



ADAPTATION FUND

CONCEPT NOTE PROPOSAL FOR SINGLE COUNTRY

PART I: PROJECT/PROGRAMME INFORMATION

Title of Project/Programme: Enhanced urban climate adaptation through climate-resilient urban agriculture system that integrate innovative urban food production, resource circulation, improved communities' access to water and land in Eswatini

Country: Eswatini

Thematic Focal Area: Urban Adaptation, Food Security, Disaster Risk Reduction, Agriculture, Nature-based Solutions, Forest and Land Use, Water Resources Management,

Type of Implementing Entity: Multilateral Implementing Entity

Implementing Entity: United Nations Human Settlements Programme (UN-Habitat)

Executing Entities: Food and Agricultural Organization (FAO)
Ministry of Housing and Urban Development (To be confirmed for the full proposal)

Amount of Financing Requested: US\$10,000,000 (in U.S Dollars Equivalent)

Project Formulation Grant Request (available to NIEs only): Yes No

Amount of Requested financing for PFG: US\$150,000

Letter of Endorsement (LOE) signed: Yes No

Stage of Submission:

This concept has been submitted before

This is the first submission ever of the concept proposal

In case of a resubmission, please indicate the last submission date: [Click or tap to enter a date.](#)

Project/Programme Background and Context:

1. Country Context

Geographic and Demographic Context of Eswatini

The Kingdom of Eswatini, formerly known as Swaziland before an official name change in 2018, is situated in the eastern part of Southern Africa, bordered by Mozambique to the east and South Africa to the west, north and south.¹ The country is landlocked and, at approximately 17,364 km² in size, is one of the smallest nations in the world.² With a population of 1.2 million, Eswatini is divided into four administrative regions: Hhohho (where the capital Mbabane is located), Manzini, Lubombo, and Shiselweni (Figure 1).³

The country's topography is defined by four distinct agroecological zones running longitudinally from north to south (Figure 1): the Highveld, Middleveld, Lowveld, and Lubombo Plateau.⁴ These zones appropriately define the lay of the land, with the cooler and highly mountainous northwest (altitude 1,400 m above sea level) standing in stark contrast to the flatter, drier southeast (250 m above sea level).⁵ The physiographic zones show different climatic conditions, ranging from subhumid and temperate in the Highveld to semi-arid and warm in the Lowveld.

Figure 1: Map of Eswatini

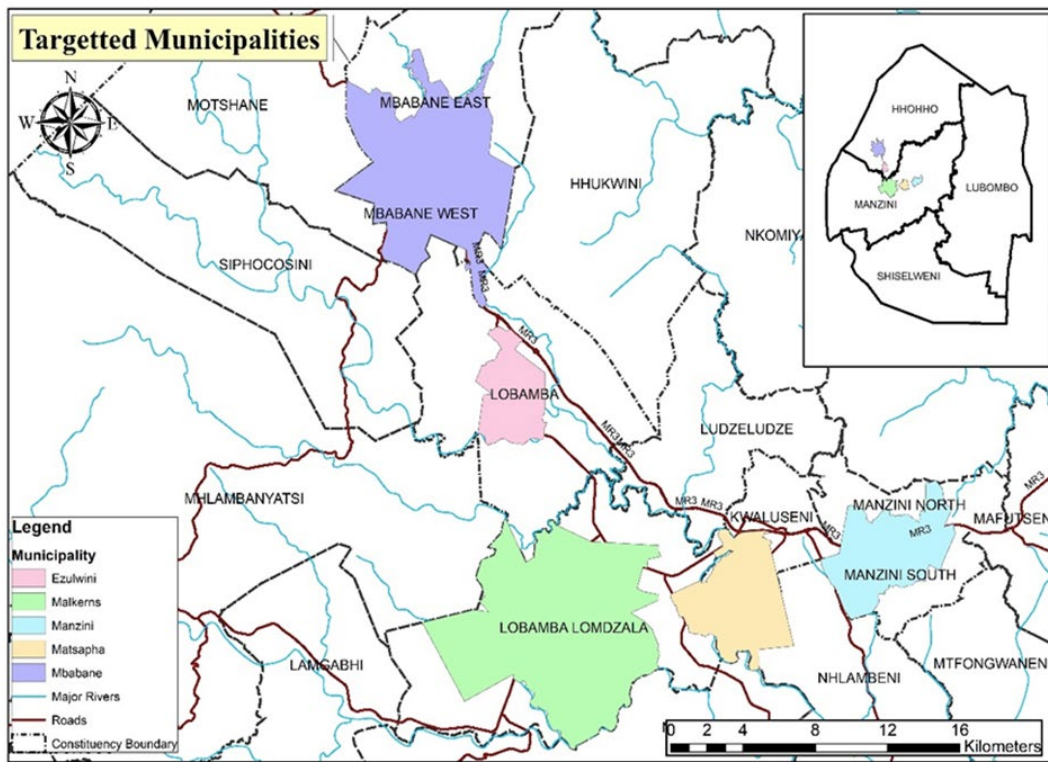
¹ Government of Eswatini. *Legal Notice No. 80 of 2018: Change of the Country Name from Swaziland to the Kingdom of Eswatini*. Mbabane, 2018.

² Central Statistical Office (CSO). *2022 Population and Housing Census: Preliminary Results*. Mbabane: Government of Eswatini, 2023.

³ Government of Eswatini. *National Development Plan 2023/24–2027/28*. Mbabane: Ministry of Economic Planning and Development, 2023.

⁴ Ministry of Agriculture. *Agro-Ecological Zones of Eswatini*. Mbabane: Government of Eswatini, 2019.

⁵ Eswatini Meteorological Service. *Climatological Normals and Agro-Climatic Zones of Eswatini*. Mbabane, 2018.



The country's four main rivers, the Komati, Mbuluzi, Lusutfu and Ngwavuma, all flow eastward from the Highveld areas towards Mozambique and the Indian Ocean. These river systems are relied on heavily for the country's urban water supplies, agriculture and hydropower needs, as well as subsistence water use.⁶ As will be discussed in subsequent sections, these water resources are increasingly under pressure from both climate change and rapid urbanization.

Rapid Urbanization and Informality

Eswatini is undergoing rapid urbanization. The country's population (1.2 million) is still predominantly rural, but urban population is growing at 2.7% (2024)⁷ and urban population is expected to increase from 24.8% of the total population in 2023 to 33.5% in 2030.⁸ This trend is driven by rural-urban migration and natural population increase, as people move to urban centers like Mbabane, Manzini and Matsapha in search of employment and basic services. However, urban expansion outpaces formal planning and infrastructure development, resulting in rapid growth of informal settlements. Informal settlements house approximately 32% of the urban population in Mbabane.⁹ These high density settlements, often located on un-surveyed, unplanned marginal lands (e.g. steep hillsides, flood plains, or peri-urban fringes), often lack security of land tenure and access to basic services such as reliable water, sanitation and electricity.¹⁰ Housing in informal settlements are typically substandard, and the layout of these communities leaves little room for drainage or green space.¹¹

Socio-economic Vulnerability

Eswatini's urban areas grapple with development challenges that compound vulnerability. Unemployment and poverty remain pervasive in Eswatini's urban settlements, where formal job creation has not kept pace with the rapid influx of labor force, particularly for youth. National labour

⁶ Eswatini Water Services Corporation (EWSC). *Integrated Water Resources Management Status Report*. Mbabane, 2022.

⁷ The World Bank. (2024). Urban population growth (annual %) – Eswatini. [Urban population growth \(annual %\) - Eswatini | Data](#)

⁸ World Bank. (2023). *World Development Indicators: Urban population (% of total population) – Eswatini*. Washington, DC.

⁹ UN-Habitat. *Situational Analysis of Urban Open Spaces in Eswatini*. Nairobi: UN-Habitat, 2023.

¹⁰ World Bank. *Urban Expansion and Informality in Africa: A Spatial Analysis*. Washington, DC: World Bank, 2022.

¹¹ UN-Habitat. *Mbabane Urban Informality Profile*. Nairobi: UN-Habitat, 2022.

force surveys indicate that the overall unemployment rate increased to approximately **35.4 % in 2023**, with more than half of those unemployed without work for one year or longer, and youth disproportionately affected (52.5 % of the unemployed), reflecting chronic and structural labour market exclusion that undermines household resilience to shocks.¹² Youth unemployment in the country stands at very high levels, with estimates exceeding **56 % for persons aged 15–35**, while women, persons with disability and other marginalized groups disproportionately occupy informal or precarious work without social protection or stable incomes.¹³ These vulnerable groups have limited adaptive capacity to environmental, social or economic shocks and stresses.

Urban Vulnerability

The rapid urban growth magnifies vulnerability to climate hazards and weakens adaptive capacity of human settlements in several interconnected ways. In cities, the loss of natural vegetation and permeable soil cover (replaced by concrete and asphalt) exacerbates stormwater runoff and the urban heat island effect, worsening the impact of storms and heatwaves. Unplanned, informal settlements have inadequate drainage, so heavy rain quickly turns into flooding that damages homes and spreads pollution. Poor waste management in dense settlements leads to garbage-clogged drainages and waterways, which in turn heightens flood risk and public health dangers during storms. Growing volume of waste is filling landfills or left in open dumping, clogging drainages, and exacerbating flooding risks in urban neighborhoods. This is particularly problematic in informal settlements where functional waste collection is largely absent, and open dumping of waste is prevalent. Drainages blocked with solid waste increase the likelihood of flooding even with relatively moderate rain.

Critically, many low-income urban households reside in informal settlements in flood-prone zones (e.g. along rivers or wetlands) because safer land is unavailable or unaffordable. Thus, when extreme weather strikes, it is the urban poor, including women, youth, persons with disability, older persons and workers in informal sector, who bear the brunt, facing damage to homes, loss of assets, risk of waterborne diseases, and loss of livelihoods. The Initial Adaptation Communication highlights this nexus, noting that climate impacts in Eswatini's urban areas are amplified by unplanned growth and weak infrastructure, and calling for innovative solutions focusing on cities.¹⁴

A key challenge for Eswatini's cities is therefore their abilities to manage increasing pressure of rapid urbanization on natural resources and ecosystems that are increasingly climate vulnerable. This requires integrated urban planning strategies to ensure sustainable urban development that addresses economic, social, environmental and climate challenges holistically and effectively.

2. Eswatini's Climate Vulnerability Profile

Observed Climate Trends (1960s to present)

The general climatic characterization of Eswatini is subtropical with wet, hot summers (October–March) and cold, dry winters (April–September). The peak of summer is January, with long-term average rainfall reaching 134.4 mm, while the lowest rainfall (about 20 mm) is usually recorded in July. Rainfall distribution varies considerably across the agroecological zones. The Highveld in the western part receives the most rainfall, ranging from 900 mm to 1,500 mm annually, while the Lowveld receives the least rainfall with annual totals of less than 500 mm, making it the most vulnerable to drought. The Lubombo Range and Middleveld share similar characteristics, with rainfall in the range of 700 mm to 1,000 mm.¹⁵

¹² International Labour Organization. (2025). *Eswatini Labour Force Survey and Unemployment Trends*.

¹³ World Bank. (2025). *World Bank Country and Labour Market Update: Eswatini*

¹⁴ Government of the Kingdom of Eswatini. (2021). *Initial Adaptation Communication to the United Nations Framework Convention on Climate Change*. UNFCCC.

¹⁵ Eswatini Meteorological Service. *Climatological Normals for Eswatini (1981–2010)*. Mbabane, 2018.

Eswatini, like many countries in Southern Africa, is increasingly experiencing the impacts of climate change. Observations over the past few decades indicate a significant rise in average temperatures and a decrease in annual rainfall. According to the Eswatini Meteorological Service, the country has witnessed an increase in mean annual temperature by approximately 1.5°C since the 1960s¹⁶. Similarly, changes in rainfall pattern have been reported, including a decrease in the number of rainy days, which has an implication for the intensity of rainfall events and dry spell duration. From 1970 to 2010, an increase in inter-annual rainfall variability with an increase on average of dry spell length was observed.

The increase in extreme climate events in Eswatini is a pressing concern, with climate change acting as a significant driver behind this trend. Over recent years, Eswatini has experienced more frequent and severe weather events, including intense droughts and heavy rainfall that provokes flooding and soil erosion. Soil erosion in urban areas leads to drainage blockage, increased flooding, and damage to housing and infrastructure, while it contributes to landslide risk in steeper terrain. These extremes of intense droughts and heavy rainfall are linked to the broader impacts of global climate change, which is altering weather patterns and increasing the volatility of the climate system.¹⁷

Climate Projections (2030-2100)

This warming trend observed since 1960s is projected to continue, with temperatures expected to rise by 2.5°C to 3°C by the end of the 21st century.¹⁸ Climate projections for Eswatini indicate that the southern and eastern parts of the country will experience the most pronounced changes in temperature and precipitation. These regions are expected to become hotter and drier, exacerbating water scarcity and putting additional stress on agricultural systems.¹⁹ The increased evaporation rates due to higher temperatures will further reduce water availability, affecting both urban and rural communities.

The projected changes in extreme values of temperature in Eswatini indicate a significant increase in the frequency and intensity of heatwaves.²⁰ These projections are based on climate models that account for rising greenhouse gas emissions and their impact on global temperatures. The increase in extreme temperatures not only poses health risks to the population, particularly vulnerable groups like the elderly and children, but also affects agricultural productivity. Crops are more likely to suffer from heat stress, reducing yields and threatening food security.

Eswatini is likely to experience both prolonged dry periods and more intense rainfall events.²¹ This variability creates a dual threat of flooding and drought. Heavy rainfall can cause flash floods, overwhelming existing infrastructure and agricultural land, leading to significant economic losses and displacement of communities. On the other hand, extended dry periods result in severe droughts, stressing water resources and impacting agriculture and livestock.²² The heightened temperatures and altered precipitation patterns are expected to continue, exacerbating the frequency and severity of extreme weather events. This poses a substantial risk to the country's socio-economic stability, agricultural productivity, and water resources.

Major Climate Hazards Affecting Urban Areas

Climate variability, including erratic rainfall and more frequent extreme weather events such as drought and storms, disproportionately affects the poor and threatens water, food, and energy

¹⁶ IPCC. *Sixth Assessment Report (AR6), Working Group I*. Cambridge University Press, 2021.

¹⁷ African Development Bank. *Eswatini Climate Risk and Economic Vulnerability Assessment*. Abidjan, 2023.

¹⁸ IPCC. *Sixth Assessment Report (AR6), Working Group I*. Cambridge University Press, 2021.

¹⁹ World Bank. *Climate Change Knowledge Portal – Eswatini*. 2024.

²⁰ FAO. *Water Scarcity and Climate Change in Southern Africa*. Rome, 2021.

²¹ Eswatini Meteorological Service. *Rainfall Variability and Trends Report*. Mbabane, 2019.

²² UNDP. *Climate Risk and Vulnerability Profile: Eswatini*. New York, 2021.

security.²³ Eswatini's Initial Adaptation Communication (AdCom) to the United Nations Framework Convention on Climate Change (UNFCCC) emphasizes that adaptation is the nation's top priority, noting that the country is already experiencing increased intensity and frequency of extreme events.²⁴ The government has responded with strategies such as the National Climate Change Policy (2016) and the Climate Change Strategy and Action Plan (2015–2020) to guide resilience-building efforts.

Climate hazards identified in the Initial Adaptation Communication to UNFCCC that impact urban areas in Eswatini include:

- **Droughts:** Eswatini is most affected by droughts caused by low precipitation and increases in temperature. These extreme weather events threaten the country's water availability. According to the 2020 State of Environment Report, 14% of the country's population or 180,000 people is potentially affected by drought and this number is projected to increase by 33% by 2050. An average of 15% of GDP (USD 0.5 billion) is potentially affected by droughts and this proportion is expected to rise to 41% of GDP by 2050.
- **Floods:** Eswatini is already experiencing devastating urban floods, as evidenced by the recent (January 2021) Tropical Cyclone Eloise. This hazard is projected to increase in the future, especially in the Hhohho and Manzini regions. According to National Disaster Management Agency (NDMA), an estimated 1,500 household in Eswatini are affected by floods each year.
- **Heat waves:** These are expected to worsen under climate change, affecting the agricultural sector as well as the health of elderly residents.
- **Storms:** From 2001 to 2021, Eswatini experienced multiple severe storms including windstorms, thunderstorms, hailstorms, lightning, and cyclones. One of the worst cyclone to hit the country, cyclone Eloise in 2021, affected more than 100,000 people and destroyed dwellings and communal facilities.
- **Wildfires:** Eswatini has seen a notable increase in wildfires, with fires being declared a national disaster in 2007–2008 and a national emergency in 2019. According to the National Disaster Management Agency, damages in 2019 were estimated at SZL 74 million with a total burnt area of about 36,163 hectares.
- **Landslides:** Floods and storms have induced landslides, causing enormous danger to human life and property. Tropical Cyclone Eloise resulted in landslides in several locations of Eswatini, such as Manzana and Mpholonjeni in the country's western highlands.
- **Invasive species:** Climate change and variability in the form of increasing temperatures have created favorable conditions for the rapid growth and survival of invasive alien plant species.
- **Epidemics:** The high incidence of floods increases the occurrence of waterborne diseases such as cholera and malaria²⁵

These climate hazards have direct and measurable impacts on Eswatini's food production capacity and urban systems. With 80% of agriculture being rain-fed, the agricultural sector is highly vulnerable to drought and erratic rainfall patterns²⁶.

