

## **Terms of Reference**

### **Design, Development and Implementation support services of an Integrated Social Protection Management Information System**

#### **1. BACKGROUND**

The Ministry of Social Welfare (MoSW) administers a number of important cash transfer programs for the most vulnerable populations in the country, which form an integral part of the Government's social protection system. The cash transfer programs, namely the Old Age Allowance, Widows Allowance, Disability Allowance and Disabled Students Stipend including other programs for backward community, are implemented by the Department of Social Services (DSS) and have a budget of BDT 69.28 billion (approximately USD 824 million) for FY 2021 with a coverage of over 10 (Ten) million beneficiaries. This expenditure constitutes over 10% of the social protection spending annually. As part of the Government commitment to strengthen its overall sectoral intervention, the National Social Security Strategy (NSSS), 2015, plans on “ensuring more efficient and effective use of resources, strengthened delivery systems and progress towards a more inclusive form of social security that effectively tackles lifecycle risks, prioritizing the poorest and most vulnerable members of society”. In order to contribute to this process, MoSW intends to modernize service delivery of its cash transfer programs and there by strengthen transparency and efficiency in program administration.

MoSW and DSS have made impressive strides in recent years of their modernization efforts. In FY 2016, DSS has developed a management information system (MIS) for its programs, and has been disbursing allowances in digital payment system with the support of G2P (Government to Person). At present, most of the existing beneficiaries already been digitized, and efforts are being made to collect new beneficiary program application and grievance lodging through online. In order to streamline entire beneficiary application and selection process, MoSW and DSS is using national identification database (NID) to verify program specific applicant eligibility at application stage to enhance selection process. In addition, given that comfort, speed and cost efficiency of cash withdrawal from digital payment, MoSW and DSS engaged Mobile Financial Services (MFS) on scaling up ongoing programs.

The Cash Transfer Modernization Project financed by the World Bank would support a number of institutional reforms outlined in the NSSS, specifically to strengthen government-



to-person payment (G2P) systems that promote financial inclusivity (institutional reform 3), strengthen processes for selecting recipients of social security schemes (institutional reform 4), and establish a complaints and grievance mechanism (institutional reform 5). It would do so by means of results-based financing which would expand fiscal resources for programs and enhance impact of benefits, and incentivize the achievement of necessary institutional reforms.

The Project address that existing MIS would require further more advancement to strengthen the application, selection, program allotment, enrollment, budget preparation, certification, grievance and payment; moreover, automate entire systems with data migration. System will require to engage other subsystems to support selection process for programs, i.e., national identification database (NID), National Household Database (NHD), Disability Information System (DIS), Cash Transfer Program (CTM) MIS, and electronic payment system.

## **2. OBJECTIVES**

The main objective of this assignment is to hire a qualified MIS/IT firm (Consultant hereafter) for the design, development, commissioning and implementation of the MIS to make it a scalable and integrated MIS Platform that facilitates end-to-end automation of the core DSS business functions through unified IT Platform. In this regard, objectives are to achieve the following milestones as a part of this project execution.

- Conduct a comprehensive Gap Analysis, Functional and System Requirement Study and develop a detailed Functional and System Requirement Study/Gap Analysis Document (SRSD) for review and approval;
- Conduct a hardware and networking needs assessment and develop an assessment report for review and approval;
- Produce a System Design Document (SDD) on approved SRSD and obtain SDD approval;
- Develop, customize and implement MIS Platform based on agreed SRSD and SDD;
- Integrate MIS with other government agencies to verify beneficiary information and track the records;
- Perform Data migration of existing available data into new MIS system;
- Conduct System installation, configuration on MIS hardware;



- Conduct a robust System testing and ensures System Compatibility under Bangladesh Computer Council (BCC) guidelines.
- Conduct a System Security Assessment and ensure the implementation of standard guideline that enhance security;
- Conduct MIS user training for staffs at various levels including its stakeholders;
- Handover the complete and updated system to DSS including full ownership of the source code and all its related technical documentation associated with the edition of the MIS receiving DSS Operational Acceptance;
- Provide annual technical maintenance and support services for 24 months.

