Government of the People's Republic of Bangladesh
Ministry of Land
Land Management Automation Project
Bhumi Bhaban, Tejgaon, Dhaka

Terms of Reference (TOR)

Consulting Firm for Managing Procurement, Designing, Developing, Installation, Integration and Receiving all sorts of Land Management Automation Services Systems

Contract Package : SD-1.1 & 1.4
Number : 31.00.0000.092.11.003.21-676

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1. Background

Land Ministry of the Government of Bangladesh has taken up a revolutionary reform in managing all sorts of land management services through digitalization, aiming to reduce hassles and complexities in order to achieve highest quality use of land and citizen friendly land management services through sustainable land management service system. Hence a project **"Land Management Automation Project"** is approved in order to prepare a digital database for ensuring a transparent and efficient land management system in the country. It will be an automated, coordinated and integrated software application service, which will enhance the efficiency and transparency of land offices throughout the country. The service will be an interoperable service with maintaining land data bank, Vis a Vis, building capacity of land management practitioners with administration, management of land, revenue and court.

The System will have the domain land.gov.bd comprising with following services not limited to, are managed by the proposed software:

- E-mutation system along with Review and Mis case management
- Land Acquisition Management
- Digital Land Record Management
- Application Software for Managing Sairat and all leasing issues
- Digital LD Tax Management along with Rent Certificate Case Management
- Citizen Application Management System for Land Services
- Civil Suite Management
- Data Sharing, Transfer and Integration Management System
- Land Administration Management System (LAMS)
- Land Call Center

- Land Information Bank
- Land Service Gateway (LSG) along with System Integration Solution
- Web Page Design (UI/UX)
- Report Service System
- Infra-structure Design for Data Center and Disaster Recovery
- Any other Suitable System/Software required for the Project

Bangladesh's land management has been divided into two main parts remain with the relevant Ministries. The Land Ministry looks after the survey and record issues, while the Law Division, Ministry of Law and Parliamentary Affairs handles the registration process. Managing land is a multi-stakeholder issues. They are :

Ministry of land and its following agencies:

- Land survey and records
- Land reform board
- Land appeal board
- Land Administration Training Center

Other Related Ministry:
- Ministry of Law and Parliamentary Affairs
- Defense Ministry
- Railway Ministry
- Water Resources Ministry
- Ministry of Public Works and Housing
- Ministry of Environment, Forest and Climate Change
- Ministry of Public Administration
- Cabinet Division.

The revolutionary goal will be:

- No new land survey required in future;
- Obtaining land ownership certificate immediately after the land purchase;
- Diminishing land dispute and border conflict completely;
- Land robbery removed;
- Land will be characterized by name;
- No need to visit land office to get service;
- Service from a single platform;
- Service at the door step.

Implementation of this project needs a number of Goods, Intellectual services and Physical services procurement. Before initiating main procurement of the project, land management services, stakeholders, backward linkage and forward linkage and networking with inter-operability are being identified through a series of workshops. After completion of all recruitment, assessment of land management services and its stacks and the network/workflow, procurements and training on operations of Application systems with its services will be piloted in 3rd year and fully operationalized in 4th year and conclude in 2025.

Now Land Management Automation Project, Ministry of Land would like to hire a Consulting Firm (IT Procurement and Management Consultant) with the objectives, scope, deliverables, qualifications and duration as outlined below:

2. Objectives of the Assignment:

The main objectives of the assignment are as follows:

- Review & Assess the existing Land Management Services and its providers with forward and backward link and prepare TOR for engagement of upgrading or developing new functionalities of the proposed Land service automation Systems;

- Assessment of hardware sizing considering all related software and hardware requirement;

- An assessment of existing on-line services and preparation of TOR for Result Based on new automation services, help desk management and other IT procurement;

- Assessment of IT requirements, office set up & equipment, furniture-fixture to functioning the Systems properly;

- Support to Develop, design of the Land application systems for providing online land services to the citizen.

- Support to the project director in on IT related matters in project implementation and evaluation of the technical aspects of the Systems.

- Support to the project director and procurement specialist with providing all necessities to cover all the requirement to manage the procurement of Land Automation Systems, Help desk management services and other IT procurement.

- Carry out the responsibility to receive the deliverables and software/hardware as per contractual obligation;

- Suggest further improvement of land Automation Systems as required.

