

Terms of Reference
MIS Consulting firm
for Information System design, development and implementation
Health and Nutrition Conditional Cash Transfer Programme

1. Introduction

Government of Sindh under its Sindh Enhancing Response for Reduction of Stunting Project, aims to contribute to a significant improvement in nutrition in the province, by increasing and expanding coverage of multi-sectoral interventions. It comprises objectives and expected outcomes related to the underlying causes (by sectors) of stunting: health, population, sanitation and hygiene, agriculture, social protection and education.

A pilot nutrition-focused Conditional Cash Transfer (CCT) programme in targeted districts and is being led by the newly-established Social Protection Strategy Unity (SPSU) in the Chief Minister's Secretariat. The pilot aims to increase the uptake of existing health and nutrition services focused on the first 1000 days of life including ante-natal check-ups, safe deliveries, post-natal care, growth monitoring and immunization of children through the provision of a regular and predictable cash transfer at various trigger points. The pilot will help to develop the nascent capacity of the SPSU and offer lessons for scaling up. Key mandates and functions of the SPSU include project design, social protection operations such as social mobilization, communication, enrolment, compliance verification, payment, and grievance redress through the provincial Social Registry, as well as monitoring, evaluation and lesson-learning and planning for scaling up.

2. Background

The Management Information System (MIS) will support the systemization of the information, integration with existing information mechanisms and processes for the nutrition CCT programme. Moreover, the MIS will support the dynamic design of the programme which includes maintaining a database and periodic updates related to all aspects of the programme and beneficiary information.

The Web-based MIS application will be developed to improve the programme management and decision making with the objective of having better planning, implementation and monitoring performance of the CCT. The MIS system will be developed by the Consultant/firm and data base will be hosted at SPSU/Chief Minister's Secretariat data centre, which will be accessed by SPSU, Department of health, BHU, RHC, THQ and DHQ, Payment Service Provider and other stakeholders. Each user will have a secure login ID and password and will have a different profile/access rights on the system.

3. Assignment objectives

The objective of the consultancy is to provide technical assistance in setting up of MIS including process modelling, system design and specifications, development, quality assurance of implemented system and change management based on field/Operational input of MIS for efficient and effective implementation of nutrition-sensitive cash transfer programme. This will also include software development and testing activity to support the operations of the cash transfer scheme including processes that include:

- Master Parameters to manage set up of Web/Tab-based MIS application
 - Criteria filtering, mandatory /non-mandatory fields for enrolment attributes – program specific.
 - Criteria filtering, mandatory /non-mandatory fields for compliance/payments – frequency, amount etc.
 - Criteria for Program Exit
 - Grievance Redressal cases | additions, routing, edits.
- Administration (secure login IDs and access rights, location binding on Modules and reports). Manage active physical location directory.
- Targeted Population Socio National Economic Survey Registry NSER data storage to establish eligibility [Web Services / Interface Upload]
- Enrolment and [biometrics information integration | optional]
- Compliance Profiles and verification linked with biometrics
- Payment Processing – Generation based on Compliance
- Grievances Redressal Mechanism
- Program Exit processing | Criteria implementation
- Monitoring and Reporting
- External stakeholders Integrations / Web Services
 - Integration and Verification services from NADRA (National Database and Registration Authority) and other relevant official data base.
 - Payment service provider integration
 - Communication firms / Telco's– SMS.
- Fault tolerant system for data and storage.
- Reporting Dashboard and detailed reports.
 - Charts | Downloadable reports [approximately twenty]

4. Methodology

To ensure that MIS for CCT is responsive to the operational needs of the pilot programme, the Consultant has to work closely with all project stakeholders like SPSU, Department of Health and Payment Service Provider to develop test, review and improve the MIS modules during initial phase of implementation. The assignment also includes carrying out required trainings for MIS and operational resources of SPSU and Department of Health and finally handover all the MIS modules, design documents and user manuals to SPSU.

The firm is also expected to develop the comprehensive understanding of the CCT programme by referring operations manual and also reviewing different Cash transfer related documents such as Management Information Systems for Conditional Cash Transfers and Social Protection Systems in Latin America, World Bank, December 2010.

The following core functions will be supported through the MIS:

Function 1: Eligible Women Database:

This function will maintain the database of eligible women coming from Sindh Social Registry data. This will capture the vital information of beneficiary woman address, contact details, women and children details. This module will be used to perform the following sub functions:

Identification of beneficiary group (Pregnant Women and Lactating Women with Children under 1 year)

Interface with Sindh Social Registry/NSER/NADRA to validate the information of new beneficiary women after CNIC update

Function 2: Enrolment Module

This module will support in developing the profile and verifying the information of eligible women (pregnant and lactating) for CCT programme. The module will be android application supported for the enrolment and compliance process with functionality to support the following:

- Generation of list of eligible women for enrolment
- Creation of beneficiary profiles for compliance
- Verification of the biometrics and storing the same information into System
- Generation of receipt/one pager on enrolment information to beneficiaries.