### **3. SCOPE OF WORK AND SERVICES**

The scope of work under this assignment covers the development, installation and implementation of a new MIS for DSS to meet the business needs of Cash Transfer Modernization Project (CTM). The consultant is expected to perform the following key tasks under this assignment.

#### **Gap Analysis, Functional and System Requirement Study**

The Consultant is expected to conduct a comprehensive Gap Analysis/System requirement study (SRS) on proposed high-level business process flows mainly for the following programs. The MIS design should be agile/modular so that additional functions can be added for other DSS programs as necessary:

<b>Programs</b>	<b>Eligibility</b>	<b>Benefits</b>	<b>Current Beneficiaries</b>	<b>Projected Beneficiaries (up to 2025)</b>
Old Age Allowance	Annual income under BDT 10,000; men aged over 65; women aged over 62	BDT 500	5701000	85,00,000
Allowance for the Widow and Husband Deserted Women	Annual income less than BDT 12,000; disabled, elderly and sick persons prioritized;	BDT 500	2475000	40,00,000



Programs	Eligibility	Benefits	Current Beneficiaries	Projected Beneficiaries (up to 2025)
Allowances Program for Persons with Disabilities	Annual income less than BDT 36,000; age over 6; disability certified with Article 3(1) of Bangladesh Disability Act 2001;	BDT 600	2008000	30,00,000
Education Stipend Programme for the Student with Disabilities	Student should disable and admitted into educational Institution; age over 5; disability certified with Article 3(1) of Bangladesh Disability Act 2001; monthly school attendance over 50%	Primary: BDT 750 High: BDT 800 College: BDT 900 University: BDT 1,300	100000	1,50,000
Livelihood Development Program for the Hijra (Transgender) Community, Livelihood Development Program for Bede Community	Must be Transgender), Bohemian, Backward community; aged 50 years and above;	BDT 500	86000	1,30,000
Students Stipend of Livelihood Development Program for the Hijra (Transgender)	Should have student; age over 5; monthly school attendance over 50%	Primary: BDT 700 High: BDT 800 College: BDT 1000	27000	50,000



Programs	Eligibility	Benefits	Current Beneficiaries	Projected Beneficiaries (up to 2025)
Community, Livelihood Development Program for Bede Community		University: BDT 1,200		

The Gap analysis is key to understand the business process and translate them into MIS taking into considerations the interoperability with other sub-systems (such as National Household Database (NHD), National Identity Database (NID) and Disability Information System (DIS) among others). The consultant should also conduct a detailed assessment of how the business process modernization supported by the CTM project could be featured in the new MIS. Moreover, National Household Database (NHD) is the country's first social registry with 36 million household information. NHD usually shares individual's poverty scores based on his/her socio-economic information with social safety net programs to improve beneficiary selection process through API integration. National Identity Database (NID) is the country's citizens information platform. Most the eligible citizens have smart/NID card with unique number that helps social safety net programs to identify and verify beneficiary's basic information. This system is also connected with API and it shares basic information return in JSON format. The consultant should conduct a functional requirement analysis that takes existing business process into considerations, factoring in potential future requirements, so that the MIS architecture will be capable to scale up as future demands and requirement grow. Moreover, this activity should also evaluate existing process gaps and overlaps.