3. **Scope of services:**

   The detailed scopes of services are provided below:

   a. **Support to the Project Director in procurement activities related to ICT goods and related services:**

      Provide necessary technical support/ input to the project in preparation of TOR, Tender document, Preparation of cost estimate, technical specification, assessment of hardware and qualification of Consultant to be engaged for the development of web applications like Land Service Automation Systems and so on.

   b. **Extend technical support in evaluation of the proposals submitted by the consulting firms:**

      Under the total procurement plan there is provision of procuring several IT related goods and services. The firm shall extend all technical support towards assess the proposal and assist the evaluation committee in relevant technical area.

   c. **Extend support while finalizing Software Requirement Specification:**

      The firm shall prepare requirement analysis of the proposed software and support to finalize software requirement specification (SRS) and provide a feasibility report of the aforesaid SRS document to the PD.

   d. **Verification and Validation of the software developed:**

      The firm shall verify and validate that all the requirements are met in terms of functionality, software security, and performance while delivering the system to the procuring entity by the designated consulting firms.

e. **Systems Security and Audit:**

The firm shall conform the security reports and activities performed by the development firm engaged for software development. While validating the system, the firm must ensure that the software is free from OWASP top ten vulnerabilities thorough scanning by industry standard tools. System Auditing following ISO 27001: 13 shall be performed by certain interval defined by the Procuring Entities. Firm shall play active role on implementing IT security policy as per the requirements

f. **Extend support while design, supply and installation of Data Center:**

The firm shall extend technical support to ensure that design, supply and installation of Data Centre is done following industry standard. The firm shall ensure that all items and related services mentioned in the contract are delivered and performed

g. **Support to assess requirements to develop GIS component in customized software;**

The firm Provide support in development of software through assess the requirement/specification through consultation with relevant stakeholders, expert and Domain expert to assess the required GIS feature and SDI. The firm also support to develop GIS component in customized software.

h. Others:

1) Liaise with the BCC and the Consultant for hosting the main Data center and disaster data center through coordination and develop the architectural design.
2) Support to develop the system networking and data connectivity design
3) Support to develop uninterrupted service policy;
4) Support to maintain quality control of the system
5) Monitor the time-bound work in developing the software and report to PE time to time
6) Support to the service of the help desk and supervise
7) Develop SLA draft through consultation of the IT management of the PE and the developer
8) Any other task assigned by the PE

4. Duration of the assignment:

The expected total duration of the assignment is estimated to be about 2 (Two) years starting from 01 January 2022 or from signing the contract. Time may be extended in order to supervision, monitoring and evaluation of the Systems after development.

5. Team Composition:

Team Composition & Qualification Requirements for the Key Experts of the Firm.

The firm which shall be engaged for monitoring the application development, hosting, maintenance, Data center maintenance etc. and so on, a team of following position on time sharing basis will carrying out the assignment:

SN	Position	Number of position	Input Person-Months	Qualifications and Experiences	Roles and responsibilities
1	**Technical Team Leader**	1	10	-Bachelor in Computer Science/ CSE or Equivalent -Experience in Project Management. -Minimum 10 years of professional experience in the field of Information technology with more than 5 years' experience of leading large IT project as a Team Leader on developing web-based application. -Must of expertise on software solution architecture and system design ability to design, develop, *testing with SQA* and implement large IT system in public sector -Having programming skills in Java/Any other industry related top programing language in Micro service architecture shall be given preference. -Should have robust experience in designing large web-based applications hosted in own data Centre ensuring industry standard security and high availability of the system. -Team leader shall play active role on system and technology platform design of the applications proposed here. -Having experience of ITIL / Togaff 9.1+ or any familiar framework will be given preference.	• Overall responsible for system analysis and design through streamlining the requirements gathered from the stakeholder • Lead the team and responsible for final deliverables of this assignment • Determine the hardware/ software requirements and sizing to implement the system smoothly. • Active participation on preparation of TOR, specification, RFP/Tender document, REOI, evaluation and contract execution • Oversee the consultants assigned for the software development and supply & commissioning of Datacenter equipment. • Ensure all deliverables accomplished within deadline as per the requirement of the scope of the services. • Able to input for UI/UX • Will have to ensure the national and international standard for coding and data security.

