



**GOVERNMENT OF SIERRA LEONE**

**REQUEST FOR EXPRESSIONS OF INTEREST**

**Issue Date: 25<sup>th</sup> January 2022**

**Consulting Services: Consultancy for Development of a Strategic Flood Risk Assessment and Management Plan for the Secondary Cities of Sierra Leone (namely Makeni, Kenema, Bo, Koidu, Waterloo Port Loko and Bonthe)**

**SL-MOFED-260624-CS-QCBS**

1. The Government of Sierra Leone has received funding from International Development Association IDA of the World Bank towards the preparation of the Resilient Urban Sierra Leone Project and intends to apply part of the proceeds of the funding for eligible payment under the contract for the: Consultancy for Development of a Strategic Flood Risk Assessment and Management Plan for the Secondary Cities of Sierra Leone (namely Makeni, Kenema, Bo, Koidu, Waterloo Port Loko and Bonthe)
2. The overall objective of the assignment is to provide a solid baseline of flood risk information and data to support both the Government of Sierra Leone and Local Authorities of the six secondary cities plan and build more resilient and sustainable cities for the future. To achieve this, the assignment will develop flood risk assessments and flood risk management plans for the secondary cities of: Makeni, Kenema, Bo, Koidu, Bonthe, Waterloo and Port Loko.

Specific objectives of this assignment will include:

1. By analysing and assessing the flood hazard for the urban, and surrounding peri-urban extents of Makeni, Kenema, Bo, Koidu, Waterloo, Port Loko and Bonthe produce flood and associated probability data and maps, identifying areas most prone to flooding (“hotspots”);
2. Through an extensive program of data collection and review, building on existing baseline data and information, develop a thorough description of the physical, built and natural environment of Makeni, Kenema, Bo, Koidu, Waterloo Port Loko and Bonthe that will be used to catalogue the buildings, assets and infrastructure capital of the seven cities and when combined with flood hazard data, will allow identification of the exposure;
3. Using the identified exposure database, appropriate vulnerability relationships and the range of hazard maps, quantify flood risk at a building and individual asset scale, including essential infrastructure such as emergency services, transport networks, markets, places of worship, etc. This analysis must also include social impact, taking into account numbers and poverty levels of communities and individuals (in terms of numbers affected);

4. Through a participatory investment prioritisation and planning process, identify priority areas and interventions that support urban resilience. Such investment plan and the possible interventions should be defined to the feasibility level, indicating potential designs, with at least: location, dimensions, impacts, costs and benefits, implementation timelines and other relevant factors. This process will include:
  - I. Identification of flood plains / flood prone areas that have a flood return period of 10 years (tbd), which the city council planning functions can use to demarcate no-build, protected areas, to allow room for the river and reduce flooding elsewhere. For all secondary cities;
  - II. Identification of targeted structural drainage interventions that would complement the natural flood plain approach to reduce specific flood risk for each city, including estimated dimensions of drainage required based on flood modelling;
  - III. Provision of detailed flood hazard and risk information around the central markets of Makeni, Bo and Kenema, that would inform the design of any market upgrading that would take place.

*Scope of work referenced below is **ONLY a summary DETAILED TOR MUST be requested for via email to resilienturbanslp2019@gmail.com***

### **3. Scope of Work**

In achieving the above objectives, it is expected that the consultants will carry out the following:

- ❖ Collection of existing data and reports, and creation of necessary new data for the AoI.
- ❖ Detailed mapping of each city with a resolution of at least 10cm resolution using Drone technology or through purchase of Satellite derived data, and the creation of a digital elevation model with a horizontal resolution of 1m and a vertical accuracy and quality suitable for the purpose of flood hazard mapping and risk assessment as defined within this ToR.
- ❖ Carry out a hydrological assessment for the study areas based on available local or regional hydro-met data in order to develop suitable model inputs of rainfall and flow, using appropriate loss and run-off parameters or functions for the various types of run-off catchment areas (i.e. both urban and surrounding rural drainage basins).
- ❖ Develop an understanding of flood dynamics within the cities, and produce flood hazard mapping and data for a range of return periods (nominally 2yr, 5yr, 10yr, 25yr, 50yr and 100yr).
- ❖ Preparation of an inventory of all exposure features at an individual building resolution within the flood prone areas, and determination of associated vulnerability (quantified where reasonably possible).
- ❖ Assessment of flood risk for each of the secondary cities. The risk assessment should include validation against a review of all available historic data and recorded flooding events, and will include a range of combined climate change and urban growth scenarios.
- ❖ Based on the comprehensive urban flood risk assessment, develop scientifically sound strategies to include the full range of feasible hard and soft (including nature-based) options for flood risk mitigation for the area of interest from local

community to city-wide levels.

- ❖ Complete a preliminary cost-benefit analysis to define different investment scenarios for the area of interest to allow an initial comparison and potential risk reduction interventions and their feasibility.
- ❖ Completion of strategic flood risk management plans for each of the six cities, identifying a prioritized and costed shortlist of potential risk reduction options, based on the risk assessment and solutions analysis.
- ❖ Build capacity within local government agencies and others through a fully inclusive process throughout the data gathering and review, technical analysis and product delivery, including the creation of a modelling and data legacy that ensures ongoing sustainable development.

4. The PFMU now invites eligible consultant to indicate their interest in providing the above mentioned package of service. The consulting firm/organization should be able to demonstrate the following qualifications, skills and competencies at the organizational level.

- ❖ The Consultant should be an international firm or consortium, ideally with a local presence in Sierra Leone and at least 15 years of experience in the technical disciplines required for this assignment. The Consultant will need to demonstrate that they have implemented at least three similar flood risk analysis and show an understanding and development of flood modelling and risk assessment over the past ten years.
- ❖ The Consultant should compose a multi-disciplinary team of technical experts, which might include but not be limited to drainage, hydrology, flood risk analysis, economics, social science, transport, urban planning, environmental management, sanitation, community development, and stakeholder engagement. It is expected that the following key consultant resources will be required, each with strong analytical and communication skills. The Consultant may however propose additional resources and a different resource mix with its rationale; for example, the positions may be filled by separate resources or be combined and performed by a smaller number of resources.
- ❖ The Consultant is also encouraged to partner with a local firm or other entity to assist with logistics and facilitate engagement at the district or sub-district level.

#### ***6. This REoI will lead to the preparation of Short list of Consultants***

The attention of interested consultants is drawn to Section III, paragraphs, 3.14, 3.16, and 3.17 of the World Bank's "Procurement Regulations for IPF Borrowers" July 2016 Revised November 2017, August 2018 and November 2020 ("Procurement Regulations"), setting forth the World Bank's policy on conflict of interest. The Consultant will be selected in accordance with Quality Cost Based Selection (QCBS) method set out in the Consultant Guidelines.

7. Interested consultants may obtain any further information via email request to **resilienturbanslp2019@gmail.com**

8. Expressions of interest **MUST be sent via E-mail as attachment** with all supporting documents (Note: scan all relevant original documents)

**To: resilienturbanslp2019@gmail.com      Cc: pfmu2018@gmail.com**

Please indicate **clearly in the email subject** heading '**EOI FLOOD RISK ASSESSMENT**'.  
**ONLY ELECTRONIC SUBMISSION WILL BE ACCEPTED** for this assignment **on or before 9<sup>th</sup> February 2022**.