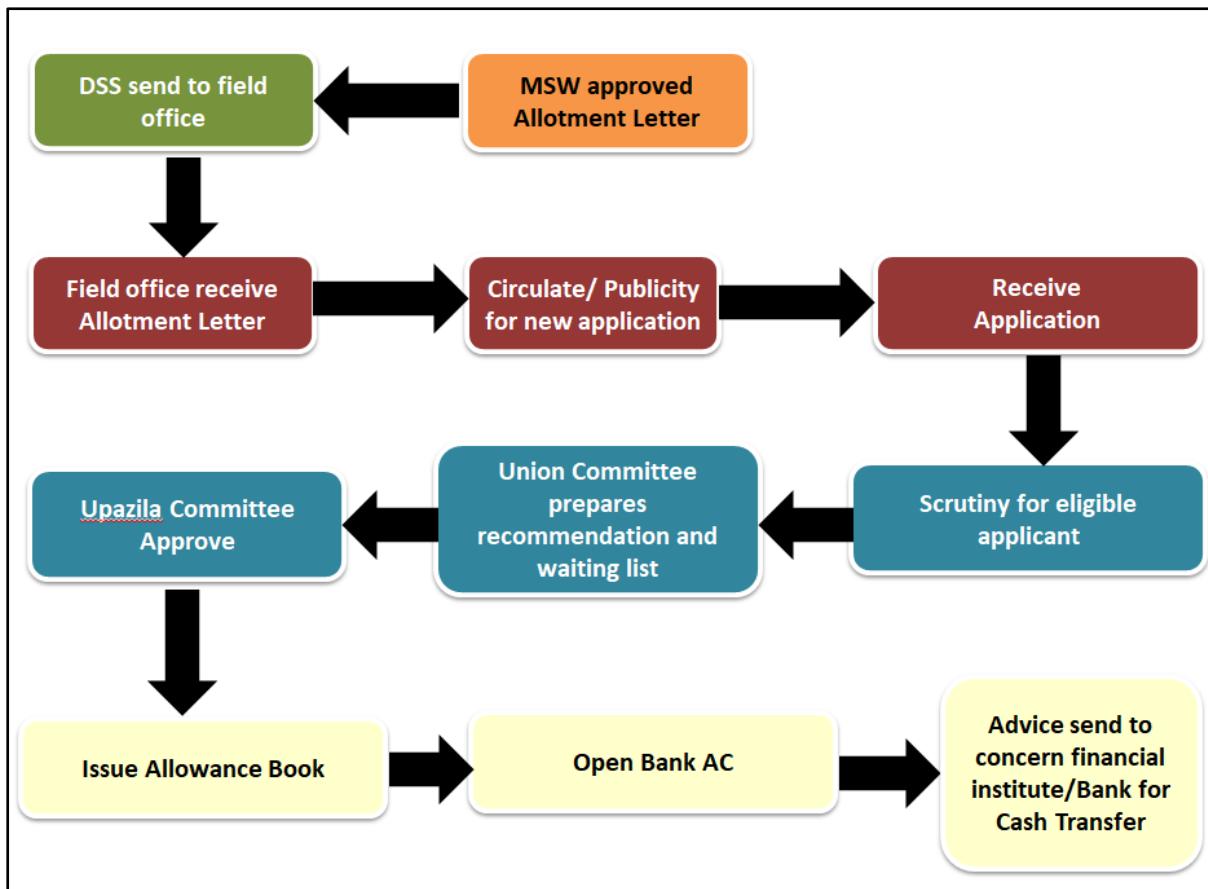


Fig: Operational Flow of SSN Programs

For instance, the existing MIS includes following modules:

- Dashboard Management
- Allowance Program Registration Process
- Beneficiary Account Management
- Payment and Transaction Management
- System Configuration
- User Management
- Searching & Reporting

The system has provision to collect individual application through an online form that verifies basic demographic information against the NID database. However, the MIS lacks functionalities for online application processing, budget allocation, grievance management, which are currently being developed under a separate upgradation assignment.



The following platforms/tools and development technologies were used in the development of the existing MIS:

Platform/Tools	Development Technologies
Programming Language & Frameworks	PHP, Laravel
Database/RDBMS	MySQL
Frontend	Bootstrap
JavaScript Frameworks	Vue.JS, jQuery
API Technologies	Postman
OS	Linux/Unix

Usually, Upazila and Urban offices (USSO) create payment list and make ready for payment process. The system generates approved beneficiary list with account details for payments. The prior administrator user at DSS HQ processes the payments in several batches through the Government to Person (G2P) API to beneficiary account.

