

# TERMS OF REFERENCE FOR DEVELOPMENT OF MONITORING AND EVALUATION APPLICATION WITH DASHBOARD

## Context

Sindh Education Foundation under of World Bank loan is seeking an experienced consulting firm OR consortium of firms in Pakistan to Support *Sindh Education Foundation* in development of an android application along with Dashboard for monitoring and evaluation of educational development portfolio of SEF Supported Schools.

The Monitoring and Evaluation (M&E) unit – Sindh Education Foundation conducts rigorous Process Monitoring and collects information on several key development indicators through field visits and submits report containing its observations, findings and recommendations to the Managing Director, Sindh Education Foundation. The quality of information of monitoring reports could be enhanced through use of Information and Communication Technology (ICT) such as geo tagging; use of smartphone/tablets for capturing pictures of schools; recording required information/data and tracking of monitoring indicators (milestones, risks and targets ).

More precisely, the quality of monitoring reports produced by M&E unit can be improved by introducing following missing characteristics/elements:

- Online accessibility and usability of an Android based monitoring tool/application;
- Capturing the location (GPS coordinates) and Physical verification (by capturing pictures) of the monitored schools;
- Tracking of monitors as an evidence of their physical visits to enhance validity of monitoring reports;
- Obtaining Feedback from “beneficiaries” and/or “stakeholders” of SEF Supported Schools.

The key objective of the dashboard will be to integrate the above Key Performance Indicators (KPIs) onto a SINGLE platform, which will also involve integration with the existing EMIS

(Education Management Information System) in use of Sindh Education Foundation. The dashboard will provide easy access and use of real time integrated financial and physical information to the decision makers on the implementation progress of projects. More specifically, the common performance indicators and milestones will be developed by the consultant firm which will also impart necessary training to the officials of Sindh Education Foundation for entering information against the common performance indicators and specific milestones of the projects.

### **Objective(s)**

Development/ Procurement of turnkey technology firm to deploy and maintain an integrated solution that enables enhanced reporting, analysis and visualization for managing the Education development portfolio proactively.

The solution will have four key components –

- (i) Development and implementation of Android based Application for M&E unit.
- (ii) Development and implementation of Dashboard.
- (iii) Training to designated SEF officials
- (iv) One year Post implementation Support and Account maintenance services

### **Objective of Mobile Application:**

Currently, key information that is required on a more frequent basis is reported through a paper-based form/tool which includes information overall status and key issues faced and general status of project (good, satisfactory or poor). The mobile application will mimic this form and allow M&E field monitors to digitally record and submit key information on a real time basis. The application will allow the field monitors to geo-tag schemes, record pictures to report physical progress, report on any issues/obstacles. The application would be mapped to the SEF's monitoring schedules.

## **Objective of the Dashboard:**

The dashboard will provide a real-time holistic view of the SEF portfolio by reporting on:

- a) Project profile of each scheme with defined milestones.
- b) Risks and targets
- c) M&E monitoring reports
- d) Beneficiary feedback on a single platform.

It should also provide:

- Spatial analysis and data visualization of the SEF portfolio. Data visualization should be available in Grids, Charts, and Gauges with data filters on all data fields with selectable and dynamic report column generation based on selection of headers.
- One click + real time access to information through a simple log in.
- Accessibility on smartphones and/or tablets.
- Attractive, informative and user friendly based on HCI design heuristics.

## **Scope of Work**

The firm is expected to perform the following core activities during the course of this engagement:

### a) Requirements Analysis:

(i) The firm will conduct a thorough needs assessment by conducting detailed stakeholder consultations, system reviews and analysis of existing reporting practices to develop scope and requirements, documents to map process flows, define data requirements and reporting formats, and develop common performance indicators and specific milestones for monitoring of physical progress of development projects / schemes.

(ii) The firm should produce a scope document that translates these into system requirements for development of the Android based application and dashboard

b) Development/Customization of Android based Application:

(i) The firm will develop an application for the M&E field monitoring form and the application should be dynamic enough to cater to all the requirements of the Sindh Education Foundation.