3. Urban Food Insecurity and Climate Change: The Core Problem

Climate-induced National Food Security Crisis

²³ WFP. *Climate and Food Security Analysis – Eswatini*. Rome, 2023.

²⁴ Government of Eswatini. *Initial Adaptation Communication*. 2021

²⁵ Government of Eswatini. (2021). *Eswatini Initial Adaptation Communication to the United Nations Framework Agreement on Climate Change*. Tfwala, S.S., Mabaso, S.D., and Groenewald, M. (Editors). Ministry of Tourism and Environmental Affairs, Mbabane, Eswatini.

²⁶ Ministry of Tourism and Environment Affairs. (2016). *National climate change policy*.

Climate change poses a direct and measurable threat to urban food security in Eswatini through its impacts on both domestic agricultural production and regional food supply chains. As of the mid-2020s, roughly 20–29% of Eswatini are in “crisis” level or worse acute food insecurity during the lean season.²⁷ Acute food insecurity analyses projected that nearly **25% of the population (approximately 304,000 people)** would experience high levels of food insecurity during peak dry seasons (IPC Phase 3 or above, 2024–2025), driven by climate variability and economic pressures. This rate is among the highest in Southern Africa and the worst within the Southern African Customs Union (SACU) as of 2024.²⁸ Chronic undernutrition remains a concern: around 26% of children under 5 suffer stunting due to malnutrition in 2019, with a clear linkage with climate change²⁹.

Import Dependency

A major factor underlying Eswatini’s food vulnerability is its heavy dependence on imported food. The country historically produces only a fraction of its staple needs due to limited arable land (much of which is rain-fed and drought-prone) and under-investment in agriculture. As a result, the majority of food consumed in Eswatini is imported, mainly from South Africa.³⁰ This import dependency leaves Eswatini extremely exposed to external disruptions. Especially its growing urban population is acutely vulnerable to climate-induced regional supply disruptions and political, social and economic shocks, as evidenced during 2015-2016 El Niño drought and the COVID-19 pandemic. When droughts affect South African agriculture or when cross-border supply chain interruptions occur, resulting price spikes directly translated into empty shelves and rising hunger in urban Eswatini. Even in normal times, import dependence means outflow of currency and local farmers struggling to compete with cheap imports.

Urban-Specific Food Vulnerability and Climate Change

Poverty-urbanisation-climate nexus manifests directly in urban food insecurity. While rural communities have long been vulnerable (over 70% of Eswatini’s people depend on rain-fed subsistence farming), urban households are now increasingly feeling the strain of climate-induced food insecurity.³¹ The urban poor usually rely on purchased food, but high poverty and unemployment mean many cannot afford sufficient quantities or quality during drought-induced food shortages or price shocks.

Unlike rural farmers, urban residents typically **cannot fall back on home-grown crops to buffer the food shortage because they lack land space and legal permission to farm in cities** for household production. Knowledge of food production methods is also lacking, and the practice of agriculture in urban areas is still looked down upon. In some cases, residents squat illegally on riverbanks and wetlands to grow vegetables, which degrades ecosystems and increase environmental risks (discussed below). An assessment by the Vulnerability Assessment Committee (VAC) for the Integrated Food Security Phase Classification (IPC) reported that more than 25% of urban households experienced reduced food consumption, with significant declines in dietary diversity among low-income urban populations.³² A household survey conducted as part of the same assessment revealed that Hhohho urban areas, in which Mbabane and Ezulwini towns are located, recorded the highest proportion (10.3 %) of households using emergency coping strategies, highlighting significant food insecurity pressures in these urban areas, driven by climate shocks (prolonged dry spells in October - November 2024 and excessive rains in January - February 2025), exacerbated by high food prices and reduced incomes³³.

²⁷ IPC. *Eswatini Acute Food Insecurity Analysis, June 2025 – March 2026*. Rome: Integrated Food Security Phase Classification, 2025.

²⁸ WFP. *Southern Africa Regional Climate and Food Security Outlook, 2022*.

²⁹ UNICEF Eswatini. Nutrition: Child nutrition in Eswatini. [Nutrition | UNICEF Eswatini](#)

³⁰ FAO. *Food Balance Sheets for Eswatini, 2023*.

³¹ World Bank. *World Development Indicators: Rural Population and Agriculture Dependency, 2023*.

³² IPC, WFP, and FAO. *Eswatini: Acute Food Insecurity Projection (June 2025–March 2026)*. Integrated Food Security Phase Classification (IPC), 2025.

³³ IPC. *Integrated Food Security Phase Classification. IPC Acute Food Insecurity Analysis. June 2025 – March 2026*. 2025.

Towns of Mbabane, Manzini, Matsapha, Ezulwini, and Malkerns have already faced these acute and interlinked vulnerabilities driven by both climatic and socio-economic stressors. Recurring droughts have exacerbated water scarcity, undermining urban agriculture, sanitation, and ecosystem services particularly in high-altitude areas like Mbabane where catchment inefficiencies persist.³⁴ In contrast, high-intensity rainfall events have led to frequent urban flooding in Manzini and Matsapha, overwhelming drainage infrastructure and increasing exposure to flood-related damages.³⁵ These climate impacts have been compounded by the socio-economic aftermath of the COVID-19 pandemic, which disrupted livelihoods across the informal sector especially in Ezulwini and Manzini, where tourism and small-scale service economies dominate.³⁶

Climate-Food-Water Vulnerability

Compounding the food issue is water stress, which is worsening with climate change and directly affects both urban water supply and the potential for urban food production. Eswatini's rainfall is highly seasonal and geographically uneven, and the dry season has lengthened in recent years. Drought episodes (such as the severe 2015–2016 El Niño drought) have exposed the vulnerability of water supplies for both rural and urban areas. In the capital region and Lowveld towns, water rationing has been necessary during extended dry spells.³⁷ Climate projections indicate that the southern and eastern parts of Eswatini will become hotter and drier on average, implying increased evaporation and more pressure on rivers and reservoirs. Already, reduced stream flows in winter and over-extraction are straining sources like the Lusutfu and Mbuluzi rivers that feed municipal systems.³⁸ Urban growth is adding demand for water as supply becomes less reliable. On the other hand, extreme rainfall events can paradoxically worsen water security. Intense storms lead to runoff rather than groundwater recharge, and they damage water infrastructure. Flooding also contaminates water sources with sedimentation and waste.

Waste Management and Climate Risks

Rapid urbanization is accompanied by a rapid increase in municipal waste. Municipal solid waste management is largely inadequate, particularly on the handling and valorization of organic waste. 84% of all waste generated in Eswatini is organic, while the 16% was non-organic waste. Of the organic waste, 52% is food waste, 30% garden waste and the rest is distributed between paper waste, leather and other organics.³⁹ Growing volumes of organic waste are filling landfills and emitting greenhouse gases. Waste sector contributes to 8% of greenhouse gas emission in Africa (2021), according to Emissions Database for Global Atmospheric Research (EDGAR) by Joint Research Centre of the European Commission⁴⁰. Importantly, waste dumped in open areas is clogging drainages and execrating flooding risks in urban neighborhoods.⁴¹ This is particularly problematic in informal settlements where functional waste collection is largely absent, and open dumping of waste is prevalent. Drainages blocked with solid waste increase the likelihood of flooding even with relatively moderate rain, aggravating the climate vulnerability of urban population. Women and youth, who are often central to household waste practices and informal recovery systems, are often structurally excluded from formal governance processes.

However, waste challenge also represents an untapped opportunity. Organic waste, particularly food waste and garden waste, can be converted into valuable inputs for agriculture through composting

³⁴ Government of Eswatini. *National Development Plan 2023/24–2027/28*. Mbabane: Ministry of Economic Planning and Development, 2023.

³⁵ Government of Eswatini. *Fourth National Communication to the UNFCCC*. Mbabane: Ministry of Tourism and Environmental Affairs, 2025.

³⁶ Government of Eswatini. *Assessment of Economic and Social Impacts of Major Shock Events (COVID-19, Cyclone Eloise, etc.)*. Mbabane: Ministry of Economic Planning and Development, 2022.

³⁷ National Disaster Management Agency. *Post El Niño Drought Impact Report*, 2017.

³⁸ Ministry of Natural Resources and Energy. *Eswatini Water Resources Status Report*, 2023.

³⁹ Eswatini Environment Authority (EEA). *Waste Characterization Report*. Mbabane: EEA, 2021.

⁴⁰ Climate Chance. Observatory of Climate Action in Africa, In Africa, Greenhouse Gas Emissions from the Waste Sector Increase, Despite Efforts from Local Actors. [obsaf_emag6_note-economie-circulaire-et-dechets_eng-2.pdf](#)

⁴¹ IPCC. *Sixth Assessment Report (AR6), Working Group III: Mitigation of Climate Change*. Cambridge University Press, 2022.

and other circular economy approaches. Diverting organic waste from landfills and drainages, and processing it as a resource, has a potential to reduce urban flooding risks, reduce greenhouse gas emissions from waste, and provide nutrient-rich inputs for farming, while offering potential socioeconomic co-benefits such as increased income generating activities and improved livelihoods through increased, and improved health and wellbeings.

4. Urban Agriculture: Potential and Barriers

Existing Practice and Emerging Trend

Increasing food access in cities in climate-vulnerable and rapidly urbanizing Eswatini requires new solutions. Urban and peri-urban agriculture refers to the cultivation of crops and rearing of animals for food and other uses within and around city boundaries. Urban and peri-urban agriculture and local markets presents a significant opportunity for local authorities to achieve the triple policy goals of sustainable development, human well-beings (improved food security) and climate actions. This is enabled by fostering local production of food, shortening food supply chains and encouraging the sustainable management of water, waste and land.

In Eswatini, there has been growing interest in urban agriculture, evidenced by the remarkable proportion (16.5%) of households who grow the food they eat in cities.⁴² Apart from commercial production operations that take place in Malkerns and Vuvulane, backyard gardens of vegetable farming are the predominant method, with occasional use of tunnels, greenhouses and shaded netting in the Malkerns area.⁴³ Other technologies like vertical farming, hydroponics, aquaponics, aquaculture, etc are not widespread. Processing is also limited to slaughtering of livestock that include chickens and cattle mainly (with abattoirs in Matsapha, Hlathikhulu, Ngwenya, Manzini) and packaging of vegetables for retail.

Recent agroecological based urban agriculture interventions have been introduced in two local authorities, Mbabane and Ezulwini,⁴⁴ demonstrating growing recognition of potential of urban agriculture for food security and climate resilience. At a global level, the popularity of urban agriculture and peri-urban agriculture has increased considerably in the past years as concerns about the environment, combined with increased interest in health and community-building issues, are giving rise to support for food systems in urban and peri-urban areas as an integral part of a sustainable development path for cities. Urban agriculture is increasingly integrating advanced technologies, such as vertical farming, hydroponics, and aeroponics, which allow for high-density food production in limited spaces.⁴⁵ The vertical farming market alone is projected to reach \$16.7 billion by 2026, reflecting a growing trend towards innovative farming solutions that maximize resource efficiency and yield.⁴⁶

Key Constraints

Currently, urban agriculture in Eswatini can be characterized as informal, uncoordinated and lacking supporting instruments for meaningful impact on sustainable development, human well-beings and climate actions. Table 1 below provides further insight on the agriculture production activities, current technology use and gaps, and identifies practice-fostering needs across various studies and interventions in Eswatini's urban areas. The situation and challenges encountered by towns and cities are similar, with a few distinguishing nuances related to emerging organized urban agriculture and waste management practices, in Mbabane, Ezulwini, Manzini and Matsapha, and unique infrastructure such as fish ponds in Mbabane.

⁴² Government of Eswatini & UN-Habitat. (2024). *Eswatini Sustainable Urbanization Initiative (SUI) Situational Analysis*. Mbabane.

⁴³ Eswatini Ministry of Agriculture. (2023). *Agricultural Sector Performance Review 2020–2023*.

⁴⁴ UNDP. (2023). *Green Infrastructure Pilot Interventions: Mbabane and Ezulwini Reports*. Mbabane.

⁴⁵ UNDP. (2021). *Scaling Up Urban Agriculture and Climate-Smart Food Systems in Africa*.

⁴⁶ Sovereign Magazine. (2023). *The Global Boom in Vertical Farming: Why Investors Are Going Green*.

Table 1: Urban Agriculture in Eswatini - Current Practices, Gaps, and Innovative Opportunities

Study / Source	Agricultural Production Activities	Current Technologies / Approaches Used	Key Gaps & Constraints	Practice-Fostering & Innovation Needs
Msunduzi (Mbabane) Low-Income Households and Urban Agriculture Study	Backyard vegetable production (spinach, tomatoes, onions, cabbages); small compost heaps; limited poultry.	Manual watering; home composting; recycled containers as planters; no irrigation systems.	Limited access to land and water; poor soil fertility; lack of municipal policy support; low productivity.	<ul style="list-style-type: none"> - Develop micro-irrigation and greywater recycling systems. - Introduce vertical gardens and modular hydroponic units for households with limited space. - Capacity building on organic pest control and climate-smart gardening.
kaKhoza (Manzini) Informal Settlement UA Study (2024)	Household-level urban farming, mainly leafy vegetables and legumes; small animal rearing (chickens).	Traditional cultivation in vacant or backyard plots using basic tools.	Space constraints; poor access to quality inputs; lack of market linkage; absence of cold storage or post-harvest systems.	<ul style="list-style-type: none"> - Promote container-based aquaponics for integrated fish-vegetable production. - Introduce low-cost vertical towers for leafy greens. - Establish community hydroponic hubs with shared input supply and training.
Climate-Smart Gardens Project (Mbabane City, FAO 2022)	Climate-smart backyard gardens for household nutrition; small-scale vegetable production in low-income residential areas.	Composting, permaculture, mulching, drip irrigation (pilot basis).	Water scarcity, particularly during dry season; dependence on municipal support; minimal scaling beyond households.	<ul style="list-style-type: none"> - Deploy solar-powered drip systems and rainwater harvesting units. - Establish demonstration sites for hydroponics and vertical farming in schools and community centers. - Provide small grants for climate-smart urban micro-farms.
FAO Food Systems Profile – Eswatini (2023)	Mixed peri-urban agriculture (vegetables, poultry, small ruminants) supporting urban markets.	Conventional farming; limited mechanization; ad hoc urban food gardens.	Low technology adoption; weak integration of UA into national food system strategies; no incentives for innovation.	<ul style="list-style-type: none"> - Integrate hydroponics and aquaponics into the national Urban Food Systems Strategy. - Establish innovation incubators for urban farmers. - Incentivize youth-led agritech startups in cities.
GCF Readiness Proposal: Green Infrastructure & Urban Agriculture (2024)	Envisions integrating UA into urban green infrastructure for climate adaptation.	Conceptual design stage — limited practical implementation yet.	No baseline data on urban agriculture; low capacity among municipalities; lack of financing models for tech-enabled UA.	<ul style="list-style-type: none"> - Introduce urban agritech demonstration hubs. - Pilot public-private partnerships (PPP) for smart rooftop farms using IoT monitoring. - Develop guidelines for integrating UA into urban zoning and land-use planning.
FAO–Eswatini Protected Cultivation Project (2023–2024)	Greenhouse vegetable cultivation; demonstration plots for climate-resilient agriculture.	Shade-net houses, tunnel greenhouses, drip irrigation.	Limited access to greenhouse technologies for low-income urban farmers; high upfront costs.	<ul style="list-style-type: none"> - Local fabrication of mini-greenhouse kits. - Training on low-energy hydroponic and aquaponic systems. - Subsidies or revolving funds for protected cultivation technologies.
Urban Food Security in Manzini (AFSUN Report, 2009)	Urban households supplementing food supply via small gardens; occasional small livestock (chickens, rabbits).	Manual practices; compost use; limited irrigation.	Urban expansion reducing cultivable land; low yields; poor nutrient diversity.	<ul style="list-style-type: none"> - Promote roof-top and balcony farming with vertical hydroponic systems. - Integrate waste recycling (compost & black soldier fly larvae) to support sustainable inputs. - Encourage municipal-led UA cooperatives. - Develop a urban agriculture extension service

As Table 1 demonstrates, current practices are characterized by a general lack of concerted production, poor data and planning, lack of infrastructure and waste management strategies, and reliance on external food supply.

