugged tablets for monitoring teams	Few to no devices noted	All divisions				IT Dept, Procurement, Donors

9. Strengthen strategic policy development, implementation and monitoring

This objective emphasizes the creation of robust, evidence-based policies and bylaws, the establishment of clear institutional arrangements for implementation, and the development of strong monitoring and evaluation systems to track progress and adapt strategies as needed. It

also involves regular stakeholder engagement, transparent reporting, and continuous capacity building to ensure policies remain relevant, enforceable, and aligned with local needs and national/international frameworks.

Outcome: Improved governance and policy effectiveness

Action Area	output	Actions	Baseline	Area (Hotspot)	Timescale			Actors (Lead /Partners)
					2025/ 2027	2027/ 2028	2029/ 2030	
5.1 Capacity building for policy and by-law implementation	100 staff trained, three new by-laws enacted, on air pollution, noise pollution and wetland encroachment	Conduct annual staff training across all divisions.	<20 staff trained in last 3 years; limited continuous training	Entire Municipality				NMC
		Update the environmental bylaws.		Entire Municipality				NEMA, NMC
5.2 Promote public awareness for sustainable development	4 annual campaigns, 50% increase in awareness	Organise radio talk shows;	~2 campaigns/year; low media engagement; <10% awareness on new by-laws	Entire Municipality				NMC, community groups, Media houses
		Community meetings on environmental issues	Sporadic meetings, not held regularly in all divisions	Entire Municipality				NMC, community groups,
Advocate for Air and noise Monitoring Standards	Advocate for ESIA to establish the need for air/Noise for the new business	ESIA to recommend the need for air/noise/odour monitoring	ESIA recommendations are less enforced	Entire Municipality				

5.0 Implementation Arrangements

5.1 Overall Coordination Framework

The Nansana Municipal Council (NMC) shall function as the principal agency for the implementation of the Environment Action Plan, providing strategic oversight, policy direction, and resource mobilization. The Department of Natural Resources will host a Municipal Environment and Climate Unit, which is tasked with coordinating and supervising the execution of the plan, monitoring progress, mobilising resources, and reporting to the Municipal Council and the Environment and Natural Resources Committee (ENRC). Furthermore, this unit will facilitate the establishment and operationalization of Divisional Environment Information Centres, which will assist in data collection, environmental monitoring, and local reporting. The Municipal Technical Planning Committee (TPC) will incorporate environmental priorities into annual work plans and budgets, thereby ensuring alignment with the Five-Year Development Plan, Vision 2040, and NDPV.

5.2 Division-Level Coordination

At the division level, implementation of the action plan will be guided by the Environmental and Natural Resources Committees. These committees will be responsible for mobilizing local communities, enforcing environmental by-laws, monitoring compliance, and reporting progress to the municipal ENR Committee. They will also facilitate participatory planning, local awareness campaigns, and the integration of environmental actions into division and ward development plans. Regular joint monitoring visits and quarterly coordination meetings will be held to review progress, address challenges, and share lessons across divisions.

5.3 Roles of stakeholders

Successful implementation of the Environment Action Plan will depend on the active involvement of a broad range of stakeholders, each contributing unique expertise and resources. Government institutions (such as NEMA, UNMA, and the Ministry of Water and Environment) will provide regulatory oversight, technical guidance, and policy support. NGOs, CBOs, and development partners will offer technical support, funding, and community mobilization, while academic and research institutions will contribute research, data, and monitoring and evaluation support. The private sector will invest in green technologies, innovation, and job creation, and will be engaged through public-private partnerships for waste management, green infrastructure, and eco-enterprises. Religious and cultural leaders will drive behavioral change and public sensitization, while youth and women's groups will be targeted for inclusion and championing environmental initiatives. Farmers' associations, schools, and media houses will play key roles in promoting sustainable practices, education, and public awareness. Civil society organizations and indigenous knowledge holders will ensure social accountability, promote traditional adaptation techniques, and support inclusive, community-driven implementation.