(ii) The basic functionality required by the application is as follows:

- Taking and Saving Pictures
- Record geo-location
- Record date and time stamps
- Be able to enter data with various types of fields like text, numeric, drop down menus and radio buttons etc.
- Capture data and work in both online and offline modes if connectivity is not available.
- Should be able to map the existing monitoring plan for unit staff.

c) Development of Senior Management Dashboard:

(i) The firm is expected to draw on the requirement analysis to develop a web-based/Android dashboard.

(ii) The firm is expected to draw from and integrate multiple data sources to fulfill the reporting requirements – project profile of each development scheme with unique ID, milestones, risks and targets; data received from the mobile application/tablets used by the M&E unit -SEF.

(iii) The dashboard will have the following features:

- Data input/upload modules that cater to the respective roles assigned to various departments/unit /Programs
- Uploads should allow users to enter data by uploading pre-specified formats and columns through text, excel or csv files.

- Should be able to allow creation of more dashboards through assigning user roles by logins and passwords.
- Online interface aggregating different reports with multiple indicators accessible through user logins
- Access controls to allow data entry, uploading files, submitting inputs, administrative and viewing rights to various management tiers
- Tabs to allow access to different reports with granularity linked to reported data – Province, District, Sector, Project, Staff Member etc.
- Storage of all raw data in tables as per the required reporting formats
- Visualizations to show data in aggregated tables, charts/graphs (pie, bar, line, stacked etc) and integration with Google maps to show location based data details
- Rule based visualization indices creating color coding based on data range definitions (e.g. Red below X%, yellow below Y%, green above Z% etc.) integrated with graphs and maps
- Heat maps based on rules applied to data values/ranges
- Target benchmarking through visualizations to enable quick views of achievement and deficits through regular tracking
- Be able to develop basic project plans based on milestones entered in the system
- Aggregation options to report data/indicators over customizable time windows
- Options to export raw data in standardized formats like MS Excel / CSV
- Conversion of dashboard reports to PDF documents maintaining visual and data formats
- Email functionality to auto generate reports and mail PDF documents to defined circulation lists

d) Deployment of Servers, Databases and Back-end Services:

- (i) The firm is expected to propose setup and deploy servers hosting the back-end architecture (web services and database etc.) to receive, store, sort, use and archive data.

e) Training and capacity building:

- (i) The training will involve Monitoring and Evaluation unit, SEF for using mobile application and geo tagging of schemes and entering/updating project related information on the dashboard through online login and any other staff that requires training.

(There will be at least 20 officials of M&E unit)

h) Support and Maintenance:

- (i) The firm is expected to provide Post implementation one year complete support and trouble-shooting for the deployed application, servers and dashboards to remove all bugs and ensure stability. SLA (Service Level Agreement) will be signed in this regard.

## **Implementation Schedule**

The successful implementation is to be completed within 12 months of the signing of the contract. A detailed project implementation schedule would be finalized and agreed upon at the time of signing of the contract between SEF and Consultant Firm.

## **Project implementation /Management Plan**

The Bidder shall provide a detailed and meaningful project management plan, timeline and staff scheduling in accordance to the milestones of the whole project/package, which should describe

exactly what solution will be delivered / installed in what timeframe during the course of the project.

This plan should cover the tasks assigned and the resource allocation during the course of the project. The plan should be provided in tabular form and in detail, mentioning tasks, sub tasks with description, start date, finish date, resources and milestones along with the person responsible and contact details.

## Payment Milestones

### Implementation Services

No	Timeframe / Phase Completion	Amount
1	Completion of Functional and Technical Training to Project Team	15%
2	Initial Assessment and Project Planning Phase Completion,	15%
3	Technical Design Phase Completion	15%
4	Development Phase Completion	15%
5	User Acceptance Test Phase Completion	15%
6	Pilot launch	15%
8	Cutover to production	10%

### Post Implementation Support and Account Maintenance services

No	Timeframe / Phase Completion	Amount
1	Completion of 6 months Post Implementation Support and Account Maintenance services	50%
2	Completion of 12 months Post Implementation Support and Account Maintenance services	50%