Policy and Legal Barriers: Urban planning and governance frameworks have been slow to adapt. Prohibitive national and local authority policies and ordinances stifle practice and scaling up of operations, especially livestock production in urban human settlements. An outdated Urban Government Act of 1969 formally prohibits agriculture in urban areas, reflecting a longstanding view that farming is “rural” and not compatible with city development.⁴⁷ In practice, some municipalities have begun to accommodate urban gardens through favorable by-laws, Integrated Development Plans and town planning schemes.⁴⁸ As a result, urban agriculture in Eswatini is being allowed in all municipalities as its contribution to food and nutritional security becomes recognized. However, overall policy framework for urban farming and green infrastructure as climate adaptation and resilience measures remains limited.⁴⁹

Land Tenure Insecurity: One of the key challenges in urban agriculture is the shortage of available land for farming in urban and peri-urban areas. Eswatini’s land is under a dual land tenure system consisting of Swazi Nation Land (SNL) covering 67% of the country and freehold Title Deed Land (TDL) covering 37%. SNL is held by the King in trust for the nation and is allocated by chiefs to homestead heads who are male under Eswatini’s custom, which limits access of women to land.⁵⁰ Most of the urban areas are on government-administered crown land, as urbanization occurred with allocation of crown land when the government extended the boundaries of townships. Crown land refers to part of SNL that is owned by the King but its allocation and management are administered by the government. TDL may include land in urban centres (commercial zones), industrial parks and freehold farms.

The use of urban land spaces for communal urban agriculture is not optimized, due to the lack of institutional mechanism to allocate land for urban farming under community land management.⁵¹ Efforts to turn vacant lots to urban farming land have not been systematic but rather sporadic without secure user rights. Without secure user rights, communities are unable to invest in improvements including climate adaptive measures such as water harvesting, storage and shadow net, which requires mid- to long-term prospect. Without maximizing the use of available land, urban agriculture is often confined in backyard plots and is therefore significantly limited in space. Backyard gardening may also not be an available option for vulnerable populations in densely populated informal settlements.⁵²

Water Insecurity: Another key challenge in urban agriculture is the unreliable availability of water. As discussed above, Eswatini’s cities are affected by extreme weather events such as prolonged droughts and heavy seasonal rain that provokes flooding and soil erosion. The interplay between hydroclimatic extremes (recurring and prolonged droughts, seasonal flooding) and poor urban planning (inadequate stormwater management) creates severe challenges for urban farming by unreliable water availability during dry periods and soil erosion and nutrient loss during heavy rains.⁵³

Technical Gaps: Current urban agriculture relies predominantly on low-technology, space-inefficient methods such as backyard gardening. Climate-smart technologies such as hydroponics, aquaponics, vertical farming, rainwater harvesting, and protected cultivation (greenhouses, shade nets) have limited adoption. Without these technologies, urban agriculture remains vulnerable to the same climate stresses affecting rural farming and cannot maximize productivity in limited urban spaces.

Support Gaps: There is limited institutional support for urban farmers in the form of training,

⁴⁷ Government of Eswatini. (1969). *Urban Government Act No. 8 of 1969*.

⁴⁸ Mbabane Municipal Council. (2022). *Integrated Development Plan (2022–2027)*.

⁴⁹ Government of Eswatini. (2023). *National Urban Policy (Draft)*. Ministry of Housing and Urban Development.

⁵⁰ FAO. (2021). *Gender and Land Rights in Eswatini: Country Profile*. Rome: Food and Agriculture Organization.

⁵¹ Government of Eswatini & UN-Habitat. (2024). *Eswatini Sustainable Urbanization Initiative (SUI) Situational Analysis*. Mbabane.

⁵² WFP. (2022). *Urban Vulnerability and Food Insecurity Report – Eswatini*. World Food Programme.

⁵³ Government of Eswatini. (2023). *National Adaptation Strategy and Action Plan (NASAP)*. Mbabane.

extension services, technical assistance, or access to quality inputs. Market linkages are weak, and there is lack of infrastructure for post-harvest handling, processing, or storage. This limits both the productivity and economic viability of urban agriculture.

Environmental Risks of Unplanned Urban Agriculture: Opportunistic production near riverbanks and wetlands occurs in most local authorities around informal settlements and high-density residential areas, due to land unavailability.⁵⁴ These areas present a challenge regarding environmental management due to poor land and water resources and waste management. Illegal farming on riverbanks can degrade sensitive wetlands and contaminate water sources. Without proper planning and environmental safeguards, uncoordinated urban agriculture can become part of the problem rather than the solution.

In summary, while urban agriculture holds significant potential for addressing urban food insecurity and building climate resilience, current practice in Eswatini is constrained by policy barriers, land tenure insecurity, water stress, low technology adoption, and lack of institutional support. Without addressing these fundamental gaps, urban agriculture cannot serve as an effective climate adaptation measure.

Urban Agriculture as Climate Adaptation Strategy

Global Evidence Base for Urban Agriculture as Climate Adaptation Measure

Urban and peri-urban agriculture has emerged globally as a critical strategy to address climate risks and food insecurity in cities. Numerous studies by the FAO and peer-reviewed research by Orsini et al. (2013) and Drechsel & Dongus (2010) - highlight how urban agriculture can enhance food access, support livelihoods, and build climate resilience.⁵⁵ Urban agriculture reduces dependency on long-distance supply chains, localizes food systems, cools urban microclimates, and mitigates stormwater runoff. Moreover, it promotes social cohesion, environmental stewardship, and inclusive economic opportunities.

Alignment with Eswatini's Policy Framework

Urban agriculture represents a transformative adaptation measure that is both implicitly embedded and strategically aligned with the priorities of Eswatini's Nationally Determined Contribution (NDC 3.0) and the forthcoming National Adaptation Plan (NAP 2025).⁵⁶ While neither document yet makes an explicit reference to "urban agriculture," both articulate cross-sectoral adaptation ambitions that urban agriculture operationalizes in practical, locally grounded ways.

The Eswatini NDC 3.0 (2025 - 2035) expands adaptation focus areas to include Agriculture and Food Security, Water Resources, Ecosystems, and Infrastructure and Human Settlements - specifically emphasizing nature-based solutions, resilient cities, and climate-smart land use.⁵⁷ Urban agriculture directly advances these aims by:

- integrating food production into urban systems (Agriculture and Food Security);
- promoting water efficiency through rainwater harvesting and greywater reuse (Water Resources);
- reducing urban heat through increased vegetation cover (Infrastructure and Human Settlements); and
- closing nutrient loops via organic-waste composting (Ecosystems).

⁵⁴ Ndlangamandla, M.G. (2021). *Environmental Sustainability in Informal Urban Agriculture*. University of Eswatini.

⁵⁵ FAO. *Growing Greener Cities: The Role of Urban Agriculture in Sustainable Development*. Rome: Food and Agriculture Organization, 2010.

⁵⁶ Government of Eswatini. *Nationally Determined Contribution (NDC 3.0)*. Mbabane: Ministry of Tourism and Environmental Affairs, 2025.

⁵⁷ Government of Eswatini. *NDC 3.0 (2025–2035)*. Adaptation Section.

These locally adaptive measures strengthen resilience while contributing to national mitigation co-benefits through enhanced carbon sequestration and reduced food-supply transport emissions.

The National Agricultural Investment Plan (NAIP, 2017) identifies livelihood diversification, sustainable land management, and community-based adaptation as key strategies for building resilience in human settlements.⁵⁸ Urban and peri-urban agriculture address these priorities by enabling households to produce food locally, strengthen nutrition, and create micro-enterprise opportunities-particularly for women and youth, consistent with NDC 3.0's commitment to inclusive and just adaptation.⁵⁹ Moreover, urban agriculture complements NDC 3.0's focus on infrastructure resilience by functioning as a nature-based urban infrastructure solution, enhancing drainage, moderating microclimates, and improving air quality. It also supports Eswatini's climate-smart development pathway envisioned in both the NDC 3.0 and draft NAP 2025, fostering low-carbon, adaptive cities.

Summary: Rational for Interventions

Above sections described needs for urgent interventions, as summarized below.

- Climate change impact is intensifying: Eswatini has experienced a 1.5°C temperature increase since the 1960s, with projections of 2.5–3°C rise by 2100. Droughts affect 180,000 people (14% of population) and threaten 15% of GDP. Floods impact 1,500 households annually. Rainfall variability is increasing, with longer dry spells and more intense rain events⁶⁰.
- Climate change causes severe food crisis: As 80% of agriculture is rain-fed, climate shocks directly reduce domestic food production. Import dependency makes Eswatini vulnerable to regional supply disruptions. 20–29% of the population experiences crisis-level food insecurity, with 336,000 requiring emergency food aid in 2021.
- Urban populations are particularly vulnerable: Rapid urbanization (reaching 33.5% urban by 2030) heightens climate vulnerability. Urban poor cannot produce own food due to lack of land and permission, while high poverty and unemployment prevent purchasing of food. When climate shocks disrupt supply chains and cause price spikes, urban families have little coping strategies.
- Water stress aggravates food insecurity: Both droughts and heavy rains that causes flooding are damaging to urban farming. Climate projections indicate worsening water scarcity, constraining both household needs and agricultural potential.
- Current urban agriculture cannot effectively address the challenge: Despite 16.5% household participation, urban agriculture is informal, uncoordinated, and climate-vulnerable. Policy barriers (1969 Act), land tenure insecurity, unreliable water access, low-technology methods, and lack of institutional support prevent the realization of its full potential.
- Organic waste represents untapped resource: 84% of urban waste is organic (52% food waste)⁶¹, currently filling landfills, emitting greenhouse gases, and clogging drainages to worsen flooding risks. The waste could be converted into nutrient-rich inputs for urban agriculture.
- Urban agriculture aligns with national climate policies: NDC 3.0 and NAIP 2017 prioritize agriculture and food security, water resources, ecosystems, resilient cities, livelihood diversification, and community-based adaptation, all of which can be directly operationalized by urban agriculture.

In climate-vulnerable and rapidly urbanizing Eswatini, urban food security is increasingly a climate

⁵⁸ Government of the Kingdom of Eswatini, Ministry of Agriculture (2017). *National Agricultural Investment Plan (NAIP) 2017–2022*. Mbabane, Eswatini.

⁵⁹ Government of Eswatini. *National Adaptation Plan*. Mbabane: Ministry of Tourism and Environmental Affairs, 2025.

⁶⁰ Ministry of Tourism and Environment Affairs. (2016). National climate change policy.

⁶¹ Eswatini Environment Authority (EEA). *Waste Characterization Report*. Mbabane: EEA, 2021.

adaptation issue. Urban agriculture offers a critical adaptation measure when properly supported and scaled, advancing circular, climate-resilient urban agriculture systems and decentralized composting as viable solutions.⁶²

This project intends to:

- Localize food production to reduce import dependency and build urban food security that withstands climate stress
- Provide secure land tenure and water infrastructure for climate-resilient urban agriculture
- Introduce climate-smart, space-efficient technologies (hydroponics, vertical farming, aquaponics, rainwater harvesting, protected cultivation)
- Convert organic waste into agricultural inputs, creating circular urban food-waste systems that reduce flooding risks and greenhouse gas emissions
- Strengthen policy and institutional frameworks to mainstream urban agriculture as climate adaptation measure
- Build adaptive capacity of urban poor, particularly women and youth, through food production, nutrition, and livelihood opportunities
- Operationalize NDC 3.0 commitments and forthcoming National Adaptation Plan through locally implemented practical climate adaptation measures

Cities and towns of Mbabane, Manzini, Matsapha, Ezulwini, and Malkerns, will be targeted for their vulnerability climate-driven food insecurity, their higher density within limited space where urban agriculture benefits are the greatest, having the population size sufficient to produce feedstock needed for waste-to-resource circular approach. The project is designed as a pilot, with built-in mechanisms to capture lessons learned to guide replication and scale-up in similar contexts across the Sub-Saharan Africa region.

Project/Programme Objectives:

The objective of the proposed project is: **enhanced climate resilience of urban communities through an innovative urban agriculture system that integrates communities' access to land, water and organic waste recycling, reducing climate-driven flood, drought and food insecurity risks.** The proposed project aims to enhance food production in urban and peri-urban areas in Eswatini, where the food security of residents is highly vulnerable to climate impacts including extreme weather events such as prolonged droughts and seasonal heavy rains. The project will pilot an institutional framework that enables communities' access to government-administered land, implement integrated stormwater management that maximizes water availability and reduces flood risk and soil erosion, and introduce climate-resilient farming techniques and organic composting. By building capacity of local and national governments and urban communities, as well as bringing them together to enable innovations in urban land governance, water management and climate-smart urban agriculture, the project seeks to establish an integrated and innovative urban agriculture system that can be replicated and scaled up in climate-impacted Eswatini and Sub-Saharan Africa.

Specific Objectives are:

- To pilot and scale sustainable urban system that integrates innovative urban agriculture solutions with land, water and waste management solutions;
- To strengthen national and local government institutions, communities and vulnerable groups to optimize the management of land and water for climate-resilient urban agriculture; and
- To generate evidence-based policy recommendations to mainstream urban agriculture into

⁶² Government of Eswatini. *National Development Plan 2023/24–2027/28*. Mbabane: Ministry of Economic Planning and Development, 2023.

municipal planning and governance systems as a climate adaptation measure, facilitating replication across Eswatini and the Sub-Saharan Africa region.

Project/Programme Components and Financing:

This project is organised under three components:

Component 1: Climate-resistant urban agriculture promoted to improve food access in cities

Component 2: Access to land and water enhanced to support urban agriculture while reducing flood risk and soil erosion

Component 3: Knowledge management, replication, and scaling of innovative urban adaptation solutions

Project/Programme Components	Expected Concrete Outputs	Expected Outcomes	Amount (US\$)
1. Climate resilient urban agriculture promoted to improve food access in cities	Output 1.1.1: Urban residential community composting systems and Black Soldier Fly unit established	Outcome 1.1: Strengthened climate resilient urban agriculture supported by organic waste management enhances urban food access	900,000
	Output 1.1.2: Increased urban food production through innovative agricultural solutions		800,000
	Output 1.1.3: Urban agriculture e-commerce platform established/developed for improved nutrition and food availability		200,000
	Output 1.1.4: Urban agriculture capacity building guidelines and manuals developed and disseminated		100,000
2. Access to land and water enhanced to support urban agriculture while reducing flood risk and soil erosion	Output 2.1.1: Institutional capacity building with enabling governance structure for urban agriculture completed.	Outcome 2.1: Allocation of land for community land management for urban agriculture pilot tested and adapted to Eswatini's urban context	300,000
	Output 2.1.2: Community capacity strengthened for community land management for urban agriculture		200,000

	Output 2.1.3: Fit-for-purpose land administration tools (STDM) pilot testing and adaption to Eswatini's urban context conducted		480,000
	Output 2.2.1: Sustainable urban design with improved green stormwater management systems established to reduce flooding and soil erosion and to improve availability of water for urban agriculture (prototype bioswales, micro-retention ponds)	Outcome 2.2: Enhanced climate-responsive urban water management design for urban agriculture and storm water management through green infrastructure	4,361,014
	Output 2.2.2: Rainwater harvesting infrastructure established to improve availability of water for urban agriculture		700,000
3. Knowledge management, replication, and scaling of innovative urban adaptation solutions	Output 3.1.1: Project experience sharing in innovative climate adaptation with national and international communities completed	Outcome 3.1: Improved evidence-based urban agriculture model informing climate adaptation policies and practices locally, nationally and regionally	300,000
6. Project/Programme Execution cost (9.5%)			875,576
7. Total Project/Programme Cost			9,216,590
8. Project/Programme Cycle Management Fee charged by the Implementing Entity (if applicable) 8.5%			783,410
Amount of Financing Requested			10,000,000

Projected Calendar:

Milestones	Expected Dates
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Start of Project/Programme Implementation	01 July 2027
Mid-term Review (if planned)	01 July 2029
Project/Programme Closing	01 July 2031
Terminal Evaluation	01 September 2031

PART II: PROJECT / PROGRAMME JUSTIFICATION

A. Project components

The project will establish a climate-resilient urban agriculture system in the cities of Mbabane, Manzini, Matsapha, Ezulwini, and Malkerns, directly addressing the climate-induced food insecurity. These towns are targeted for the presence of climate-driven food insecurity, their higher density within limited space where urban agriculture benefits are the greatest, having the population size sufficient to produce feedstock needed for waste-to-resource circular approach. The project integrates three mutually reinforcing adaptation pathways: 1) climate-smart food production technologies that reduce vulnerability to droughts and erratic rainfall; 2) organic waste recycling systems that create circular resource flows; and 3) improved access to land and water through multi-stakeholder / multi-level governance and green infrastructure. This integrated approach addresses the systemic barriers, technical, institutional, and infrastructural, which currently prevent urban communities from adapting to climate change through local food production.

