Annex 1

Project Description

1. Background

The United Nations Development Programme (UNDP) is the development programme of the United Nations System and works in some 170 countries and territories, helping to achieve the eradication of poverty, and the reduction of inequalities and exclusion. UNDP helps countries to develop policies, leadership skills, partnering abilities, institutional capabilities and build resilience to sustain development results. UNDP supports the 2030 Agenda for Sustainable Development and the 17 Sustainable Development Goals (SDGs).

Within the framework of the Memorandum of Understanding signed in December 2023, the Government of Uganda, through the Ministry of Water and Environment (MWE), and the Government of Italy, through the Ministry of Environment and Energy Security (MASE), are working together to design and implement a waste management project in partnership with UNDP.

Uganda faces rapidly increasing solid and Health Care Waste (HCW) volumes driven by urban growth, population increase, and limited waste infrastructure. Masaka City – one of Uganda's newest and fastest-growing cities – generates approximately 200 tonnes/day of municipal solid waste (MSW), of which 70% is organic, while only a fraction is collected and safely managed. However, only about 40% of this waste is collected and sent to dumpsites and there are more than 50 illegal informal dumpsites, contributing to flooding, environmental degradation, and public health risks. HCW management is also severely deficient: hospitals and clinics improperly segregate and treat it using outdated and polluting technologies, increasing risks of infection, toxic emissions, and contamination of communities and ecosystems.

To address these challenges, the project aims to design and implement an integrated MSW and HCW management system in Masaka City. This demonstration model will deploy infrastructures designed to treat waste from generation through recovery, including a Material Recovery Facility (MRF) with a capacity of up to 50 tonnes/day, capable of sorting plastics, metals, glass, paper, and organic fractions using a semi-mechanized system. A 0.4 tonnes/day dual-chamber HCW incinerator equipped with an emission-control filtration unit will be installed to ensure safe handling of infectious waste, in line with global standards. Complementary composting systems will convert organic waste into compost suitable for local farmers and markets. The pilot will also deploy a modernized logistics system: compactor trucks, tricycles, skip-loader trucks, color-coded bins, PPE, and GIS/MRV digital tools for real-time monitoring of collection routes, waste flows, greenhouse gas reductions, and environmental compliance.

Before the procurement of construction and equipment can be launched, UNDP is commissioning a Detailed Feasibility Study (DFS) – which includes the Detailed Survey Study (DSS) and the Preliminary and Detailed Engineering Design (DED) –, a full Environmental and Social Impact Assessment (ESIA) and a Gender Analysis. These studies constitute mandatory prerequisites for validating waste quantities, technology options, infrastructure sizing, operational models, and environmental safeguards that will underpin tender documents and permitting processes.

- The DFS – composed of the DSS and the DED – will refine baseline data, assess site conditions, and define institutional and financial arrangements to ensure the system remains operational and economically sustainable. The DED will provide schematic designs and layouts for the Material Recovery Facility (MRF), demonstrating how the facility will be constructed and operated in a safe, functional, and cost-effective manner. The DED will document all civil works and specifications, architectural layouts and elevations supporting efficient waste sorting and material flow, collection system, O&M plans, and the required mechanical and electrical systems for waste handling, processing, utilities, and environmental control.

- The ESIA will identify environmental and social risks, propose mitigation measures, analyze cumulative impacts, and ensure alignment with Uganda's National Environment Act (2019), Waste Management Regulations (2020), and UNDP's Social and Environmental Standards.
- The Gender Analysis and the subsequent Gender Action Plan (GAP) will examine differentiated waste-related risks, roles, and opportunities for women, youth, and informal workers, ensuring that the infrastructure and service-delivery model embeds gender equity, occupational safety, and inclusive economic participation.

Together, these preparatory studies will provide the technical, financial, environmental, and social foundation required for regulatory approval, tendering, and successful long-term operation of the integrated waste management pilot.

2. Purpose and objectives of the Contract

UNDP has been tasked with developing a DFS, ESIA and Gender Analysis for the construction of the waste management infrastructures – mentioned in above Section 1 – in the city of Masaka in Uganda. To develop these studies, UNDP intends to avail itself of the support of an engineering firm or consortium of firms with proven experience in the field. In this regard, UNDP hereby invites qualified and reputable service providers to submit their applications expressing interest and participate in the subsequent Request for Proposals (RFP).

The purpose of this Expression of Interest (EOI) is to profile qualified and reputable engineering and environmental consulting firm or consortium interested in providing professional technical services.

UNDP encourages applicants to demonstrate familiarity with Uganda's and/or East Africa's regulatory, institutional, environmental, and socio-economic context, including through local partnerships, regional experience, or collaboration arrangements that strengthen local engagement, stakeholder participation, and long-term capacity development.

3. Scope of Work

The consulting firm will undertake an integrated package of engineering, environmental, social, and gender-related assignments, including the:

- **Detailed Survey Study (DSS):** Among others, the firm is expected to:
    - Conduct a detailed baseline study on the waste characterization, MSW and HCW generation projections, flow analysis, and assessment of current infrastructures and assets
    - Undertake all required surveys to inform the DED, including detailed topographic surveys, cadastral/boundary verification, utility mapping, hydrological and drainage assessments, and environmental baseline observations relevant to MRF development.
    - Carry out geotechnical investigations including boreholes, trial pits, soil sampling, laboratory testing, and groundwater assessment to determine soil bearing capacity, settlement characteristics, slope stability, and foundation design requirements.
    - Conduct financial and benefit analysis with clear insights of the costs for development anticipated benefits and assess overall viability of the project.
- **Detailed Engineering Design (DED):** Among others, the firm is expected to:
    - Test, validate and refine the proposed technical specifications for the MRF, the associated infrastructures appraising technology options to maximize the effectiveness and economic value of the material recovery process (e.g., composting and/or bioreactor systems), the HCW treatment facility, the collection and transport systems, the associated civil works, utilities, and site preparation.