Function 3: Compliance of Verification of Conditions

This module will be linked with the enrolment and payment modules. An android application will be developed to provide the following functions:

- A calendar/schedule of immunization, health checkups/screening and counselling for both pregnant women and children under 2 years
- Biometrics verification attendance on each compliance visit at health facility

Function 4: Payment

This module allows generating real time electronic payment list for payment service provider after successful compliance verification based on the payment rules for processing of payment. In addition, the module will also help to support in the following:

- Generation of electronic reconciliation (monthly, quarterly, semi annual and annual) report of payment process;
- Creating a secure link to check the availability of funds and manage funds accordingly;
- Interfacing of MIS with PSP interface on grievances related to payment process

Function 5: Grievances Redressal Mechanism (GRM)

This module will allow the authorized users to enter, maintain and track the various kind of issues, claims or grievances so that the service providers can address such issues filed for timely resolution. The module will have the following main functions:

- Lodging of grievances, claims and updates
- Grievances process and timelines at each stage
- Results of the each case
- Sharing of information and integration of various GRM systems

Function 6: Monitoring and Reporting through Dashboard

M&E Dashboard will be developed to monitor the real time progress on key areas of the programme implementation including Social Registry data base, enrolment, compliance verification, payment process and grievances redressal etc. The helpline/call centre established at SPSU and PSP will be directly linked with the MIS to access the information and process various cases.

This module will also allow an authorized user to search, view and generate various kind of predefined reports for monitoring purposes. This will also support the generation of various reports in MS Excel and PDF formats for the users. In addition to the above MIS Dashboard reports, the system will export the data into MS excel for further analysis and reporting. Such data export will be possible using user defined search input criteria.

Function 7: Administration

This module will allow an authorized user to maintain user profiles and edit roles and responsibilities of the MIS users across the modules. This will help in creating a new user profile and assign roles to the user for MIS access. The MIS automatically will validate the user's access rights and will allow the user only to perform transactions as defined in this module.

Function 8: Master Parameters

This module will allow an authorized user to maintain the master parameters and geographic information. This will allow the specified users to add the geographic information of facilities, areas, set up and reference data allowing the whole MIS to operate efficiently.

5. Responsibilities:

As part of the work included under this consultancy, following activities are the responsibility of the Consultant firm:

- i. Plan, design and implement modules and any software components needed to support Health and Nutrition Conditional Cash Transfer scheme. It will include development of system and module graphical interfaces, web modules, backend database, application reports, statistics, and any software components needed to deliver complete and functional applications systems required by the scheme;
- ii. Plan and manage the test and production environments for the MIS modules. Apply the required operational procedures to ensure an effective and efficient continued operation of Conditional Cash transfer MIS environment, which includes all database ancillary processes as well as the hardware systems on which software & database runs. The Consultant firm will design and implement the necessary processes to ensure high availability, high performance and high security, as baseline quality requirements. This support may include the use of data dictionaries, database and table design, database modelling and development of technical procedures to support the application implementation process;
- iii. Perform Integration/ System Testing, Performance Testing, User Acceptance Testing etc. Prepare detailed test cases, prepare test data and execute test cases. Prepare test reports of software(s) based on systems specifications & validations performed. Use of periodic data backup and data restore procedures, as part of the standard data operation.
- iv. Development of all required MIS technical and design documents such as business process documents (workflows, process design, system architecture etc) to ensure that all MIS documentation is updated and available for the support of project. Provide implementation documentation on product modules, deployment and SOPs for backup restore for later use by the permanent team. Prepare User Manual of developed system to be handed with training to the operational users.
- v. Perform all necessary software maintenance, including coding, testing, debugging, upgrading and modifications of software as required during the consultancy period.

- vi. Lead the training of MIS and Operational staff on MIS and implement field tests of modules in order to improve and enhance the modules/systems in light of learning from pilot and various field tests.

6. Reporting

The Consultant will work closely with Social Protection Strategy Unit (SPSU) throughout the consultancy and will report to the Project Director at SPSU. Moreover, the selected Consultant is expected to be in continuous dialogue with SPSU and stakeholders on design and implementation of MIS.

7. Expected Outputs

Following are the main outputs expected from the Consultant:

- i. Inception Report: at the beginning of the consultancy, the Consultant is expected to prepare an inception report outlining the work included in consultancy. This will include a detailed work plan with estimated time frame for each deliverable.
- ii. System Requirements Study and Planning for MIS development:;, Consultant firm shall prepare the system requirements specification for the MIS based on operations manual and system requirements study in accordance with operational requirements of CCT cash transfer. Further, the Consultant will be expected to develop a process model covering all phases of the conditional cash transfer, this shall be the base document for preparing specifications and getting the MIS implemented.
- iii. MIS Development and Delivery of MIS Modules: Consultant shall develop and deliver all the modules implemented for pilot test and field-testing where possible. The MIS Consultant will supervise & review the modules development. This may also require review and improve the modules based on lessons learnt from various tests/pilot and finalization accordingly. Ensuring that the development of MIS is done on international best practices of cash transfer programmes and following MIS project life cycle.
- iv. Training and Transfer of Technology: The Consultant firm will also lead the capacity building of operational staff of SPSU on MIS modules and maintenance of system. On satisfactory review by the stakeholders, Consultant has to ensure transfer/handover of final modules and documents i.e such as technical and all design documents with support of technical team.