Urban agriculture is recognized in Eswatini's National Development Plan (2023-2028) as a key climate adaptation measure for food security. However, haphazard production practices, particularly in medium- and high-density residential zones, combine with limited technical capacity, insecure land tenure and water scarcity, have prevented effective expansion. This project provides the catalytic resources and institutional frameworks needed to overcome these barriers, enabling urban agriculture to demonstrate its full potential as a scalable climate adaptation strategy, while generating co-benefits including improved municipal waste management, green job creation and increased household incomes.

Component 1: Climate-resistant urban agriculture promoted to improve food access in cities

Outcome 1.1: Strengthened climate resilient urban agriculture supported by organic waste management enhances urban food access

Component 1 aims to establish the technical and systemic foundation for climate-resilient urban agriculture through four outputs that together transform urban spaces into productive, adaptive, and inclusive ecosystems. By empowering communities for waste recovery and food production, the component creates closed-loop resource systems that reduce dependence on external inputs, and sustainable urban ecosystem that not only withstand climate stresses but also regenerate local resources and strengthen livelihoods. The component is expected to create 1,200 green jobs.

Output 1.1.1: Urban residential community composting systems and Black Soldier Fly unit

established

This output establishes decentralized organic waste recovery systems that address two critical challenges: 1) municipal solid waste accumulation in urban areas, increasing flooding risk; and 2) limited access to affordable soil amendments for urban farmers. The intervention creates circular resource flows that enhance climate resilience by improving soil water retention and reducing dependence on imported fertilizers. **Household Bokashi Composting Systems:** The project will distribute Bokashi starter kits to at least 1,000 urban households, prioritizing female-headed households, elderly residents, and persons with disabilities. Prior to distribution, a comprehensive urban segmentation assessment will classify neighborhoods based on housing typologies, organic waste generation patterns, and existing disposal practices. This assessment will identify behavioral drivers and barriers to adoption, ensuring that solutions are adapted to diverse household contexts (apartments, backyard dwellings, and peri-urban homesteads), and enabling the design of customized kits, tailored training materials, behavior-change messaging, and community entry strategies. Each kit includes two airtight fermentation bins enabling continuous composting cycles, and Effective Microorganism (EM) inoculant essential for anaerobic fermentation. Bokashi leachate serves as biofertilizer, shown to enhance vegetable yields by 25-40% in urban farming trials (Kilonzi et al., 2022).

Training will be delivered through practical, skills-based sessions led by trained extension officers and composting specialists, covering: Bokashi layering processes based on anaerobic fermentation science; safe handling and soil incorporation methods that optimize nutrient cycling while reducing greenhouse gas emissions; use of Bokashi leachate as biofertilizer; and troubleshooting techniques for pest management, moisture control, and odor mitigation (Ngozi et al., 2023). A subset of trained participants will participate in a training-of-trainers program modeled after the farmer field school methodology, which has demonstrated improved long-term skill retention and innovation uptake (Braun & Duveskog, 2011). Selected participants will be capacitated as Bokashi ambassadors to lead awareness raising, quality assurance, and localized expansion, with support for micro-enterprise development including local production and sale of EM cultures and customized Bokashi kits.

Black Soldier Fly (BSF) Waste-to-Protein System: The project will establish a Black Soldier Fly Waste-to-Protein Systems to transform food waste into high-protein animal feed. BSF larvae farming is globally recognized as a high-efficiency, low-emission technology, capable of diverting significant volumes of urban organic waste from landfill while producing sustainable feed inputs for poultry and aquaculture.

Recognizing the complexity of implementing insect-based bioconversion at scale, the project will first conduct a detailed technical and socio-economic feasibility study to identify optimal location, operational model, and institutional arrangements for BSF facilities. The study will also include a gender and social inclusion analysis to ensure that BSF production creates accessible, green economic opportunities particularly for women and youth. Guided by the feasibility study, the project will establish a central BSF production hub, and implement an aggregator-based value chain model that links a central BSF production hub with multiple feeder sites located in proximity to major organic waste sources. The decentralized feeder sites will collect segregated organic waste and pre-process it for delivery to the central BSF hub, enhancing community ownership while retaining the benefits of centralized quality assurance and storage.

To ensure reliable feedstock supply, the project will develop standardized waste collection and sorting protocols co-designed with municipalities, informal waste collectors, and community cooperatives. These protocols will define procedures for organic waste segregation at source, safe handling, and transport to BSF sites. Municipalities will receive technical support to update waste

management by-laws, enabling formal incorporation of source separation requirements within urban solid waste systems. Incentive mechanisms will be introduced to encourage household, market, and small business participation in organic waste segregation. This elevates BSF from a pilot technology to an institutionalized component of municipal solid waste management and urban climate adaptation systems.

Local farmers and youth agripreneurs will be trained in all stages of BSF production and processing, including larvae rearing, drying, pelleting, and packaging, complemented by modules on food safety, quality standards, and business planning, delivered in partnership with extension services, local authorities and the University of Eswatini.

Output 1.1.2: Increased urban food production through innovative agricultural solutions

This output introduces climate-smart, space-efficient urban agriculture technologies that enable year-round food production despite climate variability, directly countering the drop in urban household food availability during drought years.

Vertical Farming, Hydroponics, Rooftop Gardens, and Bioswales

These climate-smart, space-efficient urban agriculture technologies will be tailored to Eswatini's urban landscape, particularly in high-density areas where land availability is limited. Vertical farming systems will be piloted in peri-urban and informal settlements, schools, health centres, and youth facilities in cities such as Mbabane, Manzini, Matsapha, and Ezulwini. These modular, multi-tier structures enable soil-less food production using nutrient-rich water (aeroponics or hydroponics) with energy efficient LED lighting where required. They support year-round production of leafy vegetables and herbs while reducing exposure to climate variability.

Hydroponics systems will be deployed at household and community-scales, to demonstrate closed-loop water-efficient production. These systems use 80-90% less water⁶³ than conventional soil-based agriculture and eliminate the crop failure risk due to droughts or soil erosion, which represent critical advantages given repeated water stress in Eswatini.

Rooftop gardens will be established on public infrastructure such as schools, health clinics, and community halls, as well as selected commercial buildings, with support for private uptake through incentives and training. These gardens will use raised-bed systems with lightweight soil mixes and greywater recycling to grow vegetables and medicinal plants, transforming previously unproductive urban spaces into food production areas while reducing urban heat island effects.

Underutilized urban plots including erosion-prone slopes and degraded peri-urban spaces will be transformed into productive, community-managed gardens equipped with climate-smart infrastructure including shade nets, drip irrigation, and soil conservation measures. These gardens will be supported with compost from Bokashi systems and seedlings from municipal nurseries, creating integrated resource linkages across project interventions.

Through these combined interventions, the project will establish 10 decentralized community composting centers, one Black Soldier Fly production hub processing approximately 4,000 tons of organic waste annually, 50 rooftop or hydroponic installations, and five vertical-farming demonstration units across approximately 40 hectares of urban and peri-urban land. This

⁶³ Cleo Zee, Wageningen University and Research (WUR), Netherlands; Fernando Antunez, Wageningen University and Research (WUR), Netherlands; Laura Splinter, Wageningen University and Research (WUR), Netherlands; Simon de Winter, Wageningen University and Research (WUR), Netherlands; and Valentine Lestringuez, Wageningen University and Research (WUR), Netherlands (2024). Providing Food Security through Hydroponic Systems. Science-Policy Brief for the Multistakeholder Forum on Science, Technology and Innovation for the SDGs, May 2024. [Zee, et al. Providing Food Security through Hydroponic Systems.pdf](#)

infrastructure will enable production of an estimated 1,500 tons of fresh vegetables annually, directly improving food availability during climate stress periods when rural-urban food supply chains are disrupted.

Output 1.1.3: Urban agriculture e-commerce platform established/developed for improved nutrition and food availability

While increased production is essential, market access constraints prevent many urban farmers from converting production into income. This output establishes a digital urban agriculture e-commerce platform connecting local producers with urban consumers, creating direct market linkages that reduce food loss and transaction costs. The platform will connect targeted 5,000 producers and consumers, strengthening market linkages and enabling real-time advisory support to urban farmers. The platform will integrate digital extension services providing timely climate advisories, pest management guidance, and market price information. This addresses the lack of market knowledge and information that disadvantage small-scale urban farmers, particularly women and youth.

Output 1.1.4: Urban agriculture capacity building guidelines and manuals developed and disseminated

Sustaining and scaling these innovations requires systematic capacity development that goes beyond the project period. This output will develop comprehensive technical guidelines and training manuals covering: Bokashi composting techniques adapted to Eswatini's urban contexts; BSF production and value chain management; installation and management of vertical farming, hydroponics system and rooftop garden; climate-smart agricultural practices for urban environments; and business planning for urban agriculture enterprises, among others. These materials will be co-developed in partnership or consultation with local actors such as the University of Eswatini, Eswatini Local Authorities Managers Association (ELAMA), and National Disaster Management Agency (NDMA), ensuring institutional ownership. Guidelines and manuals will be designed for use by extension officers, community trainers, and municipal staff, enabling independent replication beyond project target cities.

Component 2: Access to Land and Water Enhanced to Support Urban Agriculture while Reducing Flood Risk and Soil Erosion

Component 2 addresses the institutional and infrastructural barriers that prevent communities from accessing land and water for urban agriculture, while simultaneously reducing climate risks from flooding and erosion.

Outcome 2.1: Allocation of land for community land management for urban agriculture pilot tested and adapted to Eswatini's urban context

Secure access to land is fundamental for households and communities to invest in climate adaptation measures for urban farming, such as rainwater harvesting, soil conservation, and shade nets. However, the current urban land governance system poses barriers for urban farming. There is no clearly defined institutional mechanism to allocate urban land for agriculture under community-based land management arrangements. Most urban land is designated as public (Crown) land and is administered by the government. At the same time, customary authorities continue to play important roles in land management in peri-urban areas. These overlapping land management arrangements can discourage access to land for urban farming. This outcome pilots fit-for-purpose land administration approach that improves community's access to land for urban farming, enabling mid- to long-term planning essential for climate adaptation investments.

Output 2.1.1: Institutional capacity building with enabling governance structure for urban

agriculture completed:

This output builds the institutional foundation for allocating land to community groups for urban agriculture. A comprehensive **review of policy and institutional frameworks** will identify barriers to allocating land for urban adaptation measures such as urban farming and nature-based solutions, analyzing existing legal instruments, land administration mechanisms, planning tools, informal practices and decision-making processes. The review will develop **targeted policy recommendations** including: 1) short-term measures that support fit-for-purpose land administration systems to be pilot-tested within this project; and 2) long-term measures involving potential policy and legislative revisions for consideration for future scaling. Policy recommendations will be updated and finalized based on the project experiences and lessons learned in the later stages of the project to enhance their applicability for scaling.

Based on this review and stakeholder mapping, a **training and capacity building program** will be designed and delivered for municipal and national government staff, traditional authorities and other stakeholders on the use of fit-for-purpose land administration tools (Social Tenure Domain Model: STDM), spatial mapping and data management, enhancing their skills in managing and documenting land information. **A multi-stakeholder working group** will be established, bringing together ministries, municipalities, traditional authorities and other stakeholders involved in formal and customary land management, agriculture and urban planning. Enhanced multi-stakeholder governance ensures coordination and cross-sectoral alignment on land governance in allocating land under community land management for urban agriculture.

Output 2.1.2: Community capacity developed for community land management for urban agriculture:

Community-level capacity building is equally essential for the implementation of fit-for-purpose land administration approach. The project will establish community groups or community land trusts as inclusive collective land-management structures, with a strong focus on engaging women, youth, informal-settlement residents, and other vulnerable groups (women-led and youth-led groups). The project will support these groups through formal registration processes, which enables them to enter into formal agreements with municipalities. These groups will receive training on STDM, preparing them to participate in participatory spatial mapping and plot demarcation. Groups will also receive capacity building support for their organizational and leadership capacities necessary for the community land management, including financial management, decision-making, and conflict resolution. Peer learning will be facilitated through the creation of a simple social-media platform managed by community groups to support transparent and participatory communal land management for urban agriculture, enabling groups to share experiences, lessons learned and good practices.

Output 2.1.3: Fit-for-purpose land administration tool pilot testing and adaptation to Eswatini's urban context conducted:

This output pilot-tests and adapts Social Tenure Domain Model(STDM), a pro-poor, gender-sensitive, fit-for-purpose land administration tool, to Eswatini's urban context, enhancing communities' access to land for urban farming. The project supports local governments in undertaking participatory neighborhood mapping and profiling of the existing land use, to identify potential urban plots to be allocated for urban farming under community management. STDM engages local and national government departments, traditional authorities, communities and other relevant stakeholders in identification and demarcation of land plots to be allocated to community groups. The tool integrates field-level spatial data collected by community members with satellite images and existing maps in a GIS-based land record database. Through this process, available land plots, including vacant public land, erosion-prone slopes requiring stabilization through vegetation cover, and degraded peri-urban spaces, are identified, recorded and allocated to community groups for urban agriculture through the issuance of social land record certificates that grant user rights to community groups. This enables cities to systematically identify, plan, and

allocate land for sustainable and productive use.

The approach also facilitates the access of women to land, which is currently limited under the Eswatini's custom. By allocating land to women-led community groups, the project creates a pathway for women to access and manage land for food production, directly enhancing climate adaptation and resilience, given women's central roles in household food security.

This method of allocating land is considered effective as it does not involve a change of land ownership but formally grants communities with user rights and management rights. This has a potential of substantially increasing the land available for urban farming and food production as a viable urban climate adaptation strategy. Community land management works with existing systems of land administration and urban planning and does not require changes in the legal frameworks, making it a realistic and immediately implementable strategy. . This outcome will effectively serve as pilot testing of STDM as a tool for allocating land user rights to communities, generating evidence and lessons learned for scale-up across municipalities in Eswatini and in Sub-Saharan Africa.

Outcome 2.2 Enhanced climate-responsive urban water management design for urban agriculture and storm water management through green infrastructure

Urban agriculture is vulnerable to flooding as well as water scarcity. This outcome transforms stormwater from a threat to a resource by providing prototype of urban stormwater management integrating urban design and green infrastructure that captures and stores water during heavy rains, preventing flooding and soil erosion while providing irrigation water during dry periods.

Output 2.2.1: Sustainable urban design with improved green stormwater management systems established.

The project will build capacity of local and national government staff and stakeholders through training on innovative practices in stormwater management, including bioswale, micro-retention pond and integration with urban agriculture systems. Participatory mapping will be conducted at the neighborhood levels to identify flooding and erosion hotspots and strategic locations for pilot green stormwater management infrastructure. Bioswales—vegetated channels that filter and convey stormwater—will be integrated directly with community-managed gardens, providing both flood protection and irrigation water. Micro-retention ponds will be designed with controlled release systems enabling water storage during extreme rainfall events and gradual release during dry periods. This infrastructure directly enhances climate resilience by addressing both extreme rainfall events and droughts that characterize Eswatini's changing climate.

By integrating green infrastructure with community gardens, the project creates climate-resilient productive landscapes that generate multiple benefits: reduced flood risk; reduced soil erosion; stored water aiding food production during dry periods; and improved groundwater recharge supporting broader urban water security.

Output 2.2.2: Rainwater harvesting infrastructure established to improve availability of water for urban agriculture

The project will establish prototype rainwater harvesting systems integrated into public buildings and spaces, and model systems installed at urban agriculture demonstration sites and community farms. Training will be designed and provided to urban farmers, communities, and stakeholders on rainwater harvesting design, installation, operation and maintenance, and water management for urban agricultural use. . Rainwater harvesting directly addresses the seasonal water scarcity that limits urban food production during the dry season, when municipal water supplies may be restricted and borehole water may become unavailable due to dropping water tables. By capturing rainfall during wet months, these systems extend the growing season and enable production of high-value

vegetables during dry months when market prices are highest.

Taken together, these interventions will directly counter climate impacts by creating water storage and management systems that function during both extreme rainfalls and drought, building long-term climate resilience.