5.4 Partnerships and Community Participation

Implementation will be strengthened by fostering partnerships with central government ministries, district authorities, the Greater Kampala Metropolitan Area, and development partners, as well as through structured engagement with the private sector and civil society. Community participation will be emphasized at all stages-from planning and implementation to monitoring and feedback-ensuring local ownership and sustainability of interventions. Regular stakeholder forums, public awareness campaigns, and participatory monitoring will be

institutionalized to maintain transparency, accountability, and responsiveness to community needs.

Table 2: Roles of stakeholders

Stakeholder	Roles
Nansana Municipal Council (Tech & Political)	Stakeholder engagement, coordination, planning, resource mobilization, and oversight.
NEMA	Enforcement of environmental regulations, capacity building
UNMA	Climate data provision, early warning information
Ministry of Water and Environment (MWE)	Policy guidance, technical support, water/climate services
GKMA-UDP	Technical support, funding
NGOs & Development Partners	Technical support, funding, and community engagement
CBOs, Community Groups	Grassroots mobilization, community-led implementation
Academic and Research Institutions	Technical research, data generation, M&E support
Private Sector	Investment in green technology, innovation, job creation
Religious and Cultural Leaders	Behavioural change and public sensitization
Youth and Women's Groups	Inclusion, climate/environment champions
Farmers' Associations & Cooperatives	Adoption of sustainable and resilient practices
Schools & Educational Institutions	Early environmental education and innovation
Media Houses	Information dissemination and public awareness
CSOs & Indigenous Knowledge Holders	Social accountability, traditional adaptation techniques

6.0 Financing the MEAP

6.1 Estimated Budget and Resource Needs

Table 3. Costing for action outputs

Strategic Objectives and action areas	Estimated Budget in Uganda Shillings (Millions)					
	2025/ 2026	2026/ 2027	2027/ 2028	2028/ 2029	2029/ 2030	5-yr Total
1.0 Sustainable natural resources utilization and conservation						4,890
1.1 Wetland conservation	320	740	170	70	70	1370
1.2 Forest conservation and urban forests	200	450	380	270	270	1570
1.3 Natural resources restoration	100	200	0	0	0	300
1.3 Wise use of natural ecosystems	300	450	500	300	100	1650
2.0 Clean Transport and Sustainable Energy Solutions						2,90
1. Green Mass Transport	70	200	200	200	100	770
2. Capacity building for eco-friendly Public Transport	70	60	0	0	0	130
2.3 Transition to Clean Cooking Energy	90	90	90	60	60	390
3.0 Equitable access to a safe and reliable water supply						3,310
3.1 Water Supply Infrastructure	450	860	270	170	150	1900
3.2 Water Quality Monitoring	40	40	40	40	40	200
3.3 Water Conservation and Protection	30	40	40	0	0	110
3.4 Sewage and Sanitation	200	300	300	200	100	1100
4. Promote sustainable industrial growth through robust environmental monitoring, resource protection, and data-driven management						1,330
4.1 Industrial Activity Monitoring	100	100	50	50	10	310
4.2 Water Source Protection enforced	20	30	20	0	0	70
4.4. Air/Noise Pollution enforced	220	520	120	20	20	900
4.5 Climate Data Collection	10	10	10	10	10	50
5.0 Strengthen Sustainable Urbanisation						5,690
5.1 Enhance compliance with settlements/ building standards	20	30	10	10	10	80
5.2 Improve urban infrastructure for public transport	1000	1000	700	0	0	2700
5.3 Reduce urban heat island impacts (greening)	100	100	400	400	400	1400
5.4 Integrated human settlement development	100	100	100	100	100	500
5.5 Promote mass density green transport	60	60	30	30	30	210
5.6 Behavioural change in public transport	40	40	40	40	40	200
5.7 Enhance Air & Noise Monitoring	110	430	30	20	10	600

