



## **Terms of Reference**

### **The Development of National Waste Management Information System (WMIS)**

<b>Description of the Assignment</b>	A consultancy service to design and develop a digital platform (portal) to manage and provide information and reports on the general waste management action in Lesotho.
<b>Duration</b>	445 Days
<b>Location of Assignment</b>	Countrywide
<b>Contract</b>	Contract for Professional Services
<b>Responsible Unit</b>	UNDP Lesotho Accelerator Lab and MTEC

## **I. BACKGROUND**

UNDP is the UN global development network, advocating for change and connecting countries to knowledge, experience and resources to help people build a better and resilient lives. It works with individual countries on their own solutions to global and national development challenges. UNDP Lesotho is implementing its Country Programme (2019-2023) anchored on the Lesotho National Strategic Development Plan (NSDP II) the UNDAF (2019–2023) and guided by the UNDP Strategic Plan (2018–2021). The Programme comprises three pillars: (i) Governance, for Accountability, Social Cohesion and Stability; (ii) Sustainable and Inclusive Economic Growth and (iii) Environmental Sustainability, Climate Change and Resilience.

In collaboration with the Ministry of Tourism, Environment and Culture (MTEC), UNDP is implementing a project on Strengthening Partnerships for a Sustainable Plastic Life-Cycle Management. The project aims to support partnership building and advocacy on plastic life-cycle management and encourage behavioural change for responsible production and consumption patterns (SDG 12). This will be realized through working with a broad range of partners to agree on a menu of possible solutions including refusing and reducing of single use plastic in commercial and corporate spaces and enabling the re-use, repurposing and recycling of plastic waste. Innovative and digital technology solutions will be used to facilitate collation and generation of data and evidenced to inform the articulation of programme and policy options for sustainable plastic waste management.

Waste management is the major problem in Lesotho due to poor and indiscriminate practices for disposal, leading to dumping on roadsides, market, and other public places. The waste management situation in Lesotho is exacerbated by absence of waste management systems, insufficient and informal collection systems, and widespread use of random and illegal dumpsites in both rural and urban areas. The country has many and unregulated waste disposal sites, with adverse impact on the environment, health and economic prospects of the country and its people. With specific reference to Maseru, it is noted that the prevailing waste management practices are unsustainable as they damage the city's natural resources (including its drinking water supply), threaten the health of residents, grazing lands as well as wasteful with regard to potentially reusable and recyclable resources.

In this regard the Government of Lesotho through MTEC, seek to develop an information management system to manage all waste management activities in Lesotho, to improve the management, profiling and oversight on waste management and practice in Lesotho. The information system will support MTEC and relevant stakeholders to register waste management entities, providing timely data on waste management activities and waste quantities segmented by categories, waste sources, and destinations. The system will be used by MTEC, the Ministry of Local Government and Chieftainship Affairs (MLGCA) and other stakeholders in waste management to transcend environmental action guided by the national

waste management strategy. This includes publicising information to infuse waste management best practices, opportunities and government guiding and regulatory frameworks.

## **II. OBJECTIVES OF THE ASSIGNMENT**

UNDP and MTEC are soliciting proposals from interested firms to design and develop a web-based Waste Management Information System (WMIS) in Lesotho, to be used by the MTEC, MLGCA, community authorities/local councils and private sector for management of waste and reporting. The system will be embedded in and managed by the MTEC.

### **WMIS functionalities:**

- Management and geographical mapping of legal and illegal dumpsites using GIS capabilities including measurement of possible spread of contamination.
- To enable information sharing, publishing and data exchange between government, private sector entities and the general public.
- To register and define waste classifications and different waste sources to harness integrated data collection by actors in waste generation and waste management sectors.
- To develop solid waste management tracker module that measures and compares periodically (monthly, quarterly, annually), the amount of waste collected, recycled, exported, incinerated/disposed, reuse/repurposed, etc.
- Integrate best practices in data collection which determines waste handling, sorting, transportation, incineration, and landfill methodologies.
- To register the national actors in waste management processes and provide each category of actors with system access rights. These include users from both government and private sector entities who manage waste for environment rehabilitation and livelihoods. i.e. Collectors, Recyclers, Exporters, sector managers, waste generators, etc.
- Integrate sharing of information with the public by providing links to documentation such as regulatory, legal, best practices, reports, research, etc.
- The web-based WMIS must be compatible with mobile devices to enable user's device flexibility.

