

Terms of Reference

Geospatial Applications Development and Configuration

Phase I



*Empowered lives.
Resilient nations.*

United Nations Development Programme

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Revision 1

Introduction:

Part of the ongoing assistance to the Government of Iraq (GoI) within the framework of Iraq Public Sector Modernization (I-PSM) the UNDP support the Karbala Governorate with this RFP to extend its datacenter by providing Software applications and configuration.

1. Project Objectives:

This RFP contains Karbala Governorate requirements for extending its Spatial data infrastructure through configuring and development set of geospatial applications. This including the following general activities:

- building a Geographic Information System infrastructure (GIS) based on the latest serving GIS technology, which allows the establishment of a central geographic center for Karbala providing layers and geographical data, in addition to various applications and performance indicators that support in decision making.

The provided Geospatial infrastructure should contributes to the Governorate content management system for both the " Governorate " and " 21 Directorates " and should mainly be included to establishing a system based on spatial and descriptive information.

- The decision makers need effective decision-making tools that help them conduct analysis, display and disseminate results and make informed decisions about where to locate new services. This should be done using GIS tools that provides the necessary platform for visualization, modeling, analysis, and collaboration.
- Building a citizen public eye mobile based application (for Android & IOS) that allows citizens in Karbala to register their Geolocated complaints about multiple government directorates of service delivery , and develop a web platform integrated with the current GIS infrastructure to enable the Backoffice work to handle the workflow required for managing these complains.

2. Scope of Work:

The requested system should provide the following:

- Environment preparation
- Geographic database.
- GIS Applications development and configuration.
- Training.

3.1 Environment preparation

- The service provider should deploy the framework for the GIS S/W on a high availability environment in Karbala data center and establish the S/W needed connectivity between the data center and the related GIS units in 21 directorates.

3.2 Geographic database:

- The service provider should study the current GIS data models in Karbala datacenter then create a unified data model based on which the geospatial database will be built. The data model should support the GIS applications described in coming section [GIS Applications development and Configuration] and should avoid duplication of data between different directorates and departments that operate in Governorate, and representing the data more efficiently to facilitate reviewing, synchronizing and retrieving the data when needed. The provided data model should be suitable for the nature of work between the directorates.
- The geographic database should allow future expansions of spatial data and the creation of new geographical layers in line with the future development of the GIS applications in the next section
- The service provider should work in converting the data (Spatial and Tabular) that will be provided by Directorates (21 Directorate) into GIS data and upload it to the geographic database in a way that supports the needed GIS applications.

3.3 GIS Applications development and Configuration:

All provided applications should support and be deployed on high availability production environment, and the architecture should support the number of expected concurrent users for each application.

The provide applications will be hosted at Karbala data center premises except for the Public eye application (section 3.3.4) the provider can offer two alternatives one on premises with specification of needed hardware specs the other one on cloud while implementing all securities policies that guarantee the confidentiality of all data

All the provided applications should be integrated with the current SDI efforts initiated in Karbala and utilize the Geo-surveying data collection environments/platforms existing in Karbala governorate. A copy from the applications source code for any custom application feature should be provided with the final built deployed on the production environment. An interactive

demo/prototype should be provided for each application to have the sign off on the final applications design before the actual implementation.

Below is the list of needed applications:

3.3.1 Content Management System (CMS):

a collaborative platform for managing map content centrally that:

- Enables users to create, manage, and share maps and applications within the governorate's boundaries.
- Allows the expansion of the GIS area so that all users in the governorate can access and use it. The administrator can deploy the recommended policies behind the internal firewall, so the geographic applications need to meet the requirements of privacy and security.
- Will be used to build a map browser that allows different Directorates to view and update geographic data in accordance with their respective mandates.
- Will allow the administrator in different departments and sectors to add map elements, by integrating with other system components and Items to be available for viewing on the map in accordance with the terms of reference of the users.
- Should provide map, layers and geo applications catalogues containing thumbnails and meta data each.

3.3.2 Decision Maker Dashboard

A web-based dashboard that should provide a common operating picture for monitoring, tracking, and reporting events, to allow officials and decision makers of Governorate to follow up the various performance indicators of the 21 directorates through a simple and easy to use application.