6.0 Catalyse improvement in waste management, circular and green economy						715
6.1 Enhance solid waste management across all divisions.	200	100	100	100	100	600
6.2 Support waste-to-products entrepreneurship	10	20	10	10	15	65
6.3 Green investments and partnerships in waste	10	10	10	10	10	50
7.0 Strengthen adaptation and mitigation to climate change						1,340
7.1 Restore wetlands, rivers, waterways, Forests	0	0	0	0	0	0
7.2 Improve flood-risk mapping & early warning	0	0	500	500	300	1300
7.3. Investing and transition to a green economy	0	0	10	10	0	20
7.4 Climate Data Collection	0	0	10	10	0	20
8.0 Enhance environmental management and urban resilience in Nansana Municipality through the adoption of modern technology and digital monitoring systems						1,200
8.1 Procure digital monitoring infrastructure (Computer system/servers)	200	300	300	0	0	800
8.1 Acquire Environmental Sensors	0	0	0	0	0	0
8.2 Create Protocol Data accessibility	40	50	20	20	20	150
8.3 Capacity building of staff to utilise the system	50	0	0	0	0	50
8.4 Create E-tools for environmental monitoring	100	100	0	0	0	200
9.0 Strengthen strategic policy development, implementation and monitoring						365
9.1 Capacity building for policy and by-law implementation	200	0	30	20	0	250
9.2 Promote public awareness for sustainable development	20	20	20	20	20	100
9.3 Advocate for Air and noise Monitoring Standards	5	10	0	0	0	15
Overall Total						20,130

CEO SUMMARY						
Strategic Area	Estimated Budget in Uganda Shillings (Millions)					
	2025/26	2026/27	2027/28	2028/29	2029/30	Strategic Area Total
1.0 Sustainable natural resources utilization and conservation	920	1840	1050	640	440	4890
2.0 Clean Transport and Sustainable Energy Solutions	230	350	290	260	160	1290
3.0 Equitable access to a safe and reliable water supply	720	1240	650	410	100	770
4. Promote sustainable industrial growth through robust environmental monitoring, resource protection, and data-driven management	350	660	200	80	40	1330
5.0 Strengthen Sustainable Urbanisation	1430	1760	1310	600	590	5690
6.0 Catalyse improvement in waste management, circular and green economy	220	130	120	120	125	715
6.0 Catalyse improvement in waste management, circular and green economy	220	130	120	120	125	715
7.0 Strengthen adaptation and mitigation to climate change	0	0	520	520	300	1340
8.0 Enhance environmental management and urban resilience in Nansana Municipality through the adoption of modern technology and digital monitoring systems	390	450	320	20	20	1200
9.0 Strengthen strategic policy development, implementation and monitoring	225	30	50	40	20	365

7.0 Resource Mobilization

The successful implementation of the Nansana Municipal Environmental Action Plan will depend on a robust and diversified resource mobilization strategy, aligned with the National Development Plan IV, Uganda Vision 2040, and the Environment and Natural Resources (ENR) Conditional Grant Guidelines. The plan will leverage a mix of internal and external funding sources, innovative financing mechanisms, and strong partnerships to ensure sustainable financing for priority environmental actions.

7.1 Key Resource Mobilization Approaches

7.1.1 Municipal Budget Allocations

Nansana Municipal Council will prioritize environmental actions in its annual budgets, ensuring that a portion of locally raised revenue and unconditional grants is earmarked for implementing the Environment Action Plan. This includes emergency budgeting for rapid response to environmental incidents and routine funding for compliance monitoring and restoration projects.

7.1.2 Central Government Transfers and Conditional Grants:

The municipality will access central government transfers and sector-specific conditional grants, such as the ENR non-wage conditional grant, to support activities in wetland management, forestry, pollution control, and compliance monitoring. These grants will be used in line with national policy priorities and monitored through performance-based indicators.

7.1.3 Development Partner Contributions:

Partnerships with development agencies, NGOs, and technical cooperation programs will provide additional funding for infrastructure, capacity building, innovation projects, and community-based environmental initiatives. Project-based grants and technical assistance will be sought for high-impact interventions such as eco-parks, waste management, and ecosystem restoration.

