Reference No: 4200711894

Terms of reference for the

FEASIBILITY STUDY AND PILOT PROJECT PROPOSAL FOR FAECAL SLUDGE WASTE-TO-VALUE SOLUTIONS IN BENTIU AND MALAKAL

1 – Introduction

The International Organization for Migration (IOM) is part of the United Nations System as the leading inter-governmental organization promoting since 1951 humane and orderly migration for the benefit of all, with 175 member states and a presence in over 100 countries. IOM has had a presence in South Sudan since 2011. As the leading inter-governmental organization promoting humane and orderly migration, IOM plays a key role to support the achievement of the 2030 Agenda through different areas of intervention that connect both humanitarian assistance and sustainable development. IOM South Sudan provides a comprehensive response to the humanitarian needs of migrants, internally displaced persons, returnees and host communities.

IOM in South Sudan has a broad range of programming centered around three broad areas: humanitarian coordination and support; humanitarian response and resilience; and peacebuilding, transition, and development. Humanitarian coordination and support include leading/co-leading the Camp Coordination and Camp Management (CCCM) and Shelter and Non-Food Items (NFI) Clusters, Displacement Tracking Matrix (DTM), Water, Sanitation and Hygiene (WASH) and management of WASH and Shelter and NFI core-pipelines, humanitarian hubs, and common transport services. Humanitarian response and resilience include CCCM, WASH, Shelter & NFI, health, protection, gender equality and inclusion, mental health and psychosocial support, and the management of a Rapid Response Fund. Under peacebuilding, transition, and development, IOM South Sudan implements programming on housing, land and violence reduction, community development, and migration management. In terms of WASH, IOM is the largest provider of water, sanitation, and hygiene (WASH) services across the entire crisis life cycle in South Sudan. The nature of the crisis is conflict- and flood-based protracted and acute displacement. In line with this, IOM is the only actor delivering WASH services in the two largest settings for internally displaced people (IDP) in Rubkona, Bentiu and Malakal towns which host over 218,000 individuals.

2 - Background:

IOM implements an integrated environmental health response specifically designed to reduce morbidity and mortality. This comprehensive approach includes two interlinked components: (1) the collection, disposal, and treatment of faecal matter, and (2) the collection and disposal of solid waste in the two large-scale camps of South Sudan, serving approximately 218,000 people, in Bentiu and Malakal. IOM aims to develop a Waste-to-Value solutions in both Malakal and Bentiu, utilizing the faecal sludge from managed waste stabilization ponds. The primary goal is to generate revenue to cover operational costs, enhancing the sustainability of the facilities and facilitating their eventual handover to the local utility or community.

3 - Objectives of the study:

The purpose of the planned study/assessment is to feasibility study and pilot project proposal for faecal sludge waste-to-value solutions in IOM WASH areas of operations in Bentiu and Malakal. The selected Consultant/s will conduct the proposed assessment to include the following activities:

a) Situational analysis of existing FSM services and infrastructure:

- A comprehensive assessment of the waste stabilization ponds in Bentiu and Malakal to determine their current condition and functionality
- Assessment of the capacity, design, and operational efficiency of the existing faecal sludge waste management systems across the value chain from containment, emptying, transportation and disposal.
- Analysis of quantification and characterization of sludge and septage using existing data from IOM
- Analysis of current population and future projections
- Review of the proposed W2V site

b) Waste-to-Value Options Analysis:

- Investigate the potential for implementing Waste-to-Value (W2V) options in the context of the existing waste stabilization ponds.
- Market analysis of different waste-to-value (W2V) options - site visits; interviews with businesses, residents, and market stall holders
- Business modeling of W2V options
- Determine the most appropriate technologies and equipment necessary for realizing W2V options in Bentiu and Malakal.
- Outline the key components and phases of a pilot project to implement W2V technologies.
- Create a multi-criteria analysis tool. The tool will include a dashboard that summarises the datasets and compares different analysis criteria for each W2V option.

c) Reporting and Recommendations:

- Provide actionable recommendations for the implementation of W2V options, including specific steps and strategies for moving forward.
- Present the report to relevant stakeholders and decision-makers for review and approval.
- Compile a comprehensive report detailing the findings of the assessment, feasibility study, and technology evaluation.

4 - Approach for faecal sludge waste-to-value solutions study

- Establishment of Baseline for waste-to-value solutions by using survey Data, technical assessment records and secondary source information, FS Characterization and Quantification, Situational Analysis of existing WWTP.
- Relevant Was show environmental components, i.e., Index Map, Location Map, Drainage Map & other Maps.

5 - Deliverables

Three main deliverables are anticipated to be the outcome of this ToR as follows:

1. **A Situational Analysis Report** (this will include but not limited to: desk review and analysis of secondary data from IOM; FS Characterization and Quantification, Situational Analysis of existing WWTP, Assessment of FSM services across the value chain, Population projections, Site selection and mapping),
2. **A Waste- to-Value Options Analysis Tool** (this will include but not limited to: Faecal sludge load analysis,
3. Market analysis of W2V products: site visit in Malakal, Preliminary treatment designs, Business modeling of W2V options, Option multi-criteria analysis tool).
4. **Feasibility Report with Recommendations for W2V FSTP Summary**. (this will include but not limited to: Draft recommendations for W2V FSTP, Virtual workshop: Stakeholder endorsement of proposed intervention options, Feasibility Report with Recommendations for W2V FSTP).

6 – Support to the assessment:

IOM will provide a main point of contact for the assessment team and logistical support to facilitate the implementation of the WACS and market assessment, including security arrangements, accommodation, transport and other logistics, and staff to support the activities.

7 - Timeline

The duration for carrying out the study is 1-3 months. This period is including the different stages of the study (scope verification, background research, stakeholder mapping, data collection, waste analysis, report writing, review, feedback, and revision). After report revision, the vendor has one week to submit the final report to IOM.

8 - Consultancy service provider profile

The consultancy service provider must be an expert in faecal sludge treatment and design, having a proven experience in Faecal Sludge Value chain from a for-profit enterprise perspective. Additionally, they must have a previous experience in conducting the sanitation analysis and implementation of waste-to-value solutions in similar contexts. Previous partnership with INGOs/UN agencies is a privilege.

9 – Criteria for evaluation of the service

The W2V FSTP report will be evaluated and validated during a workshop with the participation of the relevant stakeholders, and IOM.

The following criteria will be used for the evaluation:

1. Compliance of the report with the terms of reference.
2. Technically correct and accurate information.
3. Considering the comments of the technical departments involved.
4. Complete and satisfactory statement of key conclusions.
5. Clear, understandable, and sufficient information for decision-making.