

## **Terms of Reference**

### **Water Security Development Program (WSDP)**

#### **Gaza Central Desalination Program: Associated Works Phase I Project**

### **CONSULTANCY SERVICE**

### **TO DEVELOP WATER SECTOR APPLICATION**

#### **INTRODUCTION**

Since the declaration of the state of emergency to confront the Corona virus in Palestine and the instructions issued by the Prime Minister and in line with the prevailing national situation, the Palestine Water Authority (PWA) has taken a number of measures to ensure the sustainability of water and wastewater services efficiently and effectively. The PWA implement a precautionary emergency plan at the level of bulk water systems and the level of water and sanitation service providers in all governorates, in response to the government's strategic plan and goals to control the disease and limit its transmission, and provide basic needs for citizens.

The Palestinian Water Authority is intensifying its current efforts in the context of the existing challenges facing the water sector, which has doubled with the spread of the COVID-19. Water sector in normal situation suffers from a decrease in the available water quantities especially in summer season. As for wastewater services, more than 68% of the West Bank population and more than 28% of the Gaza Strip are still without adequate and safe sanitation services. The population still relies on cesspits to get rid of wastewater to this day. In addition, the majority challenges facing the service providers result from weak institutional capacity, inadequate infrastructure and high water losses.

Issues that the PWA has been working relentlessly on includes:

- Increase awareness on how to manage water consumption considering the need for water as an important tool to be protected from the virus while considering the shortage of water especially that there will be an increase on the consumption due to summer and Ramadan.
- Ensure the utilization of the right hygiene and sterilization measures to minimize possibilities of infection at service provider level and at household level. At householder level sterilization is needed for those who has their own water resources ( eg. Water harvesting at house level) in addition to cleaning householder water tanks.
- Making sure that there is extra caution in dealing with wastewater considering the fact that recent studies showed that COVID-19 present in fieces and wastewater.
- Explain to customer how and where to pay their bills and keeping up to date information related to WASH issues that are occurring due to COVID-19.

Considering the challenges facing the water sector , and due to the rapid spread of COVID-19 across Palestine, innovative new approaches are required to be developed to ensure appropriate communication between the Palestinian Water Authority, Service Providers and customers concerning water issues through a unified platform, to ensure that WASH topics are being handled in a timely manner with high efficiency.

## THE CONSULTANCY

### A. OBJECTIVE:

The firm is to support PWA in developing a native mobile application for water service providers and water customers- responding to emergency situation and facilitating quick and direct access to important information for customers and service providers.

The Mobil application will support quick and effective responses to needs of different stakeholders, mainly service providers and water customer, and support disseminating coherent information and awareness messages to citizens across Palestine.

### B. APPLICATION COMPONENT :

The firm shall provide the following modules:

- Real-time map page: The firm shall develop a map that reflects all water related features including water resources, filling points, wastewater disposal points, services providers, wastewater treatment plants... This page shall be built in dynamic way in which user can turn on or off features, zoom in or out features, identify dynamic search of any information related to water. PWA will provide the firm with all maps needed for the application from other programs to be used in the mobile application.
- Customer Service page: The firm shall develop a page to be used by the customers to communicate with:
  - Service providers
  - PWA

The communication includes complains<sup>1</sup>, clarifications, information, notification. The firm shall develop a separate page to send the request, or clarification, notification to the service providers or PWA with the ability to check the status (Received, in progress, complete) in the system and have it archived in an acceptable format for PWA.

- Request page: The application shall provide the customer with list of information related to licensed water tankers wastewater tankers, and services from service providers. .
- The app will have the ability to support the service providers in sending bills to their customers. The firm shall develop profile page to enable customers to log in to their own profile through the mobile application. The page shall consider the ability to view water and wastewater bills and send notifications.
- News page: The Consultant shall develop a page were PWA can publish news.
- Awareness page: The Consultant shall develop a page were PWA can publish awareness material, guideline, photos, and videos.
- Create a link between the mobile application and PWA (HR System, Website, electronic library, and procurement system).
- Water Indicator page: The Consultant shall develop a page within the application that presents list of key water indicators (monthly, semi-annual, annual) related to water and wastewater. The Key water Indictors will be provided by PWA to the firm for appropriate presentation (figure, text ... etc.). This page shall be developed in a dynamic way in order to manage the presentation of the indicators appropriately (e.g. add, remove, and edit indicators).

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<sup>1</sup> The firm shall consider existing Complain System for PWA ( exist at PWA Web ), Communication concerning complain between Service Provider and Customer to be developed in a simple manner