7.1.4 Private Sector Investments:

The municipality will promote public-private partnerships (PPPs) for green investments in waste management, renewable energy, eco-tourism, and sustainable urban infrastructure. Incentives and enabling policies will encourage private sector participation in environmental service delivery and innovation.

7.1.5 Community Contributions:

Community members will be engaged in local initiatives through voluntary labour, provision of materials, and participation in maintenance of public green spaces, waste segregation, and restoration activities. Community-based organizations will be mobilized to co-finance small-scale projects and support local stewardship

7.1.6 Innovative Financing Mechanisms:

The plan will explore and pilot innovative sources such as green bonds, environmental levies, carbon credit trading, and payments for ecosystem services (PES). These mechanisms will be developed in partnership with national agencies, financial institutions, and development partners to supplement traditional funding sources

Table 4. Funding Sources and Use

Source	Use
Local Revenue	Partial funding for implementation, emergency response, and routine environmental services
Central Government Transfers & Conditional Grants	Compliance monitoring, restoration, wetland/forest management, pollution control
Development Partners	Infrastructure, capacity building, innovation, community-based projects
Private Sector	Investment in green businesses, PPPs, eco-parks, waste management, renewable energy
Community Contributions	Volunteering, local labor, materials, co-financing small-scale initiatives
Innovative Financing (e.g., green bonds, carbon credits)	Large-scale restoration, green infrastructure, climate adaptation and mitigation

8.0 Monitoring, Evaluation, and Learning

Effective implementation of MEAP requires a strong and inclusive Monitoring, Evaluation, and Learning (MEL) system. The MEL framework will ensure that progress is systematically tracked, outcomes are evaluated, and valuable lessons are documented and integrated into future planning and decision-making processes. The specific objectives of the MEL include:

2. Monitor the progress of actions across all result areas and sectors.
3. Evaluate the effectiveness and efficiency of interventions.
4. Identify and share best practices and lessons learned.
5. Promote community feedback and inclusive learning.
6. Enable evidence-based decision-making for adaptive management

8.1 Institutional responsibility

To achieve the objectives of the MEL, a coordinated structure has been established, assigning clear roles and responsibilities to key actors at different levels of the municipal system. These actors range from municipal leadership and departmental focal persons to grassroots community representatives, technical experts, and development partners. Each actor plays a distinct and complementary role, contributing to the overall effectiveness, accountability, and responsiveness of the actions within the municipality.

Table 5. MEL structure and Roles

Actor	Role in MEL
Municipal Environment and Natural Resource Committee	Oversees MEL implementation, reviews progress, and consolidates reports for submission to NEMA and the Municipal Council.
Natural Resources Department	Leads data collection, verifies sectoral indicators (e.g., wetland restoration, waste recycling rates), and coordinates with divisional teams.
Division Environment Committees	Collect localized data (e.g., illegal dumping incidents, tree survival rates), mobilize communities for feedback, and report to the central committee.
Division Focal Persons	Participate in participatory monitoring (e.g., water quality tests, wetland patrols) and provide grassroots feedback.
Academic/Research Partners	Conduct independent evaluations (e.g., biodiversity surveys), analyze pollution trends, and recommend policy adjustments.
Community Representatives	Represent community interests in the MEL process by actively participating in data collection, providing feedback on project performance, reporting issues, and participating in community-based monitoring activities. They ensure that local knowledge, experiences, and priorities are integrated into the MEL system.
Private Sector & NGOs	Report on green investments (e.g., waste-to-energy projects), support third-party audits, and co-fund MEL activities.