### III. SCOPE OF WORK

- Design and development of the national Waste Management Information System (WMIS).
- Development of user manual and user training plan.
- Execution and facilitation of training session for MTEC and relevant stakeholders on use of WMIS.
- Provide system maintenance and support on developed WMIS.

### EXPECTED DELIVERABLES

Deliverable	Number of days	Target deadline for milestone	Review and Approval
1. Inception Report	10 days	31 <sup>st</sup> August 2021	UNDP, MTEC, Relevant Partners
2. WMIS High Level Design	07 days	09 <sup>th</sup> September 2021	UNDP, MTEC, Relevant Partners
3. Functional System and Assessment Report	42 days	10 <sup>th</sup> November 2021	UNDP, MTEC, Relevant Partners
4. System Deployment and Commissioning report	07 days	17 <sup>th</sup> November 2021	UNDP, MTEC, Relevant Partners
5. User Training - Plan, Manual and Execution	14 days	16 <sup>th</sup> December 2021	UNDP, MTEC, Relevant Partners
6. Maintenance and support with quarterly reports	365 days	16 <sup>th</sup> December 2022	UNDP, MTEC, Relevant Partners

#### **IV. INSTITUTIONAL ARRANGEMENTS**

For purposes of this assignment, the management arrangements shall be as follows:

- The appointed firm is responsible to the UNDP Deputy Resident Representative, with delegated authority for day-to-day management to the UNDP Accelerator Lab Head of Experimentation and the Ministry of Tourism, Environment and Culture (dept of waste management).
- MTEC, with technical support from UNDP will provide the overall leadership, monitoring and guide on requirements implementation and validation to maintenance and support on both applications and relevant stakeholders and beneficiaries.
- UNDP and MTEC in collaboration with other stakeholders shall provide support to facilitate required information dispersion to avail for the firm to undertake activities of the assignment.
- For the duration of this assignment, the firm should commit to participation in organized consultation sessions and engage accordingly to obtain further user requirements for validation and evaluation required on any activity within this assignment.
- The firm should have own computers, facilitate own access to internet and software necessary to deliver this assignment.
- All information, title rights, copyrights, and all other rights of whatever nature in any materials used or generated by the firm and assets related development of waste management information system will be exclusively property of UNDP.
- The firm must submit all source code, documentation and any item or equipment purchased under the assignment activities to UNDP upon completion of the assignment.

#### **V. DURATION OF WORK AND DUTY STATION**

The assignment will be carried out in 445 days, spread over 17 months, starting in August 2021, and to be completed by December 2022. The firm will also be required to allow 12 months for management and administration support to the Ministry of Tourism, Environment and Culture and partners on the use, support, and maintenance of the system.

UNDP and partners will have up-to 10 days to review outputs and provide comments, approve the submitted outputs.

The firm will work from its premises and will utilise both physical means and on-line tools to engage with UNDP, MTEC and relevant partners to undertake assignment activities.

## **VI. QUALIFICATIONS OF SUCCESSFUL OFFERORS**

### **Qualifications and Skills**

The interested firm must provide a team of developers and the project lead dedicated to all work required in undertaking this assignment, based on the following qualification, experiences and competencies.

### **Educational Qualifications and Competencies**

#### **One (1) Team Lead:**

- At least a postgraduate degree in IT, Computer Science, Engineering.
- 10 years in software development.
- At least 5 years in software project and personnel management.
- Proven understanding of Lesotho's development landscape, particularly relating to technology sector.

#### **Two (2) Software Developers:**

- A bachelor's Degree in a discipline such as IT, Computer Science or Engineering.
- A minimum of 5 years' work experience in applications development (web and mobile).
- Knowledge and proven experience in database management systems.
- Knowledge and proven experience in systems integration including the integration with GIS applications.
- Experience in user-oriented designs following specific guidelines and standards stipulated under User Interface Design and User Experience (UI and UX).

#### **One (1) GIS Specialist:**

- A Bachelor's degree in a discipline such as Computer Science, Geography, or Engineering.
- 5 years of proven work experience in GIS applications development and maintenance.
- Profound GIS knowledge, as a GIS specialist is expected to work with various GIS tools
- Ability to pay particular attention to details to work with databases and spatial information analysis.