DSS aims to develop MIS feature, functionalities and reporting systems that would enhance its program implementation capacity. The consultant is expected to develop the MIS with systemic data management approach; including application tracking, user tracking and user driven report generation. This task will entail development of key functionalities with designs reflecting the business process.

DSS already has a separate sub system called “Disability information system (DIS)” which was designed to collect information on persons with disability and issue unique identifier “Disability ID” also known as “Golden Citizen/ Suborno Nagorik” card to them. Usually, field officers are responsible to collect the information and enter it into DIS after examining and verifying by government registered Doctors. On the Disability ID is a prerequisite for a person with disability to be considered for disability allowance or Disabled Student Stipend. The proposed MIS should have the provision for integration with DIS through API for an error-free and faster beneficiary selection and on-boarding process.

Other critical areas of the assignment would entail an evaluation of hardware, network architecture and infrastructure requirement to support MIS functions and transactional data



storage for at least 15 years. The consultant is expected to do a detailed assessment for such infrastructure with other available options that require to host the MIS in most secure and reliable environment; ensure high availability with auto synchronization between multiple servers.

During this period, the Consultant is expected to work closely with DSS Technical Team to conduct Gap analysis/requirement study and arrange meetings, discussions with counterparts as needed.

#### **Outcome**

The outcome of this activity should be a comprehensive System Requirement Study, Gap Analysis Document based on its existing/proposed process flows and gaps. The Consultant must submit the document for their review comments for final approval.

#### **System Design**

After the SRS document is approved, consultant is expected to conduct System design for MIS Platform. While doing so, consultant is expected to document the underlying database structure that reflects both backend architecture and front-end interface design. The System Design Document should also reflect table definitions and database model of this MIS that could help the documentation as future reference if needed.

#### **Outcome:**

The outcome of this activity should be a comprehensive documentation of System Design based on the approved SRSD. The Consultant must submit that document also for review, comments and final approval from Technical Team.

#### **MIS Development/Configuration and Prototyping**

The Consultant is expected to develop system on agreed SRS and SDD using mutually agreed propose technology framework. During this activity, consultant should run the project in iterative development approach and present the development progress to counterparts regularly. This will ensure development efforts are on track.

#### **Outcome:**

The outcome of this activity will be an iterative prototyping for application development to review and provide quick comments on progress made until prototype acceptance by DSS technical team.



## **System Installation and Configuration**

This activity involves installation and configuration of system to allocate hardware/servers for MIS hosting as per the outcome of hardware assessment. The Consultant will not only install/configure the system but also work closely with infrastructure service provider to ensure the goal is met. Consultant must ensure the MIS deployment uses suitable staging platform for testing the newly developed features.

### **Outcome:**

- System installation report
- Staging Platform Details

## **Data Migration**

The consultant must ensure migration of existing data from current MIS to the new MIS when it becomes operational. It is the responsibility of consultant to perform that data migration from existing system to new. It is therefore critical that the consultant conducts an assessment of various data formats in the context of data migration. The data migration can take place in multiple batches from the existing MIS depending on the purpose of system testing, validating of data accuracy and completeness of final data; when system goes into final deployment (Go LIVE), the following table showcases the projected volume of data that needs to migrate before deployment following development.

<b>Programs</b>	<b>Projected Beneficiaries (up to 2025)</b>
Old Age Allowance	85,00,000
Allowance for the Widow and Husband Deserted Women	40,00,000
Allowances Program for Persons with Disabilities	30,00,000
Education Stipend Programme for the Student with Disabilities	1,50,000
Livelihood Development Program for the Hijra (Transgender) Community, Livelihood Development Program for Bede Community	1,30,000
Students Stipend of Livelihood Development Program for the Hijra (Transgender) Community, Livelihood Development Program for Bede Community	50,000



### Outcome:

The outcome of this activity will be the data migration into the new DSS MIS:

- Assessment of existing electronic data and formats;
- Development of data migration utility tools;
- Ensure the integration tools for bulk data migration;
- Prepare final data conversion strategy
- Final Data conversion/migration to system;
- Assess migrated data and verify the data

### **MIS User Training and Operational Acceptance**

MIS training is an integral part of this assignment. The Consultant is expected to undertake a comprehensive training program for the user of this MIS at various levels as following:

Description	Locations/Office	No. of Users (Minimum)
Ministry Officials	MoSW & Others	100
DSS	Admin	100
DSS Officer & Staffs	575 Upazila/UCD level Office, 64 District office & 08 Divisional office	10000
Total		10200

With an aim to ensure the MOSW/DSS staffs may able to use this system independently and perform various transactions as desired. To achieve this objective, consultant is expected to conduct a MIS user-training program for the following personnel: -

- 1200 MIS users –The target audience of such training programs are officers & staffs of MOSW/DSS and its stakeholders;
- 100 System Administrators – This training is primarily meant for DSS core IT team responsible for System Administration, database management and administration of this Platform.

At outset of project, consultant is expected to draft a Training Plan for acceptance by technical team to ensure the outline of training activities, audiences, number of participants



and curriculums etc. to complete it during project period. It is anticipated that a “training of trainers” (TOT) approach may need to adopt.

The consultant may propose training duration depending upon MIS functionality, but normally expect it to run one week (business/work days) for each batch. While MOSW/DSS will make effort to identify a training facility, consultant should budget for hiring commercial facilities and arrange all necessary logistics for training and consultant’s training team. The consultant is expected to develop all training materials (bilingual), audio-visual aids, lead trainers, and documentation for participants. All training under this project shall take place in the Bangla language.

The Operational Acceptance Certificate shall be issued to the Consultant with feedback and mitigation of system modification requests were arise from trained participants.

### Outcome

- Training plan
- Training manuals
- Core user training
- Technical training
- Conduct training
- Gather and evaluate training feedback
- Finalize operational acceptance criteria
- Obtain operational acceptance

## **4. OTHER SERVICE REQUIREMENTS**

### **System Testing, Quality Assurance and Operational Acceptance Testing Requirements:**

Vendor should have to submit a comprehensive testing plan before system put into operation. The plan should cover all standard testing approaches that ensure phase-by-phase testing activities like test scripting, test cases, testing tools, testing process, test log, result and report formats that generate expected test deliverables based on requirements. Full testing certification from Software Quality and Testing Center (SQTC) of Bangladesh Computer Council (BCC) should have to obtain in order to provide an Operational Acceptance of MIS system. Moreover, following testing must be carried out into MIS alongside other prescribed testing that would be recommended by SQTC.



- Unit Testing
- Functional Testing
- Compatibility Testing
- Smoke and Sanity Testing
- Regression Testing
- Load Testing
- Destructive Testing
- Software Performance Testing
- Accessibility Testing
- Security Testing

In case of any incompliance or shortfall of that features reveals by SQTC testing needs to fix and incorporate before Operational Acceptance.

Vendor is expected to implement performance and load testing with following features:

- Testing workload profiles and test scenarios based on the various functional requirements should be defined. Application as well as system resource utilization parameters that need to be monitored and captured for each run also needs to be defined;
- Should support application testing and API testing including HTTP(s), web services, mobile applications and different web 2.0 frameworks such as Ajax/Flex/HTML5;
- Vendor should perform the load testing of this project for multiple workload profiles, multiple scenarios, and user loads to handle the envisaged users of the system;
- Different activities before load testing i.e. identification of work load profiles, scenarios, information capturing report formats, creation of testing scripts, infrastructure detailing and workload profile should be prepared before the start of actual load testing exercise;
- Solution parameters needs to be tuned based on the analysis of the load testing reports. The tuning process could be iterative until the issues are closed. Multiple load runs need to be executed for users to simulate different scenarios, such as peak load (year end, quarter end, etc.), load generation within modules or network simulator while introducing configurable latency/jitter/packet loss etc;
- Should eliminate manual data manipulation and enable ease of creating data-driven tests.