Table 6. MEL indicators

Indicator Type	Examples
Input Indicators	- Funds allocated to wetland demarcation - Staff trained in environmental law enforcement - Number of projects funded - Staff trained
Output Indicators	- Hectares of wetland restored - Number of trees planted - Early warning systems installed - Tons of waste diverted from landfills via composting
Outcome Indicators	- Reduction in flood impacts - Increased renewable energy adoption - Reduction in PM2.5 and PM10 levels - % increase in households with improved sanitation
Impact Indicators	- Improved food security - Reduced disaster-related losses - Improved biodiversity index in Kasozi Forest - % decrease in waterborne diseases

8.2 Tools and approaches

- 1) Quarterly progress reports
- 2) Annual review workshops
- 3) Community scorecards
- 4) GIS and remote sensing
- 5) Mobile-based data collection (e.g., Kobo Toolbox)
- 6) Before-and-after assessments

8.3 Learning and Feedback Mechanisms

- 1) Community feedback sessions at division level
- 2) Knowledge sharing workshops with stakeholders
- 3) Integration of indigenous knowledge into adaptation strategies
- 4) Documentation of success stories and lessons learned

8.4 Reporting and communication

- 1) Regular reports submitted to the Town Clerk and Municipal Council
- 2) Annual Environmental Monitoring Reports shared with stakeholders
- 3) Dashboards or portals for real-time tracking (to be developed)
- 4) Public briefings via radio, community meetings, and social media

8.5 Adaptive Management

- 1) Use MEL findings to revise strategies and reallocate resources
- 2) Identify underperforming interventions for redesign or discontinuation
- 3) Integrate climate and Land use projections and emerging data to update plans

8.6 Risk Management

Potential implementation risks include limited funding, political interference, climate disasters, and low community participation. Risk mitigation strategies include:

- 1) Diversified financing and partnerships
- 2) Strengthening local ownership and participation
- 3) Institutionalizing climate action in municipal policies
- 4) Regular scenario planning and adaptive management approaches

Table 7. Detailed Action Plan Matrix (with timelines, responsible parties, KPIs)

Action Area	Output	Timeline	Responsible Institution	KPI	Indicator	Means of Verification	2025	2026	2027	2028	2029	2030
1.1 Wetland Conservation	100 ha of Lubigi/Katokota wetlands rehabilitated	2025–2030		% wetland area restored	Hectares restored annually	NEMA/NMC audit reports, satellite imagery	10%	25%	40%	60%	80%	100%
1.2 Forest Conservation	1000,000 indigenous trees planted	2025–2030		Survival rate of planted trees	Number of trees surviving annually	Field surveys, nursery records	15%	35%	55%	75%	90%	100%
1.3 Eco-Parks	2 eco-parks established	2026–2030		% Completion of eco-park infrastructure	Visitor numbers, biodiversity surveys	Park management reports	0%	20%	50%	80%	95%	100%
2.1 Road Upgrades	20 km of roads upgraded	2025–2030		% road network in good condition	Km upgraded annually	Infrastructure audit reports	10%	30%	50%	70%	85%	100%
2.2 Green Infrastructure	10,000 trees planted along roads	2025–2030		Urban green cover increase	Tree survival rate	GIS mapping, community reports	20%	40%	60%	80%	95%	100%
2.3 Slum Upgrading	2 informal settlements formalized	2026–2030		% households with tenure security			0%	15%	40%	65%	85%	100%
3.1 Recycling Hubs	1 material recovery facility operational	2025-2027		Tons of waste recycled Quarterly	Recycling rate (%)	Facility operational reports	30%	60%	100%			
3.2 Plastic Ban	90% compliance with single-use plastic ban	2025-2027		Reduction in plastic waste	Number of penalties issued	Market inspections	40%	70%	90%	100%		
4.1 Flood Mapping	10 flood-prone hotspots mapped	2025-2027		% communities using risk maps	Flood incidents reduced	Community feedback surveys	50%	80%	100%			
4.2 Early Warning	4 automated weather stations installed	2028–2030		% residents receiving alerts	Response time to disasters	Sensor data, emergency drills				50%	80%	100%
5.1 Staff Training	100 staff trained on environmental laws	2025 -2027		% staff certified	Compliance audit scores	Training attendance records	30%	70%	100%			
5.2 Public Awareness	50% increase in household participation	2025 - 2030		Survey-reported awareness levels	Waste segregation rates	Radio campaign reach analytics	10%	25%	40%	55%	70%	100%