				-Experience in land related software development will be given extra preference. -Having experience at working with Govt/Semi-Govt/Autonomous/international projects will be given preference.	• Ensure the quality-full system with the minimum resource and maximum quality (almost zero bug). • Maintain communication with the Software Development Company regularly and monitor the development progress and provide the report weekly to the project Authority. • Will help the PD to take over the system from the developer company. • Any other job assigned by the PD
2	**Infrastructure and Security Specialist**	1	6	-Bachelor in Computer Science/ Information Technology/ Software Engineering/ Electrical & Electronics Engineering or equivalent -Certification on CISSP/CISA/CEH shall be given preference. -Minimum 8 years of experience in IT with specific 5 years of experience in IT system engineer's role to manage IT infrastructure with 5 years of experience in the field of information system security, Data Center and related network, security and storage equipment to host large web-based applications. -Any relevant industry standard certificate on routing, switching, network administration shall be given preference -Should have practical experience on managing Datacenter equipment, Operating System software, Network (routing, switching, physical and virtual LAN, DC/DR connectivity with replication etc), Application installation and maintenance, End user protection (Anti-Virus), server security, VM management with security and so on.	• Work with related Vendors towards building required IT infrastructure/ Data Center to host web application for public use • Work at specification level to define the required hardware/ software considering the application requirements • Administration and management of the IT equipment within Data Center/ IT setup which includes but not limited to daily health checkup, backup/ recovery management, system maintenance, access control and so on • System troubleshooting that includes but not limited to Network, Operating System, Storage, Switches, Load balancer and so on • Assess/verify Security testing of the developed system and various reports submitted by the system development firm so that system design flow

				-Proven experience in vulnerability assessment and penetration testing web application, data center security management, system auditing is required. -Dealing with IT HW/SW installation, Configuration of high-end servers, Server virtualization, network equipment like Firewall, IPS and Data Center with Disaster Recovery. -Having experience on developing and managing telecom networks or any other enterprise solution will be given preference. -Having certification from well-known overseas training centers related to infrastructure/data security will be given preference.	OWSAP guideline to protect the 10 most critical security concerns for web application security. • Ensure IS audit as following ISO 27001:13 and IT system security • Ensure compliance to IT security policies and procedures approved by Government of Bangladesh • Conduct scheduled vulnerability assessment and penetration testing as per the requirement • will have to ensure national and international standards for security
3	Database Administrator (DBA)	1	4	-Bachelor in Computer Science & Engineering/ Computer Science/Information & communication technology or other suitable equivalent; -Certified DBA in MSSQL/Oracle shall be given preference -Minimum 6 years' experience in administering large scale database management system in MSSQL or Oracle platform that includes but not limited to installation, day to day maintenance, creation of high availability, performance tuning, security, audit trail and so on. -Knowledge of IT infrastructure sizing and growth assessment with DB Optimization with Performance Tuning, DB back up and DB Log Management etc.	• Design and manage Database management system, Configuration, un-interrupted performance as per the requirement, high availability, redundancy of database architecture • SQL query tuning on analyzing expensive queries through built in tools • Maintain RPO (Recovery Point Objective), RTO (Recovery Time objective) parameter and System's availability as per the Policy/ requirements • Maintain database performance by regulating performance tuning of required parameters, implementing new releases, applying required patches, completing maintenance requirement and evaluating of computer/ server operating system.

					• Perform regular backup of Database as per the policy/ requirement and shall be able to restore data at any point of time
4	**Technical Document Writer**	**1**	**4**	-Bachelor in Computer Science/ Computer Science & Engineering/ICT related subject//Journalism/English. -Minimum 3 years professional experience on technical document writing. -Should have background knowledge of technical platforms and languages and international technical document writing standards. -Should have the knowledge about documentation publishing software (Adobe Roadmap, SDL pic, whatfix etc.) and analytics platforms (Google analytics, open web analytics) -Should have strong writing production and technical editing skills -Should have familiarity with API documentation for REST, SOAP. Ability to analyze and synthesize complex content	• Produce high-quality technical and non-technical documentation. • Produce how-tos, tutorials, User-guides and knowledge-based contents • Ensure Bangladesh National Standards & Guidelines and International Standards (like ISO/IEC/IEEE) of all technical documentations. • Ensure accuracy and consistency of all technical and non-technical documentations. • Will have to make and preserve all standards of all types of documents (technical/non-technical) to provide/handover the client and recipient after/before closing the agreement. • Maintain a library of application documentation, cataloging it for internal and external use • Write Software documentation from technical specification, discussion with developers and hands-on experimentation • Update existing documentation to reflect changes to functionality. • Gather customers' feedback on documentation to improve usability. • Integrate use-case and functional data into user documentation and examples.