### **General Team's Technical Experience**

- Proven knowledge and experience in systems design and the ability to engineer and analyse requirements.
- A minimum of 5 years' experience in corporate web application development using technologies such as JavaScript, JQuery, Json, HTML, HTML5, CSS, CSS3.

- Knowledge and experience in systems security principles and their implementation into a system.
- Experience in web object-oriented design and programming using the Web Services (REST/SOAP), Multimedia Content Development, API's and web coding frameworks.
- Experience in mobile application development will be an added advantage.
- High analytical thinking to effectively analyse information and databases.

### **Core Values to Subscribe to**

- Proven ability to work effectively with others - including in multicultural team – and strong interpersonal skills.
- Demonstrates integrity by modelling the UN's values and ethical standards.
- Promotes the vision, mission and strategic goals of UNDP.
- Displays cultural, gender, religion, race, nationality and age sensitivity and adaptability.
- Treats people fairly without favoritism.
- Fulfils all obligations to gender sensitivity and zero tolerance for sexual harassment.
- Must not be or have been involved in any form of criminal activities.
- Experience working with international and/or regional organizations and clients of similar discipline.

### **VII. SCOPE OF BID PRICE AND SCHEDULE OF PAYMENTS**

- The contract price will be fixed output-based price regardless of extension of the herein specific duration of the assignment.
- The financial proposal should be presented as a Lump Sum Amount –representative of payments closely linked to deliverables.
- Payments will be made upon acceptance and approval by the UNDP and the Ministry of Tourism, Environment and Culture of planned deliverables and components,
- Payments will be scheduled as follows, with the corresponding percentage per milestone/output, including the conditions/documentations required prior to the release of any tranches of payment.

<b>Deliverable</b>	<b>Target deadline for milestone</b>	<b>Amount</b>	<b>Approval</b>
1. Inception Report	31 <sup>st</sup> August 2021	10%	UNDP, MTEC, Relevant Partners
2. WMIS High Level Design	09 <sup>th</sup> September 2021	20%	UNDP, MTEC, Relevant Partners
3. Functional System and Assessment Report	10 <sup>th</sup> November 2021	30%	UNDP, MTEC, Relevant Partners
4. System Commissioning report	17 <sup>th</sup> November 2021	20%	UNDP, MTEC, Relevant Partners
5. User Training - Plan, Manual and Execution	16 <sup>th</sup> December 2021	10%	UNDP, MTEC, Relevant Partners
6. Maintenance and support	16 <sup>th</sup> December 2022	10%	UNDP, MTEC, Relevant Partners

### **VIII. RECOMMENDED PRESENTATION OF PROPOSAL**

Interested consultancy firms should submit their applications on the specified templates and include the following:

- Brief description on why the firm is the most suitable for the assignment, and a methodology on how they will approach and complete the assignment.
- Institutional profile, with at least three institutional references
- Individual CV of experts that the institution will nominate to conducting the evaluation; indicating all experience from similar projects, as well as the contact details (email and telephone number);
- Financial proposal



## IX. CRITERIA FOR SELECTING THE BEST OFFER

A successful consultancy firm will be selected based on the Combined Scoring method – where the qualifications and methodology will be weighted a max. of 70%, and combined with the price offer which will be weighted a max of 30%, broken down as:

- a) Technical Proposal (70%)
  - Expertise of the firm 20%
  - Proposed methodology 50%
  - Personnel 30%
- b) Financial Proposal (30%), to be computed as a ratio of the lowest price among the proposals received by UNDP

## X. ANNEXURES TO THE TOR

- 1) Template for Technical Proposal
- 2) Template for Financial proposal
- 3) Request for Proposals

## XI. PROPOSALS WITH THE REQUIREMENTS LISTED ABOVE MAY BE SUBMITTED TO:

### RFP: Design and Development of Waste Management Information System (WMIS)

Ms. Betty Wabunoha  
 Resident Representative  
 United Nations Development Program  
 e-mail: [ls.procurement@undp.org](mailto:ls.procurement@undp.org)

Only electronic submission will be accepted to the following email: [ls.procurement@undp.org](mailto:ls.procurement@undp.org)

Approval:

Nessie Golakai-Gould Nessie Golakai  
 Deputy Resident Representative