Component 3: Knowledge Management, Replication, and Scaling of Innovative Urban Adaptation Solutions

Component 3 ensures that project innovations are systematically documented, widely disseminated, and institutionalized within national climate adaptation frameworks, transforming pilot interventions into strategic knowledge assets that inform policy development and enable replication across Eswatini and the region

Outcome 3.1: Improved evidence-based urban agriculture model informing climate adaptation policies and practices locally, nationally and regionally

Output 3.1.1: The project ensures the **systematic documentation and communication of project experiences**. Throughout the project cycle, UN-Habitat and FAO will capture key lessons, best practices, and results from across all components, including composting systems, vertical farming, STDM-based land allocation, prototype green stormwater infrastructure and e-commerce integration, and translate these into diverse knowledge products. These will include policy briefs targeting government officials, technical toolkits providing step-by-step implementation guidance, practice guides for practitioners including municipal staff and extension officers, and short-form video documentaries explaining the rationale and methods of each innovation. All knowledge projects will be developed through a climate lens, emphasizing measurable adaptation benefits such as increased food availability during climate stress periods, reduced flood risk and associated economic losses, enhanced land tenure security enabling adaptation investments, greenhouse gas emission reductions from waste diversion, and enhanced community adaptive capacity. These knowledge products will directly inform national policy frameworks, including the forthcoming Eswatini's National Adaptation Plan (NAP), Nationally Determined Contribution (NDC), urban food system guidelines being developed by the Ministry of Agriculture, and municipal planning codes governing land use and infrastructure development.

The project will organize a series of **national and regional knowledge-sharing events** aimed at mobilizing support for scale-up and replication. Eswatini's experience in linking urban agriculture, land and water governance, and waste-to-value innovation will be shared at forums such as the World Urban Forum, African Urban Forum, SADC Climate Resilience Workshops, and Africa Climate Week. These platforms will engage ministries, municipalities, development partners and private sector actors, positioning Eswatini as a regional thought leader in climate-resilient urban development. By showcasing tangible results and promoting open dialogue, these events will foster replication across six non-target municipalities in Eswatini and inspire similar programmes in countries facing comparable urban climate risks, including Lesotho, Malawi, Botswana and Zimbabwe.

To reinforce institutional learning, the project will implement **peer-learning exchanges and study tours**. Municipal officials, youth leaders, and women-led and youth-led community land governance groups from project cities (Mbabane, Manzini, Matsapha, Ezulwini and Malkerns) will learn from regional centres of innovation such as urban agriculture programmes in South Africa, waste-to-resource models in Zambia, or STDM initiatives in Kenya, exchanging practical experiences and strengthening cross-border adaptation networks. In return, Eswatini will host delegations from neighbouring municipalities and regional peers, offering real-time exposure to its composting hubs, rooftop gardens, digital extension services, and community land trusts, deepening local ownership

and building a resilient network of practitioners.

The project will institutionalize knowledge and innovation through partnerships with the University of Eswatini, National Disaster Management Agency (NDMA), Eswatini Local Authorities Managers Association (ELAMA) and the Eswatini Local Government Association (ELGA). These partnerships will facilitate peer learning among 15 municipalities and over 200 practitioners, ensuring that tested approaches such as waste-to-resource value chains, climate-resilient urban farming, fit-for-purpose land administration, and integrated green infrastructure, to inform Eswatini's National Adaptation Plan and future NDC updates.

Expected results and climate resilience impacts

By the project completion, these integrated interventions will have achieved the following results:

- Enhanced food security for over 9,000 direct beneficiaries (members of households engaged in urban farming related activities including the most vulnerable and marginalized (such as women, youth, low income households, informal settlement residents, persons with disability), municipal officials and extension workers trained) and 50,000 indirect beneficiaries (urban residents benefiting from increased food access) through increased local food production that reduces vulnerability to climate-related supply chain disruptions and price volatility
- Diverted 4,000 tons of organic waste annually from landfills and illegal dumping sites, reducing flooding risk from blocked drainage systems
- Made available 40 hectares land for climate-resilient urban agriculture producing an estimated 1,500 tons of fresh vegetables annually, including 10 community composting centers, 50 rooftop/hydroponic installations, and 5 vertical farming demonstration units
- Created 1,200 green jobs, with at least 60% accessed by women and youth
- Reduced urban flooding risk through integrated green infrastructure (bioswales and retention ponds) that manages stormwater while storing water for irrigation, protecting households from flood damage
- Avoided greenhouse gas emissions through organic waste diversion, reduced food transportation, and soil carbon sequestration
- Established pilot green infrastructure (18 drainage improvements including detention basins, infiltration basins, retention ponds, and conveyance swales / bioswales, permeable surface, among others, 10 urban green spaces, 25 rainwater harvesting systems)
- Strengthened institutional capacity of 5 municipalities and national government agencies to implement climate-resilient urban agriculture as a core adaptation strategy
- Strengthened adaptive capacity of urban communities and local institutions through improved access to climate-resilient infrastructure, diversified livelihoods, enhanced technical skills, and strengthened local governance systems, enabling households and municipalities to better anticipate, respond to, and recover from climate-related shocks and stresses

Together, these interventions transform Eswatini's cities into climate-resilient, self-reliant urban ecosystems that demonstrate scalable pathways for climate-smart urban transformation across Sub-Saharan Africa.

B. Economic, social and environmental benefits

The project provides benefits to most vulnerable urban communities in Eswatini, including the urban poor and residents of informal settlements who are most food insecure and vulnerable to climate disaster risks.

Economic benefits include:

- creation of income sources for vulnerable households through urban food products,

community composting, Black Soldier Fly protein production, supported by e-commerce platforms that connect farmers directly to markets, and support to youth

- reduction of household food costs for vulnerable households through reduced needs to purchase commercial (often imported) food

Social benefits include:

- Improved food security and food access among vulnerable communities
- Reduced dependency on imported food
- Strengthened urban/community governance through community-centered approach that ensures vulnerable groups (women, youth, informal settlement residents and other vulnerable groups), gain access to resources (land, water) and participate in decision-making
- Women's empowerment through improved access to land (which is currently limited under Eswatini's custom) and participation in community land management.
- Youth empowerment through e-commerce and community-centered approach, addressing high unemployment of youth (58.9% in 2021)
- Local capacity in innovative urban farming and food production techniques through training on agricultural technologies, organizational management, and digital platforms.

Environmental benefits include:

- Improved climate adaptation of urban farming through enhanced availability of water.
- Agricultural productivity supported through green infrastructure (bioswales, retention ponds, and rainwater harvesting systems)
- Reduces flood risk and soil erosion through establishment of green infrastructure (bioswales, retention ponds, and rainwater harvesting systems)
- Resource circulation promoted through converting urban waste into resources through community composting and organic waste management. This is expected to reduce open dumping of waste, which in turn reduce drainage blockage and resulting urban flooding risk.
- Reduced greenhouse gas production from organic waste through composting.

The project has principles of access and equity for marginalized and vulnerable groups and gender equity and women's empowerment at its core. The project complies with the national laws of Eswatini and relevant international laws. Through the suitability analysis and spatial mapping/profiling, the project ensures that natural habitats are protected and biological diversity conserved when allocating land for urban farming under community land management.

C. Analysis of the cost-effectiveness

The project is cost-effective owing to its integrated approach. Several project activities serve multiple functions:

- community land management addresses improved household food access, improved security of land tenure (especially for women), and strengthened urban/community governance
- green stormwater infrastructure provides reduction of flood and soil erosion, while improving water availability for urban farming.
- waste management systems generate income through composting and Black Soldier Fly production while addressing urban waste management, which is expected to reduce open waste dumping, which in turn reduces drainage blockages, resulting in flood risk reduction.

Fit-for-purpose land administration tool (Social Tenure Domain Model: STDM) is cost-effective: it is affordable, flexible and pragmatic to fit-for-purpose building on the existing institutional land administration framework, and easy to use. It utilizes free and open-source software, making it accessible and adaptable to low-resource contexts, including local governments and communities with limited resources.

Community-centered approaches ensure that solutions are appropriate to local capacity while

building communities' capacity for lasting impacts. Comprehensive training and capacity building on innovative farming and food production techniques also enhance sustainability of the project impacts. The targeting of vulnerable groups including women, youth, residents of informal settlements and other vulnerable groups maximizes the effectiveness in reducing climate vulnerability and building climate adaptation as these populations are most food insecure and exposed to highest climate disaster risks (such as flooding and heavy seasonal rain on a climate vulnerable terrain hosting informal settlements).

The project also highlights climate co-benefits including reduced disaster risks through improved stormwater management, decreased urban heat through green infrastructure, and reduced greenhouse gas production from organic waste through composting.

D. Consistency with national or sub-national sustainable development strategies

The project is aligned with Eswatini's national sustainable development frameworks, directly supporting the country's climate adaptation and poverty reduction priorities.

The project strongly supports the implementation of the **Nationally Determined Contributions (NDC)**, which is organized into 12 priority areas including agriculture, infrastructure and water. Particularly relevant to this project include:

- 3.5.4. Develop nature-based solutions for urban infrastructure for adaptation benefits and disaster risk reduction to enhance resilience of urban dwellers
- 3.5.5. Manage critical ecosystems in cities to preserve flood control services, habitats for biodiversity and contribute to maintaining micro-climate
- 3.5.7. Build capacity and implement climate smart town planning for urban resilience and enhancing adaptive capacity of urban dwellers.
- 4.2. Increasing composting of organic waste (biological treatment), capturing 30% of the organic waste generated within the country by 2030
- 5.2.1. Build capacity of youth in climate policy development, accessing climate finance, to engage in income generating climate action including manufacturing of energy efficient technologies, retail and repair services, climate smart livestock practices, urban gardening, rainwater harvesting, sustainable api-culture, greenhouse farming and innovative agriculture technologies, agri-business, agroecological practices, agri-processing, water resource management technologies, water conveyance, waste management, green industrial processes, bottling and water purification and retrofitting buildings
- 3.1.1. Converting flood irrigation systems to water efficient systems and adopt water saving practices to increase water availability, equity and security
- 3.1.1. Supporting development of in-farm water harvesting (including small earth dams) and move to more efficient technologies for intensive farming methods to improve food security
- 5.2.3. Promote entrepreneurship skills in climate smart technologies including renewable energy retail and repair, agriculture value chain, recycling and community waste solutions

The project also contributes to **National Climate Change Strategy and Action Plan (NCCSAP) 2015–2020**. NCCSAP recognizes that frequent food insecurity is largely attributed to droughts and extended dry spells. Among the strategic actions and sub-actions, particularly relevant to the project include:

- Promote adoption of sustainable land management practices such as changes in agricultural practices, participatory adaptive management practices (under 4.2.1.1.1., page 23)
- Promote rainwater harvesting for crop and livestock production to increase the buffer and adaptive capacity of smallholder farmers to deal with climate change (under 4.2.1.1.1., page 23).

- Enhance rain water harvesting, including promotion of household level water harvesting techniques (under 4.2.1.1.2, page 25-26).
- Promote a variety of waste disposal options, including incineration, recycling, physico-chemical treatment, biological treatment (bioremediation) and well managed landfills (under 4.2.1.3.2, page 37-38).

The project also contributes to **Initial Adaptation Communication to the UNFCCC**. It recognizes that frequent food insecurity is largely attributed to droughts and extended dry spells. Among the national adaptation priorities, particularly relevant to the project include:

- Adopt climate-smart agriculture, aquaculture, and fisheries practices (under 3.4. page 11)
- Construct water storage infrastructure (under 3.1. page 9)
- Develop land-use plans (that are divorced from land policy) (under 3.2. page 10)
- Promote water harvesting: medium-size rainwater harvesting, sand dams, earth dams, and in-situ rainwater harvesting (under 3.4. page 11)

The project is aligned with the **National Development Plan (2023-2028)**. Particularly relevant are: Sectoral Outcome 6.4 - Enhanced food security and access to nutritious food

Strategy 1: Improve food availability, access and affordability (page 112)

- Upscaling and replicating climate smart agriculture, (Crops, aqua-culture, fisheries, and livestock production) for improved food security and nutrition security and higher income
- Support youth participation into agro-entrepreneurship
- Build the capacities and support communities towards a diversification of livelihoods to alleviate the economic burden on women

Strategy 2: Ensure increased production, marketing and favourable pricing of nutritious food proper products (page 112)

- Support backyard gardens and small stock production
- Lobby for strengthening of “Asidle Kwetfu” (eat our own food) programme (an initiative by the Ministry of Agriculture to promote household agricultural enterprises)

Sectoral Outcome 8.2 - Improved Land Governance, Land Use Planning and Management

Strategy 1: Improve provision of land for productive activities (page 135)

- Registration of land use rights on SNL and TDL
- Up-scaling systematic flow of Spatial Information and build capacity of traditional authorities to understand, access and utilize geo-spatial information
- Establish long term biodiversity conservation, landscape management and natural resources management through actions including increasing Protected Area Network and assess climate resilience of the protected areas to identify valuable ecosystem services be managed

Strategy 2: Improve land management and administration (page 135)

- Build capacities for Traditional Authorities on sustainable land use and management
- Promote the use of geospatial and other technologies in the management and administration of land

Sectoral Outcome 8.4 - Improved National and Community Resilience to Climate Change Impacts Disaster Risks

Strategy 1: Strengthening resilience against climate change and natural disasters (page 139)

- Ensure availability of adequate and reliable quality fresh water resources for all uses
- Promote research, innovation and adoption of green appropriate technology to foster sustainable use and management of all ecosystems
- Reduce climate change vulnerability and increase resilience through the implementation of poverty alleviation programmes
- Develop and continually update risk and hazard maps and collect data through research for risk reduction

Strategy 2: Strengthening the enabling environment for green growth (page 139)

- Strengthen conservation, restoration of forests, wetlands and water catchments and hilly and

mountainous areas:

- Reduce adverse per capita environmental impact of cities with maintenance of habitable air quality and innovative municipal and other waste management strategies.
- Reduce waste generation through prevention, reduction, recycling and reuse to transition towards a circular
- Building capacity for climate change adaptation and mitigation including hazard/disaster risk reduction

E. Compliance with relevant national technical standards

The project complies with Eswatini's national technical standards and regulatory frameworks as well as the Environmental and Social Policy (ESP) requirements of the Adaptation Fund.

The project will comply with following national laws and regulations:

- building codes for infrastructure (rainwater harvesting and composting facilities)
- environmental assessment requirements under the Environmental Assessment Regulations, 2022
- food safety standards for urban agriculture products (Ministry of Agriculture, Eswatini Standards Authority)
- the customary land management system as well as municipal spatial development frameworks including local council bylaws, Crown Lands Disposal Act (1911), Order 45/1973 (Vesting of land in Kings), Deeds Registry Act (1968), Land Survey Act, and Urban Government Act, 1969

The project will be aligned with Environmental and Social Policy of Adaptation Fund through:

- considering impacts on marginalized and vulnerable groups (particularly women, youth, informal settlement residents and other vulnerable groups): ESP 14 (Marginalized and Vulnerable Groups).
- supporting gender equality and women's empowerment by addressing women's exclusion from land access and promoting women's participation in decision making through community management of land: ESP 16 (Gender Equality and Women's Empowerment).
- multi-stakeholder governance structure ensuring the participation of traditional authorities, government departments, and communities: ESP 33 (Public Disclosure and Consultation).
- land and soil conservation through improved stormwater management that prevents soil erosion, and organic composting that add value to soil for urban farming: ESP 26 (Lands and Soil Conservation).
- protection of natural habitats ensured by suitability analysis in identifying land for urban farming: ESP 20 (Protection of Natural Habitats).
- conservation of biological diversity promoted by the use of indigenous plant species in urban green spaces: ESP 21 (Conservation of Biological Diversity)

F. Duplication of project with other funding sources.

An analysis of climate-related programmes and funding sources in Eswatini reveals that while there are numerous initiatives addressing climate change, agriculture, waste, and sustainability, none fully address the integrated urban adaptation agenda that this proposed project seeks to deliver. The findings are drawn from a review of ten major initiatives and summarized in table 2 below.

Several projects, such as the FAO-GCF Urban Readiness Programme and the GWP-GCF Water & Climate Readiness Project, provide important contributions toward enabling environments, including planning, institutional capacity development, and climate finance access. However, these initiatives

do not fund or implement tangible urban adaptation interventions. They remain at the level of diagnostics, technical assistance, and awareness-building. The proposed project builds on these foundations to deliver the practical infrastructure, land-use systems, and circular food economy models that readiness work has identified as necessary.

At the municipal level, small-scale initiatives such as the Manzini Backyard Gardens Project demonstrate emerging interest in urban agriculture. However, this project reaches only 36 households and lacks integration with waste recycling, land tenure systems, climate resilience planning, or monitoring frameworks. The proposed programme strategically scales such efforts across five municipalities, integrates them with composting and BSF technologies, and institutionalizes the enabling environment for long-term replication.