- Prepare detailed civil and structural designs and specifications based on survey findings, covering site preparation, earthworks, foundations, pavements, drainage systems, retaining structures, and structural components for MRF buildings, platforms, and equipment loads.
- Develop architectural layouts, elevations, and sections reflecting efficient waste reception, sorting, storage, and dispatch flows, incorporating occupational health and safety, access control, fire safety, and operational functionality specific to MRF operations.
- Design for the collection and logistical transport system, ensuring efficient routing, fleet needs assessment, loading/unloading procedures, and integration with MRF operations.
- Design an O&M model covering operational workflows, maintenance schedules, staffing structures, and MRV plans, while identifying suitable digital tools to streamline monitoring and reporting. Additionally, the firm will assess capacity-building needs to ensure staff and the Municipality can effectively operate and sustain all MRF systems.
- Design all mechanical and electrical and utility systems required for MRF operations, including waste handling and sorting equipment interfaces, power supply, lighting, ventilation, fire protection, water supply, wastewater and leachate management, and compliance with applicable standards and regulations.

- **Environmental and Social Impact Assessment (ESIA):** Among others, the firm is expected to carry out a full ESIA in accordance with national and UNDP Social and Environmental Standards (SES) requirements, including:
  - conduct a collection of environmental and social and gender baseline data, design constraints note.
  - identify risks and impacts and plan mitigation measures covering i) air emissions, noise, effluents, hazardous waste, ii) occupational health and safety, iii) vulnerable groups, gender risks, informal sector impacts, iv) community health and safety.
  - develop a full ESIA and Environmental and Social Management Plans (ESMPs), including engineering specifications, mitigation designs, and safeguards-costed Bill of Quantities (BoQ) items, indicating the permitting pathway and dependencies for tender readiness.
  - conduct an analysis of illegal dumpsites to indicate cumulative/indirect risks, their social dependency, a transition roadmap and triggers for future closure.
- **The Gender Analysis and the subsequent Gender Action Plan (GAP):** Among others, the firm is expected to i) assess impacts on livelihoods, informal sector integration, inclusion of vulnerable groups, and labor conditions, ii) analyze measures, targets, indicators, and resources to support participation and jobs along the value chain, iii) identify mitigation measures and action plan to address all the gaps identified.
- **Regulatory and permitting support:** Among others, the firm is expected to i) identify and obtain all necessary permits, licenses, and regulatory approvals, ii) prepare supporting documentation, iii) Work all with UNDP and Masaka City Council throughout the permitting process.
- **Financial and economic analysis:** Among others, the firm is expected to i) develop a financial model covering CAPEX/OPEX, revenues and off takers (recyclables, compost, service fees), waste tariff, financing needs, and cost-recovery scenarios, ii) assess feasibility of PPP models and private sector participation, iii) recommend long-term financial sustainability mechanisms and a O&M transition plan.
- **Stakeholder engagement and communication strategy:** Among others, the firm is expected to conduct consultations with national and local institutions, private sector actors,

health facilities, informal waste collectors, women/youth groups, and communities. Moreover, the firm will create a project communication strategy to inform stakeholders, promote behavioral change, ensure stakeholder engagement and ownership, and disseminate project activities.

- **Procurement-ready package and implementation plan:** Among others, the firm is expected to i) the Terms of References and all necessary documentation to assign the EPC of the project, evaluation criteria, ensuring alignment with UNDP and national procurement regulations; ii) prepare a detailed implementation schedule; iii) formulate a quality assurance plan.
- **HCW regional survey study:** Among others, the firm is expected to conduct a detailed baseline study on the HCW characterization generation projections, flow analysis, and assessment of current infrastructures and assets of the greater Masaka area[1] and of an additional city in the Region[2]. The analysis will undertake all required surveys to inform the DED, including social and environmental preliminary impact assessment, and conduct financial and benefit analysis with clear insights of the costs for development anticipated benefits and assess overall viability of the project.
- **Climate Mitigation and Adaptation Assessment:** Among others, the firm is expected to conduct a comprehensive assessment of the climate mitigation and adaptation potential of the project. In doing so, the firm will need to provide quantitative estimates of international recognized indicators[3], explaining the methodological approach and underlying logic.

4. Contract type and expected duration

The EOI will define and study the market for the interested bidders to participate in the Request for Proposal (RFP).

The RFP will be established through a formal open competitive process which will be launched at a later stage. For this specific request, UNDP is only seeking expression of interest from interested service providers.

The outcome of the process is to issue a professional service contract to the selected firm or consortium.

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[1] The analysis will need to take into consideration the districts surrounding Masaka

[2] The city will be disclosed in the subsequent Request for Proposals (RFP)

[3] For example, GEF8 consider as core indicators the following ones:

- Terrestrial protected areas created or under improved management (hectare)
- Marine protected areas created or under improved management (hectare)
- Area of land and ecosystems under restoration (hectare)
- Area of landscapes under improved practices (hectare)
- Area of marine habitat under improved practices (hectare)
- Greenhouse Gas Emissions Mitigated (metric tons of CO2e)
- Shared water ecosystems under new or improved cooperative management (count)
- Globally over-exploited marine fisheries moved to more sustainable levels (metric ton)
- Chemicals of global concern and their waste reduced (metric ton of toxic chemicals reduced)
- Persistent organic pollutants to air reduced (gram of toxic equivalent gTEQ)
- People benefiting from GEF-financed investments disaggregated by sex (count)