3.3.3 Field Management App

An application designed for mobile data collection that:

- Enables field crews to capture and update spatial data including (point, line and polygon data) as well as tabular information directly from their smartphones and tablets—even without a data connection.
- Enables the user should to quickly and easily integrate these field reports into his database and share them across CMS.

- Can use configurable data-driven forms to create a standardized survey format such as (Kobo Toolbox, Survey123 collector) that improves data quality and consistency.
- Enables the user to mark features on a map, measure distances and areas, and capture photos and videos

3.3.4 Public eye applications:

Applications for both Android and IOS mobiles that allows citizens in Karbala to register their complaints -Geotagged- about multiple sectors of service delivery, In addition to a web application for monitoring, managing these complaints through concerned Deputy Commissioner for appropriate remedial actions, as well as an interactive map centric dashboard and an interactive reporting window.

That:

- Enables citizens to determine the Geo-location, upload picture/video/audio files in support of their complaints to ensure proper action.
- Enables citizens to use it as an anonymous user or register using an account to follow up his complaint.
- Should support unlimited number of users' accounts without any extra fees per user.
- Should be uploaded to Android google play and the Apple app store, separately branded.

The awarded company should provide at least three UX options for the end user application (mobile applications)

3.4 Training

The service provider should provide training courses on all the above applications for minimum 15 trainees at Karbala data center. The training materials and certifications should be granted for the trainees. A detailed training plan should be delivered covering all the applications aspects.

4 Expected Outputs

- Environment preparation document:

- The document should contain environment architecture and connectivity details between system components as well as database schema Deployment of Environment and database
- The implementation of the architecture, connectivity, SW installation and database structure.
- System Analysis document
- The document should contain the system requirement specification for all needed applications.
- UX (user experience) and application design
- Configuration and Implementation of the Applications.
- Testing document
- The document should contain the User Acceptance test cases
- Training.

5 INSTITUTIONAL ARRANGEMENTS

The selected service provider will work with Karbala IT department. The deliverables must be accepted from the UNDP Iraq office to ensure that the expected outputs are achieved.

- a) The service provider will deliver all the above tasks in close coordination with UNDP Project manager and the Consultant Company will make all written documentation available in English and Arabic languages.
- b) The service provider – Project leader will provide a weekly progress reports in English and Arabic (one-page report on an agreed template with UNDP);
- c) The service provider is expected to liaise/interact/collaborate/meet with Karbala governorates representatives and the GIS representatives in the 21 related directorates during performing the work. UNDP will provide Facilitation letter to support the work.

6 DURATION OF WORK

The expected work duration is **4 months**. Less duration for ending the whole project is preferred.

7 DUTY STATION

The service provider team need to be available in Karbala during Analysis and testing phases the other tasks could be mix between remotely homebased and duty stations in a way that facilitate smooth project operation.

8 QUALIFICATION OF THE SUCCESSFUL SERVICE PROVIDER AND KEY PERSONNEL

- The service provider must provide a qualified teamwork with experience in related field including NSDI to accomplish the required work in effective and efficient way.
- The service provider must have international experience, providing work experience in Iraq is a plus.
- The service provider must have Excellent communication skills both written and verbal in Arabic and English.

10. Key Personnel:

The team should be composed of at least:

1. Team Leader (One);
2. Trained and experienced individuals to undertake the field work (2 Positions); and

The whole team should be able to establish collaborative and trusting working partnerships relationships for the purpose of carrying out the assigned tasks.

Proposals should identify the Key personnel overseeing the proposed assignment. Please explain the role of proposed key personnel (Which personnel would be facilitating which activity and provide a biographical paragraph for proposed personnel.

A description of responsibilities, qualifications, skills and professional experience of Key Personnel is listed below:

1. Team Leader

The team leader will be responsible for the overall coordination and quality control of the deliverables for this assignment and, will lead and guide the development and implementation process of the proposed assignment.