5	Geographic Information System (GIS) Expert	1	4	-Bachelor in Civil Engineering /Computer Science & Engineering/Computer Science/ Urban Planning / Disaster Management/ Geography / Environmental Science / Earth Science and related discipline with Adequate Training in GIS **and / or** -Master's Degree in Geoinformatics / Geomatics / Geo-Information Science / GIS / Geographic Data Science / Spatial Data Science from a reputed University home or abroad. -Minimum 5 years' experience in administering geo-database management system. 5 years' experience in Web GIS it's Architecture using technology Open Layers, Leaflet, Geoserver / Mapserver, Post GIS and Maps API by using Suitable Programming Languages but not limited to installation, day to day maintenance, creation of high availability, OGC (Open Geo Spatial Consortium) standard cadastral spatial data. CRUD operation of Spatial data from User-end, Rich user interface for Spatial data, Generating map dashboard and so on.	• Manage information from various sources to create GIS layers for various GIS modules. This includes mapping, geodatabase creation, exporting and projecting, reprojecting the GIS Raster and Vector data, converting CAD and other graphic data & attributes into GIS data structures. • Monitor and Evaluate the Web GIS development cycle and integration that includes but not limited to need assessment, Scanning, rectifying and digitizing data, building topology, entering data attributes, checking for errors, and verifying accuracy, making required corrections and editing and refine GIS data. • Provide support in development of software through consultation with relevant experts and Domain expert to asses the required GIS feature and SDI. • Support to develop and maintain. GIS component in customized software according to OGC standard • He will make plan to implement GIS component considering strategic affairs and place. • Will submit evaluation report on implementation of GIS component to PD • Submit progress report on GIS implementation Monthly, Quarterly, Six Monthly. • Other tasks assigned by the project director.

6. Deliverables:

The key deliverable for the Consultant will be to prepare and submit a comprehensive report containing the following:

The deliverables include the following with tentative timeframe:

Sl.	Tasks/Deliverables	Timeframe (from the date of signing contract)
1)	Inception Report/ Report on present status of land management service and lay out design of their digitalization	Within two (2) weeks after signing the contract
2)	Draft TOR for procurement of Land Application Software and IT support maintenance and other IT procurement including help desk management as in DPP are placed for acceptance with development of Tender Document	Within Fifteen (15) weeks after signing the contract.
3)	Report on support to evaluation and contract development and delivery	Within twenty (20) weeks after signing the contract
4)	Report on acceptance of the developed software and supplied hardware in compliance to the contract in all IT procurement	Within two (2) weeks after delivery of the respective IT procurement
5)	Final report with operational status of the Data center, Help desk operations and functionality of the IT procurements	Within Two (2) weeks after operationalization of procured IT requirements.
6	Weekly report on progress	On every week during the implementation (2 years) of the contract

7. Implementation & Reporting Requirements:

The Consultant will directly report to the project director. However, frequent interactions with the key persons/consultants of the project and relevant stakeholders will be an essential part of the task. The firm will also make close liaison with the Ministry of Land, it's associated offices and relevant field. All reports will be submitted to Project Director a concurrent copy to the Secretary, Ministry of Land.

8. Selection Criteria for Evaluation of EOIs:

➤ The Consultant Firm will demonstrate experience of at least Seven (07) years in similar assignments of managing procurement, Designing, Developing, Installation, Integration of IT system. The EOI should contain the following information and documents to demonstrate its legal status, qualification and experience:

➤ Professionals with a mixed set of skills, educational background, and experience in the relevant fields that included in the field of assignment;

➤ Name and background of the firm with general and similar experiences including firm`s brochure;

➤ In case of intention of forming association in the form of JV or sub consultancy, the name of them with relevant experience in specific assignment;

➤ Copy of the registration certificate with professional body;

➤ List of relevant professional staff with mentioning their qualification and experience

➤ Summary on experience of the firm in similar assignment completed during last Seven (07) years, client name, contract value, and details of the task.

➤ Availability of resources and demonstration of capacity to carry out the assignment should mention in the EOI.

➤ Submission of the copies of all legal documents that the firms hold to carry out his business including VAT/IT registration certificate.

➤ The Consultant Firm will submit audit reports of previous three financial years to demonstrate the financial capacity.

9. Other details

1. A firm/company will be selected in accordance with the Public Procurement Act- 2006 and Public Procurement Rules-2008;

2. Detailed TOR is available in the website of the Ministry of Land;

3. Sealed envelope containing one (01) original and one (01) copy of Expression of Interest (EoI) along with

4. The relevant supporting documents to be marked with "Expression of Interest (EoI) for Selection of Consultancy Services for Land Management Automation Project.

10. Clients/ Consultant's Inputs/ Facilities

Facilities to be provided by the Client

The Client will provide all available information, materials and documents (i.e. organization list including information on present land management services to the citizen. The consultant shall not disclose such information, materials and documents to any person or group without written permission of the client as deemed confidential. It shall return all such information, materials and documents to the client within the contract period.

Facilities to be arranged by the Consultant

The Consultant shall entirely be responsible for all such facilities as arranging office, accommodation of staff, vehicles, equipment, computers, support/secretarial services and other logistics required for providing the services specified in the TOR.

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