Likewise, community-based initiatives under the UNDP Small Grants Programme and the Eswatini Environment Fund (EEF) are valuable but suffer from limited scope, funding, and systemic alignment. They tend to focus on isolated pilot actions, lack urban-specific adaptation objectives, and do not deliver institutional frameworks that support land access, community-managed systems, or knowledge sharing at city scale. Recent rural-focused projects supported by International Fund for Agricultural Development (IFAD) and the Adaptation Fund are focused on agroecology, soil restoration, and watershed protection-relevant to national adaptation goals but geographically and thematically misaligned with the urban, systems-based approach proposed here.

The Government of Eswatini’s Programme of Action (2025–2029) recognizes food sovereignty and climate resilience as national priorities but lacks a dedicated implementation mechanism or financing structure for urban food systems, composting, land governance, or climate-resilient infrastructure at the municipal level.

Importantly, several waste and resource management pilots, including those implemented under the National Solid Waste Management Strategy, show early steps toward integrating formal systems. However, these pilots remain limited in scale, lack clear links to climate adaptation outcomes, and do not yet incorporate valorization models like BSF or Bokashi, nor do they function as part of a circular economy framework.

Two more recent additions, including the Climate-Resilient Agriculture Technologies Initiative and the National Climate Change Outreach Programme, demonstrate further sectoral efforts to build resilience and public engagement. However, the former focuses largely on peri-urban and rural protected cultivation, while the latter remains awareness-based without implementation funding or infrastructure support.

Recently approved Adaptation Fund programme, Financing Locally Led Adaptation and Nature-based Solutions for Catchment Resilience programme (Eswatini, Zambia and Zimbabwe), focuses on watershed management, forest and wetland restoration, and sustainable rangeland management, a larger scale ecosystem-based adaptation and in more rural contexts, differing from the proposed project focusing on urban areas. Yet, close coordination will be made to avoid overlap and seek complementarity.

Table 2. Existing relevant projects

Project / Programme	Implementing Agency / Partner	Scope & Activities	Overlap with Proposed Project	Identified Gaps / Notes

FAO-GCF Urban Readiness (2023–2025)	FAO, GCF, Ministry of Agriculture	Readiness support for urban green infrastructure and agriculture; policy, planning, and investment baseline assessments	No implementation overlap	Focused solely on assessments and planning. No funding for implementation of composting systems, urban agriculture technologies, land governance tools, or circular economy innovations. The proposed project operationalizes these recommendations.
Manzini Backyard Gardens Project	Manzini City Council, World Vision, MoA	Small-scale home gardens for 36 households; vertical gardening; informal trade linkages	Thematic overlap (urban agriculture)	Limited in scope, reach, and technical depth. No integration with circular waste management, land access systems, or climate adaptation goals. Activities are standalone and lack institutionalization.
Eswatini Environment Fund (EEF)	Eswatini Environment Authority	Community-based climate and environment grants, including some small-scale adaptation actions	No direct overlap	Funding levels are limited, irregular, and primarily rural-focused. No documented support for large-scale urban adaptation, waste reuse, or resilient urban food system models. Coordination is recommended but not duplicative.
UNDP Small Grants Programme (SGP)	UNDP, NGOs	Supports small civil society-led projects on climate resilience, waste, and awareness	No overlap	Interventions are fragmented and not municipal level. SGP lacks integration with land governance or food system infrastructure. Most initiatives are pilot-scale and temporary.
GWP–GCF Water & Climate Readiness	Global Water Partnership, Ministry of Tourism and Environmental Affairs	Institutional readiness for water and climate finance; gender inclusion, project pipeline development	No overlap	Targets enabling environments, not implementation. No direct investment in infrastructure, urban agriculture, or composting. Strengthens policy landscape but not operational delivery.
Rural Adaptation Projects (AF, IFAD)	Ministry of Agriculture, IFAD, Adaptation Fund	Ecosystem-based adaptation, agroecology, and land rehabilitation in rural zones	No overlap	Geographic and thematic misalignment. These projects focus exclusively on rural ecosystems and do not engage with urban resilience, infrastructure, or circular

				systems.
Government Programme of Action (PoA) 2025–2029	Government of Eswatini	National development strategy prioritizing food security, infrastructure, and sustainability	No overlap	Policy-only document. No project-based funding or operational programmes targeting urban food systems, land access for agriculture, or composting innovation. Implementation tools are lacking.
Climate-Resilient Agriculture Technologies	FAO, Ministry of Agriculture	Protected cultivation and climate-smart farming for rural/peri-urban zones	No overlap	No direct urban application; lacks integration with waste systems, urban tenure, or community co-management.
National Climate Change Outreach Programme	MTEA, Global Network	Public awareness and adaptation education	No overlap	Purely educational; no infrastructure, no service delivery or community adaptation tools.
Solid Waste Management Strategy Pilots	EEA, MHUD, DPMO	Urban waste system improvement and testing	No overlap	Pilot stage only; does not scale or include climate adaptation or reuse systems like composting or BSF.
Financing Locally Led Adaptation and Nature-based Solutions for Catchment Resilience programme (2027 – 2032, regional project in Eswatini, Zambia and Zimbabwe. Adaptation Fund)	UNDP	Livelihoods, fostering resilience for food security, ecosystem-based adaptation, water resource management and access to water	No overlap	The regional project focuses on watershed management, forest and wetland restoration, and sustainable rangeland management: larger scale and more rural contexts, differs from the proposed project focusing on urban areas. Yet, close coordination will be made to avoid overlap and seek complementarity.

G. Learning and knowledge management

As Eswatini implements pioneering approaches to climate-resilient urban agriculture, circular waste management, inclusive land governance and water management, the project ensures that these innovations are not isolated pilots but become institutionalized, through systematic documentation,

dissemination, and replication across Eswatini and the region. The project's learning and knowledge management approach systematically captures evidence generated throughout the Monitoring, Evaluation and Learning cycle, feeding it into the project planning and management, to enable adaptive management and programmatic improvement.

UN-Habitat and FAO will capture key lessons, best practices, and results from across all components, and translate them into diverse knowledge products. These will include policy briefs targeting government officials, technical toolkits providing step-by-step implementation guidance, accessible practice guides for practitioners including municipal staff and extension officers, and short-form video documentaries explaining the rationale and methods of each innovation. All knowledge projects will be developed through a climate lens, emphasizing measurable adaptation benefits such as increased food availability during climate stress periods, reduced flood risk and associated economic losses, enhanced land tenure security enabling adaptation investments, greenhouse gas emission reductions from waste diversion, and enhanced community adaptive capacity. These knowledge products will directly inform national policy frameworks, including Eswatini's National Adaptation Plan (NAP), Nationally Determined Contribution (NDC), urban food system guidelines being developed by the Ministry of Agriculture, and municipal planning codes governing land use and infrastructure development.

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H. Consultative process during project preparation

The preparatory phase encompassed a comprehensive consultative process with the engagement of diverse stakeholders. This engagement was undertaken with particular consideration for vulnerable cohorts, including integration of gender considerations, in strict adherence to the

Environmental and Social Policy and the Gender Policy of the Adaptation Fund. The multi-faceted approach was designed to guarantee the project's pertinence, foster intrinsic ownership, and lay the groundwork for sustainable impact from its foundational stages.

Through the ongoing Green Cities Readiness Project, funded by the Green Climate Fund (GCF), a series of intensive consultation workshops was facilitated, which extended beyond the scope of initial ministerial engagements and directly informed the formation of this project. These workshops served as instrumental fora for the systematic accrual of consistent and granular contributions from a wide array of stakeholders in government ministries and parastatals, local government, civil society organizations and private sector players. The aggregated feedback directly informed the development of comprehensive situational analysis reports for all urban centers within Eswatini, thereby furnishing a robust, data-driven comprehension of local contexts. Crucially, the foundational information accrued from these extensive workshops directly culminated in the subsequent creation of targeted concept notes specifically designed for urban and peri-urban areas. The compelling rationale underpinning the project's emphasis upon urban agriculture was substantiated by the discernible demand and consistent exigencies articulated by urban and peri-urban communities across Eswatini throughout these consultative sessions. This project is strategically positioned to capitalize upon this evidence-base directly articulating integrated urban agriculture as imperative requirements by stakeholders at all levels.

During the foundational project conceptualization phase, intensive working sessions and other strategic engagements were conducted with governmental counterparts, including the Ministry of Agriculture (MoA), the Ministry of Housing and Urban Development (MHUD), and the Ministry of Tourism and Environmental Affairs (MTEA), as well as local authorities of target cities. This collaborative methodology proved instrumental in the conceptualization of the core project design and in ensuring its alignment with existing national priorities and prevailing policy frameworks within Eswatini. The active engagement of these ministries was particularly crucial, given that their respective mandates directly pertain to critical aspects of national development, comprehensive resource management, and the welfare of the population. This involvement ensured that the project's directional thrust was firmly rooted in the country's overarching strategic vision. A central tenet of these policies is the emphasis placed upon the empowerment of women and youth within the agricultural sector, thereby underscoring the governmental commitment to an inclusive development paradigm. This commitment is explicitly reinforced by the National Development Plan (NDP) 2023/24-2027/28, which highlights "Youth empowerment. Nurturing the potential of the youth and vulnerable groups" and emphasizes the "Empowerment of youth, women, and people with disabilities (PWDs)" as essential for progress.

Furthermore, the Eswatini's Revised Nationally Determined Contributions (NDC) underscores that "Building the capacities and support communities towards a diversification of livelihoods to alleviate the economic burden on women" is a key adaptation measure in the agricultural sector. These national instruments collectively articulate a strategic imperative for gender equality and youth inclusion, aligning with FAO's Strategic Framework 2022-2031's principle of "leaving no one behind" and its emphasis on the "full participation and empowerment of women and girls in all domains, and engagement with youth." The project is aligned with UN-Habitat Strategic Plan 2026-2029 that underpins gender equality and the empowerment of people in vulnerable situations, prioritizing their needs.

I. Justification for funding requested

Eswatini's cities are at the frontline of the country's climate crisis, where urbanization and climate change intersect to intensify vulnerability. In urban centers such as Mbabane, Manzini, Matsapha, Ezulwini and Malkerns, rapid population growth has strained infrastructure, increased waste

generation, reduced green space, and heightened exposure to climate-related shocks, while urban planning and land management processes lack tools and institutional capacity to integrate food production and nature-based solutions within urban settlements. Food insecurity experienced in Eswatini's cities is a result of these inter-related factors, which cannot be solved by fragmented, piecemeal interventions. Without coordinated, multi-faceted intervention that leads to systemic change, the adaptive capacity of Eswatini's cities will continue to erode with rapid unplanned urban growth, trapping vulnerable populations, particularly women, youth, and informal settlement residents, in a pattern of food insecurity, unemployment, and exposure to climate hazards.

The proposed project represents the full cost of adapting Eswatini's urban systems to climate change by introducing circular, water-efficient, and inclusive urban agriculture as an integrated solution to these challenges. The funding requested from the Adaptation Fund bridges the critical gap between fragmented local initiatives and the comprehensive, climate-resilient systems needed for sustained adaptation. Through its three components, the project will transform Eswatini's cities from climate-vulnerable, food-insecure and externally-dependent human settlements, into resilient human settlements with productive spaces, capable of withstanding climate stresses and external shocks, ensuring that waste, water, and land are harnessed to enhance food security and generate income.

The full cost of adaptation is justified, building systemic resilience requires simultaneously enhancing institutional frameworks for multi-stakeholder governance, green infrastructure that allows better access to water, community empowerment that enables improved access to land, and innovative agricultural solutions that help maintain food security under heightened climate stress. Without full funding that addresses all these dimensions together, individual interventions would fail to achieve lasting adaptation outcomes, as limited land and water availability would undermine the full implementation of agricultural solutions, and weak governance would risk creating conflicts among stakeholders.

Nature-based solutions (such as bioswales, micro-retention ponds, permeable surfaces and green spaces) and rainwater harvesting require higher initial investment but are essential for ensuring that urban agriculture remains viable under current and future climate stress. By closing nutrient loops through Black Soldier Fly production and community composting, dependence on unreliable external inputs is reduced. Improved security of tenure through STDM and market access through e-commerce are key adaptation investment, building resilience against climate-induced economic volatility. The Adaptation Fund investment therefore represents the additional and indispensable cost of building systemic, equitable, and lasting resilience across rapidly urbanizing Eswatini.

J. Sustainability of the project

The project's sustainability has been taken into account in the project design which emphasizes institutional capacity building and embedding urban agriculture systems into the existing institutional structures, policies, and operational procedures of government and local authorities so that they become part of standard practice. The development of knowledge materials helps create lasting knowledge resources that can be maintained and utilized beyond the project period, while training of local institutions and community leaders, especially on-the-job training on agricultural techniques, fit-for-purpose land administration and prototype green infrastructure, ensures that the knowledge transferred is practical and actionable.

Financial and economic sustainability is secured through market-oriented approaches and cost-effectiveness of the project as described above (Section C, Part II). The e-commerce platform creates revenue-generating opportunities for urban farmers, establishing economic incentives that encourage continued participation and attract new farmers. The community composting systems and Black Soldier Fly units reduce input costs for agricultural production while creating potential

income streams through compost and protein sales. Nature-based solutions such as bioswales, retention ponds, and rainwater harvesting infrastructure require relatively low-technical maintenance while providing ongoing benefits in water availability and climate resilience, reducing long-term operational costs.

Community ownership is emphasized through participatory approaches that ensure local communities are central to the project activities. Community-led land management systems and the strengthening of women's access to land create equitable ownership structures that encourage long-term investment and stewardship. Community capacity building ensures that agricultural knowledge and management capabilities remain within communities for continued operations after project completion. Additionally, the project's knowledge-sharing component facilitates learning exchanges at national and international levels, creating networks and partnerships that support ongoing innovation and adaptation. These social foundations, combined with the tangible improvements in food security and climate resilience, ensure that communities remain committed to sustaining and scaling urban agriculture systems beyond the project duration.

K. Environmental and social impacts and risks

Based on preliminary screening, the project is expected to fall under Category B (medium risk) due to construction of small-scale green infrastructure and land-use modifications.

Checklist of environmental and social principles	No further assessment required for compliance	Potential impacts and risks – further assessment and management required for compliance
Compliance with the Law	No	<p>Risks: The project involves physical construction and infrastructure installation activities including bioswales, retention ponds, composting facilities, rainwater harvesting systems, and urban farming units that are subject to environmental and building permit requirements under Eswatini's national and municipal regulatory frameworks. When determining locations for urban farming and green infrastructure, particularly if sites intersect with regulated areas, municipal clearances may be required. Failure to obtain required permits in a timely manner could delay project implementation and expose the project to legal and reputational risks.</p> <p>Mitigation measures: The project will identify all applicable permit requirements at national and municipal levels during the project inception phase and develop a plan for acquisition of all necessary permits. The project will work with relevant regulatory authorities including the Eswatini Environment Authority, municipal planning departments, and building inspection offices to ensure that all required approvals are obtained. Particularly relevant laws and regulations include Eswatini's Environmental Management Act (2002), Waste Regulations (2010), Public Health Act (1969), and Local Government Act. Municipal environmental officers will be supported to ensure that</p>

		composting, BSF, and water harvesting activities comply with national and local regulations.
Access and Equity	No	<p>Risks: There is a risk that project benefits may not be equitatively distributed, and the most vulnerable groups including female-headed households, youth, persons with disabilities, and informal settlement residents receive lesser project benefits.</p> <p>Project activities involving community group formation, land allocation, capacity building, and e-commerce platform access could potentially result in discrimination against individuals or groups on the basis of gender, age, disability, ethnicity, socioeconomic status, or residency status (e.g. informal settlers residents) or social recognition.</p> <p>Mitigation measures: The project will have explicit social inclusion criteria into all targeting, beneficiary selection, and community group formation processes, establishing minimum quotas for women and youth participation. Regular monitoring will be conducted to assess whether benefits are reaching intended beneficiaries, and findings will be used to adjust targeting strategies where inequities are identified. A grievance mechanism will be established.</p> <p>The project will enforce a non-discrimination policy across all activities, ensuring that participation in project benefits is open to all eligible community members regardless of gender, age, disability, ethnicity, or tenure status. All capacity building and awareness activities will be designed and delivered in formats accessible to persons with varying literacy levels and physical abilities. Community mobilization processes will engage marginalized groups, including persons with disabilities, elderly residents, and informal settlement residents. Indicators will be disaggregated by sex, age, and vulnerability status.</p>
Marginalized and Vulnerable Groups	No	<p>Risks: Children living near construction sites and operational facilities face safety risks from heavy machinery, hazardous materials, and unsecured infrastructure. Older persons may be affected by changes in land use and community governance structures. Youth may face challenge in participating in project activities due to their educational commitment or be subjected to unsafe working conditions.</p> <p>Youth may be excluded from community decision-making processes dominated by older community leaders or sidelined from enterprise opportunities, limiting their ability to access leadership roles in community groups. Older persons may be disadvantaged in accessing the e-commerce platform and fit-for-purpose land administration tool by lower digital literacy.</p> <p>Physical infrastructure and facilities may be inaccessible to</p>