## C. SCOPE OF WORK

1. **Inception phase:** The Experts shall meet all relevant parties in PWA to understand existing software and hardware equipment's at PWA related to the assignment in order to collect all needed data to fulfil the activities of the assignment. The firm is expected to prepare an inception report that includes comprehensive technical proposal. The inception report shall include (but not limited to) detailed working plan with milestones, deliverables, and anticipated risks related to the successful assignment completion and proposed mitigation measures...
2. **Development of a functional Mobile App design and architecture :** The Consultant shall prepare a functional diagram design based on the inception report. It shall reflect the design of the data base related to the application, interfaces, links with other available applications in PWA, communication protocols and procedures, and its architecture function. The Consultant shall develop the application theme (interface theme) such as colours, fonts, visual design, wires frames, etc. The functional Mobile App design and architecture shall be approved by PWA.
3. **Application Development (CODE) :** The firm shall develop the CODE in both Android & IOS. The CODE shall be developed in a professional form, be simple to understand and follow-up, and free of bugs. The mobile application will be managed by PWA . PWA and the firm will make test and quality assurance to the application and its function. The firm shall provide full source code with all assets to PWA.
4. **Application Release :** The firm shall release the App in Google Play and Apple App. Store with a valid accounts related to PWA. The deployment fees for the first time should be covered by Firm and then handed over to PWA. The App release should be considered to have a development version and production version, and the firm should fully responsible for releasing both version.
5. **Capacity building:** shall provide on job training to PWA team ( 2 employees ) . The training topics shall include the design of the App architectural, the App development, deployment, solving bugs, and administrate PWA employee on managing the App after contract completion
6. **User Management page:** The firm shall develop a User management page were PWA can manage the App and provide support to other clients ( eg. add, delete users , manage pages and models , Audit, ...). The firm shall develop user registration process in the App.
7. **Mobile App tutorials:** The firm shall develop territorial material including manual, and application structure to support the use of the App, including frequently asked questions.
8. **Support and maintenance:** The firm shall provide the needed support and maintenance for one year after the completion of the final App release. The firm is responsible for providing a free update of the App within the framework of this ToR, bug fixing and technical support for the application for one year after its launch.
9. **Final Reporting:** The firm shall produce final reports for mobile application performance with recommendations for improvements and updates.

## D. APPLICATION DESCRIPTION

- Mobile applications shall be dynamic fast, friendly and easy to use.
- Mobile application should be tested, free of bugs and able to be improved and upgraded
- The app shall leverage push notification capabilities in order to remind users about upcoming events, tasks, important issues.
- Responsive apps that can be opened through web and native mobile apps.
- The mobile app features and tools shall be created in an attractive way, and with a good User Interface (UI) and User Experience (UX) to be supported with professional graphic design.

- The Consultant will provide the App and the related content in Arabic.

#### **E. REPORTING AND OUTPUTS TO BE ACHIEVED:**

The firm will prepare, produce and submit the following outputs:

- Inception phase including a clear work plan with milestones, deliverables, and anticipated risks and proposed mitigation measures ( output #1)
- Draft functional Mobile App design and architecture to be finalized considering PWA comments (output # 2)
- Application Development (CODE) released (output # 3)
- Short report describing capacity building activities that took place (output #4)
- Mobile App tutorials, and manual (output # 5)
- Final Report (output # 6)

#### **F. SERVICES, AND FACILITIES TO BE MADE AVAILABLE TO THE EXPERT**

Services, and facilities to be made available to the expert by PWA :

- PWA will provide at its facilities in Ramallah meeting room for meetings (with needed facilities, and refreshments) upon prior notice. This will be provided free of any costs to the Expert.
- All available relevant documents, and required data. However, the firm is responsible for data manipulation and restructuring as needed
- Coordination with other companies who made the design for other programs that are included in this smart mobile app, ex: Bidding, Electronic libraries, HR program with the developer of the application (App developer); in order to conduct the needed linkages.
- PWA will provide the firm with the server host and domain

#### **G. MANAGEMENT ARRANGEMENTS**

The firm will be technically, contractually and administratively responsible for the preparation and implementation of the assignment to the PWA. PWA will appoint a Focal Coordinator for this assignment.

#### **H. CONTRACTS TYPE AND PAYMENTS SCHEDULE**

The contract is Lump Sum. The payments schedule (Reference to Item E “Reporting and Outputs to be Achieved” of the ToR) is one payment 100% of contract value upon the submission of functional Mobile App design and releasing Application Development (CODE), conducting capacity building activities , developing Mobile App tutorials, and manual , and handing over the Final Report (Output #1,2,3, 4,5,6) acceptable to PWA. The payment will be done upon Firm submission of written liability letter for one year to support the App according to the terms and conditions highlighted in this ToR.

#### **DURATION OF THE CONTRAT AND MILESTINES**

- The Contract duration is 100 days ( 100 days for the completion and releasing Application Development (CODE)and submitting final report ) . Upon assignment completion , the firm will provide 12 month support and maintenance to the App
- The Inception Report is expected to be delivered by the firm after 10 days from the signing of the assignment

- Application Release upon completion functional Mobile App design and architecture, Application Development (CODE) is expected to be done by the firm after 2months from signing the assignment
- Capacity building activities, Mobile App tutorials shall be completed before the 3rd month from signing the assignment
- Support and maintenance shall take place during the 12 month upon completion and releasing the App Development CODE ( after 100 days from signing the contract)
- Final Report should be submitted by the end of month 3 from signing the assignment.

**QUALIFICATIONS:**

The firm should have the following recent proven minimum experiences:

- a. Well-established firm with 3 years of experience in development of IT using a complex database schema.
- b. Developed and implemented at least one similar assignment during the last 3 years
- c. Experience in the water sector is an added advantage

The firm shall provide key Expert and supporting staff to fulfil the assignment. The key Expert shall hold the following qualifications:

- d. strong experience in Mobile Application Development in Web, Hybrid, and Native and Application lifecycle management:
- e. Bachelor or master's degree in information technology management or any other relevant field
- f. Minimum of three years of experience in Mobile Application Development and Management
- g. Working experience within multicultural teams and international organizations
- h. App design, coding, backend web service knowledge
- i. Knowledge in UI & UX, Code reviews and automation
- j. Strong knowledge in iOS and Android SDK
- k. Excellent communication skills, oral, written, and presentation.
- l. Cross-browser compatibility, web user interface design (UI).
- m. Prototype Software experience for Mobile Developments.