- v. Deployment of system on a fault tolerant redundant environment. Ensure there is no down time on live system. Backups are automatically taken at specified intervals.

8. Key Team Requirements:

Lead Consultant for MIS:

The consultant must propose the lead MIS Consultant for this assignment. The Lead MIS consultant is expected to be the key expert who will be responsible for supervising, monitoring and ensuring all the deliverables as outlined in this TOR.

Qualification: Minimum of a higher degree/Masters or 4 years of Bachelor in Computer Sciences, Information Technology or Engineering and related area. At least 5 years of experience as Information System design and Software Developer, System Engineer, Information Systems Specialist.

CVs of staff are not required at EOI stage, these would be submitted as a part of Technical Proposal. It is also important for prospective firms to understand that a cap of 15% shall be applied on sub-consultancy for both key and non-key positions. Moreover, in technical proposal a certain higher weightage will be accorded to staff that have undertaken the contracts cited by firms in their profiles and technical proposals

Technical Staff & Expected Qualification

Besides, the Consultant is expected to maintain the core technical resources as under among others during the contract period. While these resources are needed to meet the objective of the TOR, it is up to the consultant firm to manage and maintain their internal resources. Following are minimum requirements:

- i. Information Systems Development Expert: Minimum of a higher degree/Masters or 4 years of Bachelor in Computer Sciences, Information Technology or related area Experience required: At least 4 years of experience as Software Developer, System Engineer, and Information Systems Specialist.
- ii. System Analyst: Minimum of a higher degree/Masters or 4 years of Bachelor in Computer Sciences, Information Technology or related area. At least 4 years of experience in system analysis and quality assurance in connection with Software Development, System Engineering, Information Systems etc.

- iii. Quality Assurance Expert: Minimum of a higher degree/Masters or 4 years of Bachelor in Computer Sciences, Information Technology or related area. At least 4 years of experience in system analysis and quality assurance in connection with Software Development, System Engineering, Information Systems etc.
- iv. User Interface Design Expert: Minimum of a higher degree/Masters or 4 years of Bachelor in Computer Sciences, Information Technology or related area or Bachelor in Fine Arts with User Interface related certifications/diploma. At least 4 years of experience make deliberate design decisions and to translate any given user-experience journey into a smooth and intuitive interaction, Create, improve and use wireframes, prototypes, style guides, user flows, and effectively communicate interaction ideas using any of these methods.

Technical Expertise

- i. Experience on MIS of Cash Transfer Programmes or Social Programmes
- ii. Experience with Process Modelling & system architecture design is a must.
- iii. Sound understanding of Web & Windows Services, Encryption, and Web & application development in .Net/Java/PHP is required.
- iv. Sound design understanding of information system architecture to cater scalability, be flexible and be able to accommodate change.
- v. The applicant must have professional experience on implementation & delivery of Web, desktop& mobile based multitier systems.
- vi. Management or coordination experience with Software Developers & Database administrators is a must.
- vii. Experience with windows / Linux and mobile (android) operating systems. Proven database experience with PL SQL, SQL / Optimization, MySQL, Oracle / SQL Serverand JAVA
- viii. Ability to manage Application testing, from writing testing requirements, test cases & automated testing is a plus.
- ix. Experience with deploying fault tolerant and redundant system are a must.

9. Time Frame:

The Consultant firm is expected to complete all the tasks related to Phase 1 in five months, Phase 2 within 8 months after mobilization. The support period is 10 Months, post-delivery and signoff of Phase 2.

10. Tentative Schedule of Delivery

System Requirement Document/Inception submission	Requirement Report	Within 3 weeks after the commencement of the consultancy.
Prototype, data flow and detailed technical requirement signoff – Phase 1	Document	Within 2 months after the commencement of the consultancy.
MIS modules delivery Phase-I. User training. Dummy running along with Hardware installation.		Within 4.5 months after the commencement of the consultancy.
MIS modules delivery Phase-I (60%), signoff. Go live.		Within 5 months after the commencement of the consultancy.
Prototype, data flow and detailed technical requirement Document signoff – Phase 2		Within 5.5 months after the commencement of the consultancy.
MIS modules delivery Phase-II (40%)		Within 7 months after the commencement of the consultancy.
Handover of Administrative control of all MIS modules, design, training of staff and technical documentation, source code.		Within 8 months after the commencement of the consultancy.
Support on system – Fixes / Edits / Minor medium updates		For up to 18 months after the commencement of the consultancy.

12. Selection Method:

- The selection process will be carried out following Consultant's Qualification Based Selection in accordance with Paragraph 7.11 f World Bank Procurement Regulations for IPF Borrowers (July 2016).