- Should provide capability to emulate true concurrent transactions;
- Should identify root cause of performance issues at application or code level. Include code performance analysis to quickly pinpoint component-level bottlenecks: Slowest classes and methods, most frequently called methods, most costly (aggregate time spent for each method), response time variance etc;
- Should be able to monitor various system components e.g. Server (OS, Web, Application & Database) Monitoring, Network (between Client & Server) Delay Monitoring, Network Devices (Firewall, Switch & Router) Monitoring during the load test without having to install any data capturing agents on the monitored servers/components;
- Should correlate response times and system performance metrics to provide quick insights into root cause of performance issues;
- Reports on following parameters (but not limited to) such as transaction response time, transaction per second (Passed), user interface rendering time, transaction per second (Failed), web transaction breakdown graphs, hits per second, throughput, HTTP responses per Second, pages downloaded per second, system infrastructure performance metrics etc.
- Should provide End-to-End system performance analysis based on defined SLAs. Should monitor resource utilization including memory leakage, CPU overload and network overload. Should have the ability to split end-to-end response time for Network & Server(s) and provide drill-down capability to identify and isolate bottlenecks;
- Recovery testing is one of the important aspects of an application as it portrays how well it can recover in case of a system failure, server shutdown, or service failure. Tests will be carried out to see how well the system recovers from crashes and hardware failures.

### **Final Deployment (Go LIVE)**

The final deployment will commence after issuance of operational acceptance and when the final successful data migration will take place. This would mean that DSS and its stakeholder will start using the system in day-to-day operation after successful migration of respective programs. During this stage, the firm is expected to assist and provide technical guidance to ensure its smooth operation and facilitates in final deployment.



**Outcome:**

- The outcome of this activity will be the operationalization of MIS by the authorized users.

**Implementation of Support Services**

The implementation of support services shall perform for a period of 24 months effective from the issuance of operational acceptance letter. During this period, consultant must ensure all issues encountered such as, bugs/errors and functionality change requests must be resolved timely, and ensure smooth operation of system. The warranty period should cover all feature enhancements, customizations, addition of reports in MIS as required by users of the system within the scope of DSS functions. In case any new modifications or enhancements are required that can be completed within mutually agreed timeline the consultant should consider it as the part of project scope. Any requests requiring engagement beyond SLA defined timeline efforts would be considered outside the scope of this assignment and will be dealt separately. DSS and the Consultant will jointly determine such level of efforts.

**Outcome:**

The outcome of this activity will support DSS to ensure its smooth operation of system and timely resolution of any bugs/errors encountered during warranty period, including some minor incorporation of feature enhancements, addition of reports etc.

- Bug/error fixing/deployment of versions, upgrades etc.;
- Addition or incorporation of more/new functionalities as long as it fits within the scope and nature of the program;
- Conduct regular user training in English and Bengali language as required;
- Overall system management, supervision and monitoring to ensure its smooth operation and implementation including periodic system incremental backup.
- Establish proper data backup and support mechanism to assist users to effectively operate the system without any technical problems;
- Provide in-depth technical support and guidance during the data migration, update process;
- Build DSS internal technical capacity to gradually taking over the system before the contract ends.



- Perform the duties and tasks related to program scope as requested by DSS;
- Provide comprehensive training to admin users for ensuring adequate support in system maintenance and modification in both environments.

## Functional and Technical Requirements

**System Configuration Module:** System configuration management encompasses discipline and technique of initiation, evaluation, and controller of changes in software services. It emphasizes on more importance of configuration control to software implementation.