		<p>persons with mobility limitation if designed without universal access considerations. Training and capacity building activities held in inaccessible venues or delivered in formats unsuitable for persons with visual or hearing impairments could exclude these groups. Land allocation processes that rely on physical presence at community meetings and field demarcation events may also disadvantage persons with mobility limitations.</p> <p>Community group formation processes that rely on physical attendance in field activities may inadvertently exclude persons with mobility impairments. E-commerce platform design that does not account for accessibility standards could prevent persons with visual impairments from registering and trading. Local perceptions toward disability may discourage participation of persons with disability in decision-making processes.</p> <p>Composting and BSF production component may affect livelihoods of informal waste workers.</p> <p>Mitigation measures: The project will implement age-sensitive safeguards, including physical fencing around construction and operational sites to protect children, flexible engagement modalities for youth, and ensuring participation of older persons in consultation processes.</p> <p>The project will establish minimum quotas for youth participation in community groups and leadership structures and will deliver targeted digital literacy support for older persons in support of accessing e-commerce platform and fit-for-purpose land administration tool.</p> <p>The project will integrate universal design principles into the planning and construction of all physical infrastructure, ensuring accessibility of persons with disabilities. Capacity building activities will be delivered in accessible venues and in formats that accommodate diverse communication needs including visual and hearing impairments. Community mobilization efforts will actively seek out and engage persons with disabilities.</p> <p>The project will ensure that e-commerce platform complies with internationally recognized accessibility standards, and provides low-tech access options. Project staff and community actors will receive sensitization on disability inclusion. The project's grievance mechanism will be fully accessible to persons with disabilities.</p> <p>The project will consult with and involve informal waste workers where relevant, to ensure their livelihoods are not negatively impacted by the project's composting and BSF components.</p>
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Human Rights	No	<p>Risks: Land allocation processes could violate the right to housing or livelihood if existing informal users are displaced without consent or compensation. Labor practices in construction and operational activities could violate workers' rights to fair compensation, safe working conditions, and freedom of organization. And the land governance activities could inadvertently marginalize customary rights holders if community consultation processes are inadequate.</p> <p>Mitigation measures: All project activities will be implemented in accordance with the UN Guiding Principles on Business and Human Rights and the Adaptation Fund's Environmental and Social Policy. Informed consent will be sought from all affected communities before implementation of land-related activities. A grievance mechanism will be established. The project's midterm and final evaluations will include assessment of human rights outcomes across all components.</p>
Gender Equality and Women's Empowerment	No	<p>Risks: Women and girls face vulnerabilities including limited access to land rights under Eswatini's customs. Project activities involving land allocation, community group formation, and construction of infrastructure in public spaces could inadvertently worsen these vulnerabilities if not carefully designed, including exposure to harassment or violence from construction and operational sites, and reinforcement of existing gender inequities in access to productive resources. Women could be excluded from leadership roles in community farming cooperatives, and female-headed households may face challenges in accessing climate-smart technologies.</p> <p>Mitigation measures: The project will conduct a gender analysis during the inception phase to identify specific risks and opportunities for women and girls across all components. A gender mainstreaming plan will be developed and implemented. All infrastructure sites will be assessed for gender safety considerations including lighting, accessibility, and proximity to areas of known risk. Community land allocation processes will explicitly prioritize female-headed households and require that women hold a minimum quota of leadership positions in community land management groups. Gender-disaggregated indicators will be used to track equitable distribution of project benefits. Community land allocation will enhance women's access to land, which is currently limited under Eswatini's customs and laws.</p>
Core Labour Rights	No	<p>Risks: The project involves construction and installation of physical infrastructure including composting facilities, bioswales, retention ponds, and rainwater harvesting systems, as well as operational activities in BSF production and urban farming units. These activities will engage community workers, local contractors, and service providers who may be exposed to risks including unsafe</p>

		<p>working conditions, inadequate compensation, or lack of employment contracts.</p> <p>Mitigation measures: The project will ensure that all contractors and executing entities comply with national labor laws and internationally recognized labor standards (compliance with Eswatini’s Employment Act (1980) and International Labour Organization (ILO) conventions), ensuring fair wages, safety standards, and the absence of child or forced labour. Briefings will be provided to stakeholders, partners and contractors.</p>
Indigenous Peoples	No	<p>Risks: The indigenous population of Eswatini is primarily the Swazi people, which make up over 95% of the country's population. A strong tradition of customary land tenure exists under the Swazi Nation Land system administered by traditional authorities. Land allocation activities work with existing customary land rights and involve traditional authorities over land governance.</p> <p>Mitigation measures: The project will engage traditional authorities as key partners for land governance activities, ensuring that community land management approaches are in line with existing tenure systems. All land allocation processes will be conducted with the free, prior, and informed consent of affected communities and traditional authorities. The project's multi-stakeholder working group will include representation from traditional authorities.</p>
Involuntary Resettlement	No	<p>Risks: The project does not involve displacement or involuntary resettlement. Land allocation activities explicitly target vacant, underutilized, or public urban land. A residual risk may include plots being informally occupied or used for livelihood activities. Construction of green stormwater infrastructure including bioswales and retention ponds may also require the temporary or permanent use of land currently accessible to community members.</p> <p>Mitigation measures: Land allocation will include participatory process to identify existing informal users and occupants. No site will be selected for land allocation or infrastructure installation if it results in displacement of existing users without informed consent.</p>
Protection of Natural Habitats	No	<p>Risks: The project will be implemented within existing urban boundaries. Project activities involving site clearing for composting facilities, farming units, and green infrastructure installation could potentially be in vicinity of natural habitat areas, particularly where project sites are located at the peri-urban areas.</p> <p>Mitigation measures: The project will conduct environmental screening of all proposed sites and avoid natural habitats of ecological significance. Where green infrastructure is installed near natural areas, indigenous and locally appropriate vegetation will be used to</p>

		complement natural habitats. Construction footprints will be kept to the minimum necessary to deliver the required infrastructure.
Conservation of Biological Diversity	No	<p>Risks: The project will be implemented within existing urban boundaries. Project activities involving site clearing, composting and BSF facilities, farming units, and green infrastructure installation could potentially risk generating stormwater run-off containing leachate or agro-chemicals that flows into downstream natural habitats affecting biodiversity, or introducing non-native species in surrounding ecosystems.</p> <p>Mitigation measures: All green infrastructure designs will be based on hydrological assessments and flooding and erosion hotspots mapping to avoid unintended disruption of water flows. Indigenous and locally appropriate plant species will be prioritized in all greening and nursery activities to minimize the risk of introducing invasive species. Organic inputs will be favored over agro-chemicals. Composting and BSF facilities will be designed with adequate measures for drainage and leachate collection and control, and community operators will be trained in proper handling to minimize environmental risks. Erosion control measures would be installed during construction to minimize the risk of water contamination reaching river systems. Community land management contracts will include requirements for sustainable land management to prevent degradation of allocated land plots.</p>
Climate Change	No	<p>Risks: There is low risk of negative climate impacts, as the project is designed specifically to enhance climate resilience and does not involve activities that increase long-term maladaptation. While construction of green infrastructure, installation of farming units, and operational activities (farming, composting and BSF production) activities may generate minor greenhouse gas emissions, these are limited or temporary.</p> <p>Mitigation measures: The project adopts low-carbon approaches, including community composting systems and BSF production units that divert organic waste from landfill, reducing methane emissions. Green infrastructure such as bioswales incorporating drought-resistant indigenous plant species contribute to carbon sequestration. Innovative urban agriculture techniques are more resource-efficient than conventional agriculture, and reduce the greenhouse gas emissions from the transportation of food. Climate-resilient design standards will be used for all infrastructure and monitoring will track adaptation effectiveness.</p>
Pollution Prevention and Resource Efficiency	No	<p>Risks: The project involves construction of green infrastructure including bioswales, retention ponds, rainwater harvesting systems, and installation of farming units (rooftop gardens, hydroponics, vertical gardens),</p>

		<p>composting and BSF production facilities in existing urban areas. During construction and installation, activities such as excavation, earthmoving, and use of construction materials may generate dust, noise, runoff, and solid waste that could temporarily affect the surrounding environment and the health of nearby residents and workers. During operation, composting facilities and BSF production units will have to manage organic residues, leachate, and odors. If poorly managed, they could contaminate water sources, generate vector risks, or create nuisance for neighboring communities.</p> <p>Urban agriculture activities may involve the use of fertilizers, pesticides, or other agro-chemical inputs. If improperly applied or handled, they could contaminate soil and water, harm natural plant and animal species, and pose health risks to farmers, consumers, and surrounding communities.</p> <p>Urban agriculture activities require reliable water supply. As water scarcity is an existing challenge, increased demand from project activities could potentially compete with household water consumption and other community economic activities, particularly during dry seasons.</p> <p>Mitigation measures: The project will develop and implement waste management and pollution prevention plans for all construction and operational activities. Construction contractors will be required to manage dust, noise, and construction waste in accordance with national and local environmental standards and international good practice. Composting and BSF facilities will be designed with adequate measures for drainage, leachate collection, and odor control, and community operators will be trained in proper handling and hygiene protocols to minimize environmental and health risks.</p> <p>The project will prioritize the use of organic inputs, including compost as natural fertilizers, and integrated pest management approaches that minimize reliance on harmful synthetic pesticides. Where agro-chemicals are used, the project will ensure the appropriate use of approved products only, through training on safe handling, storage, and application as well as the provision of personal protective equipment.</p> <p>The project specifically aims to reduce pressure on water resources by installing rainwater harvesting infrastructure and green stormwater management systems that augment local availability of water. Water-efficient irrigation techniques will be promoted in urban farming activities to minimize water consumption.</p>
Public Health	No	<p>Risks: Construction activities involve the use of heavy machinery, excavation and construction works that pose potential health and safety risks to workers and nearby</p>

		<p>community members. During operation, composting and BSF facilities could pose vector risks if poorly managed. Water storage for farming may create standing water that could become breeding grounds for mosquitoes if poorly designed.</p> <p>Mitigation measures: The project will develop and implement safety protocols for all construction and operational phases, in compliance with national regulations and internationally recognized occupational health and safety standards. Construction sites will be fenced and marked to prevent unauthorized access by community members, including children. All composting and BSF facilities will be designed with sanitation, drainage, and vector control measures, and community operators will be trained in protocols. Water storage infrastructure will incorporate mosquito-proof covers and measures to prevent accumulation of stagnant water.</p>
Physical and Cultural Heritage	No	<p>Risks: The project will be implemented in existing urban boundaries. The project does not intend to directly use or appropriate cultural heritage assets for project purposes. However, certain project activities may be implemented near areas that hold cultural significance for local communities.</p> <p>Mitigation measures: The project will screen all proposed activity sites to identify cultural heritage sites or sites of archaeological, historical, cultural, artistic, and religious significance in vicinity, in consultation with relevant authorities. No project infrastructure will be sited within or immediately adjacent to recognized cultural heritage sites. A chance finds procedure will be developed and communicated to all construction contractors and stakeholders.</p> <p>The project will engage affected communities and traditional authorities to ensure that cultural uses and access rights are explicitly protected in land management contracts and other community agreements. No project activity will restrict or limit community access to culturally significant sites or disrupt traditional uses without informed consent of affected stakeholders.</p>
Lands and Soil Conservation	No	<p>Risks: The project involves construction of green infrastructure including bioswales, retention ponds, rainwater harvesting systems, and installation of farming units (rooftop gardens, hydroponics, vertical gardens), composting and BSF production facilities in existing urban areas. During construction and installation, activities such as excavation, earthmoving, and use of construction materials may generate dust, noise, runoff, and solid waste that could temporarily affect the surrounding environment and the health of nearby residents and workers. During operation, composting facilities and BSF production units will have to manage organic residues, leachate, and odors.</p>

		<p>If poorly managed, they could contaminate water sources, generate vector risks, or create nuisance for neighboring communities.</p> <p>Mitigation measures: The project will develop and implement waste management and pollution prevention plans for all construction and operational activities. Construction contractors will be required to manage dust, noise, and construction waste in accordance with national and local environmental standards and international good practice. Composting and BSF facilities will be designed with adequate measures for drainage, leachate collection, and odor control, and community operators will be trained in proper handling and hygiene protocols to minimize environmental and health risks.</p>
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PART III: IMPLEMENTATION ARRANGEMENTS

A. Alignment with the Results Framework of the Adaptation Fund

Project Objective(s) ¹	Project Objective Indicator(s)	Fund Outcome	Fund Outcome Indicator	Grant Amount (USD)
Enhanced urban climate resilience of urban food access through innovative urban agriculture system that integrates communities' access to land, water and organic waste recycling	# of innovative urban agriculture solutions piloted and adapted for replication (by type) % increase in annual food production by participating urban farming households	AF Outcome 6: Diversified and strengthened livelihoods and sources of income for vulnerable people in targeted areas	AF Indicator 6.1: Percentage of households and communities having more secure access to livelihood assets <i>[% of people, disaggregated by gender]</i> AF Indicator 6.2: Percentage of targeted population with sustained climate-resilient alternative livelihoods <i>[% of people, disaggregated by gender]</i>	10,000,000
Project Outcome(s)	Project Outcome Indicator(s)	Fund Output	Fund Output Indicator	Grant Amount (USD)
1.1: Strengthened climate resilient urban agriculture supported by organic waste management enhances urban food access	# of urban households engaged in climate-resilient urban agriculture practices (disaggregated by gender of household head, and by neighborhood)	AF Output 6.1 Targeted individual and community livelihood strategies strengthened in relation to climate change	AF Indicator 6.1.1: No. and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community	2,360,000

	<p># of households utilizing household composting (disaggregated by gender of household head)</p> <p># of functional community composting sites and BSF units established and operational</p> <p># of registered users and venders in the urban agriculture e-commerce platform</p>	impacts, including variability	<p>livelihood strategies. [<i># of people, disaggregated by gender and by type of support</i>]</p> <p>6.2.1. Type of income sources for households generated under climate change scenario [<i># of types of income sources</i>]</p>	
2.1: Allocation of land for community land management for urban agriculture pilot tested and adapted to Eswatini's urban context	<p>Areas of urban land (hectare) mapped, documented and allocated for community-managed urban agriculture</p> <p># of community land management agreements formalized for urban agriculture (disaggregated by type: community gardens, individual plots, cooperative farms)</p> <p># of women with documented user rights of urban agricultural land</p> <p># of government staff and community leaders trained in the application of fit-for-purpose land administration (STDM) for urban agriculture land management (disaggregated by gender and institutions)</p>	AF Output 6.1 Targeted individual and community livelihood strategies strengthened in relation to climate change impacts, including variability	AF Indicator 6.1.1.No. and type of adaptation assets (tangible and intangible) created or strengthened in support of individual or community livelihood strategies [<i># and type of assets</i>]	1,150,000
2.2: Enhanced climate-responsive urban water management design for urban	<p># of neighborhoods with flooding and erosion hotspots mapped</p> <p># of green infrastructure</p>	AF Output 5: Vulnerable ecosystem services and natural resource	AF Indicator 5.1: No. of natural resource assets created, maintained or improved to	6,136,000

agriculture and storm water management through green infrastructure	for stormwater management established and functional (disaggregated by type) # of community groups established and trained to manage green infrastructure.	assets strengthened in response to climate change impacts, including variability	withstand conditions resulting from climate variability and change (by type and scale) <i>[# of natural resource assets]</i>	
3.1: Improved evidence-based urban agriculture model informing climate adaptation policies and practices locally, nationally and regionally	# of knowledge products developed and disseminated (by type/medium and topics covered) # of knowledge-sharing events conducted (disaggregated by scale: national, regional, international) # of stakeholders reached through knowledge dissemination activities (disaggregated by type: government officials, NGOs, private sector, community organizations, academia) # of cities in Eswatini or other countries in the region expressing interest in replicating project innovations	AF Output 3.2: Strengthened capacity of national and subnational stakeholders and entities to capture and disseminate knowledge and learning AF Output 7: Improved integration of climate-resilience strategies into country development plans	AF Indicator 3.2.2 No. of tools and guidelines developed (thematic, sectoral, institutional) and shared with relevant stakeholders AF Indicator 7.1. No. of policies introduced or adjusted to address climate change risks (by sector) <i>[# of policies]</i>	354,000

Implementation Arrangements

The project will adopt a collaborative, multi-agency approach, ensuring alignment with the priorities of the Government of Eswatini and the policies of the Adaptation Fund. The institutional arrangement rests on the roles of the Implementing Entity (UN-Habitat), the Executing Entities supported by UN-Habitat (Ministry of Housing and Urban Development, Food and Agriculture Organization), and the oversight of the Programme Advisory Committee (PAC).