Minimum Qualifications and Experience Required for the **Team Leader**:

- ✦ Advanced university degree (Bachelor's degree or equivalent) in subjects related to IT including NSDI or related field;
- ✦ At least 3 years professional experience working in Iraq or other country in developing software/applications or relevant IT environment is essential;
- ✦ In-depth understanding of and experience in undertaking and managing relevant exercises as per the ToR in Iraq is an advantage;
- ✦ Experience in managing and training teams/member is essential;
- ✦ Excellent written and spoken Arabic and English language skills are essential.

2. Trained and experienced individuals to undertake the field interviews (2 Positions)

- ✦ University degree (Bachelor's degree or equivalent) in in subjects related to IT including NSDI or related field;
- ✦ At least 3 years professional experience conducting relevant IT application development or operations in Iraq is essential;
- ✦ In-depth understanding of and experience working as surveyor in Iraq is essential;
- ✦ Similar field experience in Karbala province will be an added advantage;
- ✦ Excellent written and spoken Arabic language skills are essential to undertake field visits in Karbala province;
- ✦ Knowledge of English would be an asset;

9 Schedule of Payment and Deliverables

Milestone	Deliverables	Time Frame
1 st payment (25% of the total Contract Amount)	Upon satisfactory completion and acceptance of all deliverables under <u>Preparatory Phase</u>	1 Month
2 nd payment (40% of the total Contract Amount)	Upon satisfactory completion of <u>Application Development and complete preliminary profiling and acceptance of the preliminary profiling of the GIS application as per the ToR.</u>	2 Months
Final payment (35% of the total Contract Amount)	Upon satisfactory completion of <u>application development and analysis, finalize Implementation, testing, training and acceptance</u> by UNDP Inclusive Governance team.	1 Month

Deliverables	Percentage	Time Frame	Condition for Payment Release
Environment preparation document	10%	Within 1 Month from project start	User Acceptance document
Deployment of Environment and Database	20%	Within 1 Month from project start	
System Analysis document	10%	Within 5 weeks from project start	
UX and application design	10%	Within 7 Weeks from project start	
<ul style="list-style-type: none"> Configuration and Implementation of <ul style="list-style-type: none"> Content Management System (CMS) Decision Maker Dashboard Field Management App 	20%	Within 10 Weeks from project start	
Implementation of Public Eye Applications	10%	Within 13 Weeks from project start	
Testing document	10%	Within 14 Weeks from project start	
Training	10%	Within 15 Weeks from project start	

A. Recommended Presentation of Proposal

- a. The service provider must provide a qualified teamwork with experience in related field including NSDI to accomplish the required work in effective and efficient way.
- b. The service provider must have international experience, providing work experience in Iraq is a plus.
- c. The service provider must have Excellent communication skills both written and verbal in Arabic and English.
- d. A letter explaining why the applicant organization considers itself the most suitable candidate for the work;
- e. Organization Profile including Management arrangements, Operational and Finance Management capacities, and past experience in similar projects and at least 3 references;
- f. CVs for the proposed Key Staff Positions required for the Project, including references;
- g. Documents to substantiate Minimum 3 years of professional experience and knowledge in designing and development similar project assignments.
- h. Detailed Technical Proposal. Includes context analysis, evidence sources/data, proposed methodology for the project, Results Framework, Risk Analysis etc.;
- i. Proposals should include a brief description of the capability of the Service Provider to carry out the proposed assignment, describing any prior or similar experience undertaking screening/vetting process in Iraq or any other country.
- j. Audited financial statements (including Auditors report) for the past year 5 years (2013, 2014, 2015, 2016, 2017) – Audit reports for 2018 will also be considered – if available.

Password Protected Financial Proposal:

The Financial Proposal must provide a detailed cost breakdown for the achievement of each Output, providing separate figures for each expense category. The cost breakdown will be used to determine the value for money against each unit cost, as well as the calculation of price in the event both parties have agreed to add new deliverables to the scope of Services. The Financial Proposal Template (Form F) provided is to guide the applicant, and not to restrict the applicant. Where possible please also submit an excel budget separately. Note: Please don't mention the cost in the E-Tendering rather put 1 in the required field. The companies who will provide the cost in the E-Tendering, their technical proposal will not be accepted.