1. Implementing Entity (IE)

UN-Habitat serves as the Multilateral Implementing Entity accredited by the Adaptation Fund. In this role, UN-Habitat is accountable for overall delivery of the project, including financial oversight,

monitoring and evaluation, and compliance with the Fund's Environmental and Social Policy (ESP) and Gender Policy (GP). UN-Habitat will:

- Act as the signatory to the grant agreement with the Adaptation Fund.
- Ensure that funds are transferred in accordance with AF fiduciary standards.
- Consolidate progress and financial reports submitted by the Executing Entities and submit unified reports to the Adaptation Fund.
- Provide technical oversight and quality assurance of deliverables under all three components.
- Ensure compliance with environmental, social, and gender safeguards, including monitoring of risk management measures.
- Facilitate knowledge exchange with other UN-Habitat initiatives in Eswatini and across the Southern Africa region.

UN-Habitat will have a country-level project team, working closely with its Sub-Regional Hub for Southern Africa and Headquarters (HQ) technical teams, and coordinate daily oversight of implementation and provide technical backstopping.

2. Executing Entities (EEs)

The proposed project will be executed by the Executing Entities (Ministry of Housing and Urban Development, Food and Agriculture Organization). Each Executing Entity will manage activities under its designated component, including technical delivery, financial management, and safeguards monitoring with the help of UN-Habitat.

2.1 Ministry of Housing and Urban Development

Key responsibilities:

- Implement assigned activities in line with the approved work plan (Outcome 2 and Outcome 3).
- Ensure all activities comply with environmental and social safeguards (ESMP/ESMF), gender, and inclusion requirements.
- Provide regular updates to the Programme Management Unit (PMU) on progress, results, and use of funds.
- Facilitate monitoring and evaluation by providing data, documentation, and access for verification.
- Coordinate closely with UN-Habitat and government counterparts to ensure alignment with national policies and project objectives.

2.2 Food and Agriculture Organization

Key responsibilities:

- Implement assigned activities in line with the approved work plan (Outcome 1 and Outcome 3).
- Ensure all activities comply with environmental and social safeguards (ESMP/ESMF), gender, and inclusion requirements.
- Provide regular updates to the Programme Management Unit (PMU) on progress, results, and use of funds.
- Facilitate monitoring and evaluation by providing data, documentation, and access for verification.
- Coordinate closely with UN-Habitat and government counterparts to ensure alignment with national policies and project objectives.

3. Coordination and Oversight Mechanisms

Programme Advisory Committee (PAC)

A Programme Advisory Committee (PAC) will be established to provide strategic guidance and oversight. The PAC will be co-chaired by the Ministry of Tourism and Environmental Affairs (as Designated Authority to the Adaptation Fund) and UN-Habitat. Membership will include key government partners, civil society representatives, and academia.

PAC responsibilities:

- Provide strategic direction and ensure alignment with national development priorities.
- Review and endorse annual workplans and budgets.
- Monitor compliance with environmental, social, and gender safeguards.
- Facilitate coordination across ministries, provinces, and development partners.
- Provide adaptive management guidance to the PMU.

Programme Management Unit (PMU)

A Programme Management Unit (PMU) will be established to oversee day-to-day project management. The PMU will include a Programme Manager, Finance and Admin Officer, and other technical staff.

Key functions:

- Coordinate implementation across Executing Entities.
- Consolidate technical and financial reports for submission to UN-Habitat HQ and the Adaptation Fund.
- Monitor and evaluate progress against project indicators.
- Support procurement processes, safeguard compliance, and stakeholder engagement.
- Facilitate knowledge management and dissemination of lessons learned.

4. Engagement with National and Local Stakeholders

The project will be implemented in close collaboration with national and municipal authorities. Civil society organizations and communities will be engaged to ensure meaningful participation of women, youth and marginalized populations. The project will also coordinate with development partners to ensure complementarity and avoid duplication.

5. Collaboration with the UN System

The project will coordinate closely with the UN Resident Coordinator Office (RCO) and will be integrated into the broader UN Sustainable Development Cooperation Framework (UNSDCF) for Eswatini. Engagement with the UN Country Team (UNCT) will ensure synergies with other UN-led programmes on climate change, disaster risk reduction, and urban resilience.

6. Reporting and Accountability

Each Executing Entity will submit technical and financial reports to the PMU, in line with AF requirements. UN-Habitat, as IE, will consolidate these into:

- Annual Project Performance Reports (PPRs).
- Mid-term and final evaluation reports.
- Financial statements and audit reports.

Monitoring and evaluation will follow the AF's M&E guidelines and UN-Habitat's Evaluation Policy.

7. Programme Governance Structure

- Programme Advisory Committee (PAC): Strategic oversight, policy alignment, safeguard monitoring.
- Programme Management Unit (PMU): Day-to-day coordination, technical oversight, reporting.
- Executing Entities: Implementation of assigned components, procurement, technical delivery, safeguard compliance.
- UN-Habitat (IE): Overall accountability to AF, consolidation of reporting, fiduciary oversight.

8. Gender-Responsive Arrangements

The project will ensure gender balance in the PAC and PMU and require gender-disaggregated reporting from all components. Training modules will be gender-responsive, and infrastructure designs will incorporate women's safety and accessibility needs.

¹ The AF utilized OECD/DAC terminology for its results framework. Project proponents may use different terminology but the overall principle should still apply

PART IV: ENDORSEMENT BY GOVERNMENT AND CERTIFICATION BY THE IMPLEMENTING ENTITY

A. Record of endorsement on behalf of the government²

<p><i>(Enter Name, Position, Ministry)</i> Khangeziwe Mabuza Principal Secretary Ministry of Tourism and Environmental Affairs</p>	<p>Date: 18 November 2025</p>
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B. Implementing Entity certification *Provide the name and signature of the Implementing Entity Coordinator and the date of signature. Provide also the project/programme contact person's name, telephone number and email address*

<p>I certify that this proposal has been prepared in accordance with guidelines provided by the Adaptation Fund Board, and prevailing National Development and Adaptation Plans (National Development Plan (2023-2028), National Climate Change Strategy and Action Plan (NCCSAP) 2015–2020, Initial Adaptation Communication to the UNFCCC and Nationally Determined Contribution (NDC 3.0)) and subject to the approval by the Adaptation Fund Board, <u>commit to implementing the project/programme in compliance with the Environmental and Social Policy and the Gender Policy of the Adaptation Fund</u> and on the understanding that the Implementing Entity will be fully (legally and financially) responsible for the implementation of this</p>

⁶ Each Party shall designate and communicate to the secretariat the authority that will endorse on behalf of the national government the projects and programmes proposed by the implementing entities.

Name & Signature Implementing Entity Coordinator	
	
Raf Tuts, Director, Global Solutions Division United Nations Human Settlements Programme (UN-Habitat)	
Date: <i>April 29 2026</i>	Tel. and email: raf.tuts@un.org
Project Contact Person:	
Masayuki Yokota Head of Sub-Regional Hub for Southern Africa Regional Office for Africa United Nations Human Settlements Programme (UN-Habitat)	
Tel. And Email: +254 746 159 519 masayuki.yokota@un.org Cc to: sugumi.tanaka@un.org	



KINGDOM OF ESWATINI

MINISTRY OF TOURISM AND
ENVIRONMENTAL AFFAIRS

OUR REF: TEA /NMS/2.3.1

DATE: 4TH May, 2026

The Adaptation Fund
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Dear Sir/ Madam

RE: ENDORSEMENT FOR PROJECT TITLED 'ENHANCED URBAN CLIMATE ADAPTATION THROUGH CLIMATE – RESILIENT URBAN AGRICULTURE SYSTEM THAT INTERGRATE INNOVATIVE URBAN FOOD PRODUCTION, RESOURCE CIRCULATION, IMPROVED COMMUNITIES "ACCESS TO WATER AND LAND IN ESWATINI

Our letter dated 18th November, 2025 on the above subject matter refers.

The concerns raised on our submission are noted. There has been a change of office of the Designated Authority in Eswatini. The undersigned, in her capacity as the current designated authority for the Adaptation Fund in Eswatini, confirm that the above national grant proposal is in accordance with the government national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Eswatini.

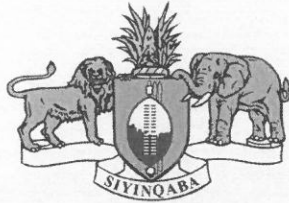
Accordingly, I am pleased to endorse grant proposal with support from the Adaptation Fund, if approved, the project will be implemented by UN-habitat and executed by the Food and Agriculture Organisation with the Ministry of Housing and Urban Development.

Your Sincerely,


DLAMINI HLOBISILE

National Designated Authority – GCF
Designated Authority – Adaptation Fund





KINGDOM OF ESWATINI

MINISTRY OF TOURISM AND
ENVIRONMENTAL AFFAIRS

OUR REF: TEA/NMS/2.3.1

DATE: 18 November 2025

The Adaptation Fund Board
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Dear Sir/Madam

Subject: Endorsement for project titled "Enhanced urban climate adaptation through climate-resilient urban agriculture system that integrate innovative urban food production, resource circulation, improved communities' access to water and land in Eswatini"

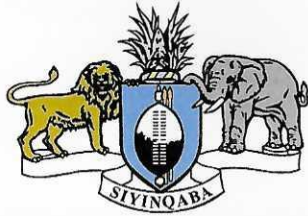
In my capacity as designated authority for the Adaptation Fund in Eswatini, I confirm that the above national grant proposal is in accordance with the government's national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Eswatini.

Accordingly, I am pleased to endorse the above grant proposal with support from the Adaptation Fund. If approved, the project will be implemented by UN-habitat and executed by the Food and Agriculture Organization with the Ministry of Housing and Urban Development.

Sincerely,


KHANGEZIWE MABUZA
PRINCIPAL SECRETARY





KINGDOM OF ESWATINI

MINISTRY OF TOURISM AND
ENVIRONMENTAL AFFAIRS

OUR REF: TEA /NMS/2.3.1

DATE: 4TH May, 2026

The Adaptation Fund
c/o Adaptation Fund Board Secretariat
Email: Secretariat@Adaptation-Fund.org
Fax: 202 522 3240/5

Dear Sir/ Madam

RE: ENDORSEMENT FOR PROJECT TITLED 'ENHANCED URBAN CLIMATE ADAPTATION THROUGH CLIMATE – RESILIENT URBAN AGRICULTURE SYSTEM THAT INTERGRATE INNOVATIVE URBAN FOOD PRODUCTION, RESOURCE CIRCULATION, IMPROVED COMMUNITIES "ACCESS TO WATER AND LAND IN ESWATINI

Our letter dated 18th November, 2025 on the above subject matter refers.

The concerns raised on our submission are noted. There has been a change of office of the Designated Authority in Eswatini. The undersigned, in her capacity as the current designated authority for the Adaptation Fund in Eswatini, confirm that the above national grant proposal is in accordance with the government national priorities in implementing adaptation activities to reduce adverse impacts of, and risks, posed by climate change in Eswatini.

Accordingly, I am pleased to endorse grant proposal with support from the Adaptation Fund, if approved, the project will be implemented by UN-habitat and executed by the Food and Agriculture Organisation with the Ministry of Housing and Urban Development.

Your Sincerely,


DLAMINI HLOBISILE

**National Designated Authority – GCF
Designated Authority – Adaptation Fund**





Revised PFG Submission Form¹ (additions in red)

Project Formulation Grant (PFG)

Submission Date:

Adaptation Fund Project ID:

Country/ies: Eswatini

Title of Project/Programme: Enhanced urban climate adaptation through climate-resilient urban agriculture system that integrate innovative urban food production, resource circulation, improved communities' access to water and land in Eswatini

Type of IE (NIE/RIE/MIE): MIE

Implementing Entity: : United Nations Human Settlements Programme (UN-Habitat)

Executing Entity/ies: Food and Agricultural Organization (FAO), Ministry of Housing and Urban Development of Eswatini

A. Project Preparation Timeframe

Start date of PFG	01 July 2026
Completion date of PFG	01 April 2027

B. Proposed Project Preparation Activities (\$)

List of Proposed Project Preparation Activities	Output of the PFG Activities	US\$ Amount	Budget note²
1. Environmental Impact Assessment (as required by Environmental Assessment Regulations of Eswatini (2022))	Environmental Authorization Letter, Environmental Impact Assessment Report and Environmental Management Plan	US\$100,000	Please see below
2. Development of waste management and pollution prevention plans, site-specific safety protocols and emergency response plans	Waste management and pollution prevention plans, site-specific safety protocols and emergency response plans	US\$7,600	Please see below

¹ As presented in AFB/PPRC.33/40 Annex 1.

² The proposal should include a detailed budget with budget notes indicating the break-down of costs at the activity level. It should also include a budget on the Implementing Entity management fee use.

3. Baseline assessment	Report on baseline and targets	US\$6,300	Please see below
4. Supplementary social and gender assessment	Community engagement and gender equality plan, including design of grievance mechanism	US\$5,700	Please see below
5. Supplementary hydrological assessment	Hydrological assessment report providing recommendations on potential locations and designs of green stormwater infrastructure, and feeding into baseline and targets of green infrastructure	US\$25,700	Please see below
6. Consultation on land user rights for community groups	Report of recommendations on the modalities of allocating land user rights for community groups, and feeding into baseline and targets of land components. (Preliminary consultations were done, and mechanisms will be designed and piloted in more details in the project).	US\$4,700	Please see below
Total Project Formulation Grant			US\$150,000

Please describe below each of the PFG activities and provide justifications for their need and for the amount of funding required:

1. Environmental Impact Assessment (as required by Environmental Assessment Regulations of Eswatini (2022))

Description	Unit Cost	Quantity	Total (USD)
Submission fees to Eswatini Environment Authority		Lumpsum	\$5,000
Environmental Assessment Practitioner (EAP)	\$1,200	28 days	\$33,600
Specialist studies (baseline ecological survey)		Lumpsum	\$20,000
Social baseline documentation and stakeholder mapping		Lumpsum	\$10,000
Public participation process		Lumpsum	\$13,000
Preparation of Comprehensive Mitigation Plan and Environmental Management Plan		Lumpsum	\$10,000
Environmental monitoring plan		Lumpsum	\$4,400
Revisions and resubmissions		Lumpsum	\$4,000
Total			\$100,000

2. Development of waste management and pollution prevention plans, site-specific safety protocols and emergency response plans

Description	Unit Cost	Quantity	Total (USD)
Waste management specialist	\$800	3 days	\$2,400
Health, safety and environment specialist	\$800	2 days	\$1,600
Site assessment and community consultation		Lumpsum	\$3,400
Development of plans documents		Lumpsum	\$200
Total			\$7,600

3. Baseline assessment

Description	Unit Cost	Quantity	Total (USD)
Waste management specialist	\$800	3 days	\$3,200
Agriculture specialist	\$800	2 days	\$1,600
Site assessment and community consultation		Lumpsum	\$1,300
Development of plans documents		Lumpsum	\$200
Total			\$6,300

4. Community engagement and gender equality plan, including design of grievance mechanism

Description	Unit Cost	Quantity	Total (USD)
Social inclusion and gender specialist	\$800	5 days	\$4,000
Focus group discussions and key informant interviews		Lumpsum	\$1,500
Development of plans documents		Lumpsum	\$200
Total			\$5,700

5. Supplementary hydrological assessment

Description	Unit Cost	Quantity	Total (USD)
Hydrological engineer / specialist	\$1,200	12 days	\$14,400
Hydrological survey (field survey) at proposed green infrastructure sites		Lumpsum	\$9,000
Development of reports		Lumpsum	\$2,300
Total			\$25,700

6. Consultation on land user rights for community groups

Description	Unit Cost	Quantity	Total (USD)
Land expert for preliminary estimation of land availability	\$800	6 days	\$3,200
Consultation workshops on land user rights for community groups	\$1,300	Lumpsum	\$1,300
Development of reports		Lumpsum	\$200
Total			\$4,700


For LLA Projects only:

If requesting additional funding for LLA projects to enable devolving decision making to the local level, please specify the activities that would directly serve to enable devolving decision making to the lowest appropriate level and enable local actors to make informed decisions on how adaptation actions are defined, prioritized, designed, and implemented:

Please provide justifications for their need and for the amount of additional funding required:

C. Implementing Entity

This request has been prepared in accordance with the Adaptation Fund Board's procedures and meets the Adaptation Fund's criteria for project identification and formulation

Implementing Entity Coordinator, IE Name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Raf Tuts, Director, Global Solutions Division, United Nations Human Settlements Programme (UN-Habitat)		04/29/2026	Masayuki Yokota Head of Sub-Regional Hub for Southern Africa Regional Office for Africa,	+254 746 159 519	masayuki.yokota@un.org Cc to: sugumi.tanaka@un.org

			UN- Habitat		
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