No	Description
<b>Demographic Information Management</b>	
01	<p>System should have functionality to manage and store demographic information details with the following features –</p> <ul style="list-style-type: none"> <li>• Division Information- Add, Delete, Update and View</li> <li>• District Information- Add, Delete, Update and View</li> <li>• Thana/Upazilla- Add, Delete, Update and View</li> <li>• City Corporation/Paurasava- Add, Delete, Update and View</li> <li>• Union- Add, Delete, Update and View</li> <li>• Village- Add, Delete, Update and View</li> <li>• Ward- Add, Delete, Update and View</li> </ul>
02	Ability to upload bulk demographic data files from third party sources like: csv, excel or API. System should have functionality to map all upload data without duplication and allow system to show warning/flag if any information matches; administrator can take actions for record corrective.
03	Ability to sort demographic information lists and ensure proper mapping between Division, District, Upazilla/Thana, Union, Village and Word.
04	System should have ability to validate any change request process by administrative users and check it before compile for further actions into system.
<b>Allowance Program Management</b>	
05	<p>System should have the following functionality to create allowance program form with-</p> <ul style="list-style-type: none"> <li>• Allowance Program Name - English &amp; Bengali</li> </ul>



	<ul style="list-style-type: none"> <li>• Allowance Program Service Types</li> <li>• Allowance Program Guidelines</li> <li>• Allowance Program Eligibility Criteria</li> <li>• Allowance Program Description</li> </ul>
06	Functionality to view program information and pull allowance list with edit/delete permission for administrative users. Also, ensure proper mapping on service type, guideline and eligible criteria.
07	Functionality to tag payment schedule with program name to process the payments on beneficiary's enrollment.
08	Ability to check potential beneficiary list and provide system warning/flag if beneficiary information match or duplicate (data validation show on text fields) on program allocation, payment cycle, pay amount should identical; so that corrective action may take.
09	System will only process payment cycle if system admin will approve; all key notifications should share through SMS and Email for management.

#### **Manage Centre Information**

10	<p>System should have functionality to include DSS office/center information with -</p> <ul style="list-style-type: none"> <li>• DSS Center Name- English, Bangla</li> <li>• Center Type- UCD, Upazilla</li> <li>• Center Address</li> <li>• Demographic Information- Division, District, Thana/Upazilla, City Corporation/Prosova</li> <li>• Contact Details- Phone and Email</li> </ul>
11	Functionality to add, delete and update center information by an authorized user define through roles.
12	<p>System needs to tag following information's for centers-</p> <ul style="list-style-type: none"> <li>• Area/Zone name- Union, Word</li> <li>• Responsible Officer Name &amp; Designation</li> <li>• Committee Details</li> </ul>



13	System should have functionality to tag area information with responsible officer details for mapping processes.
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#### **Manage Financial Year Information**

14	<p>Functionality to store financial information-</p> <ul style="list-style-type: none"> <li>• Financial Year- Selection [Multiple]</li> <li>• Financial Year- Name</li> <li>• Financial Year Start - Date</li> <li>• Financial Year End- Date</li> <li>• Active/Inactive</li> <li>• Payment Cycle</li> </ul>
15	Ability to tag payment approval request with allowance program manager for mapping integral approval manager.
16	Ability to Add, Delete, Update and View feature to enhance system tagging and payment tracking.

#### **User Management**

17	Functionality to create role with following information- <ul style="list-style-type: none"> <li>• Group/Role- Name</li> <li>• Permission/Accessibility- Add, Delete, Update &amp; View</li> <li>• Group Policy- Condition</li> </ul>
18	Authentication, Authorization & Access Control: Security mechanisms should implement into system to enable secure login and authorized access.
19	System should implement role-based access and authorization to ensure system users envisaged access for specific system features, access data in control model.
20	System Administrator must be authorized users and allow privilege to access configuration key information. Configuration and Role model must be available and integrate into system.
21	Functionality to access user group/role system that provide personalized functions for authorized personnel to manage user roles and access privileges.
22	System will allow authorized users to create user role information by fill in a simple



	form; only authorized user can update and delete role information.
23	System allows privilege to set users on role. System access privileges will set on role and only authorized personnel will allow to access and update, reset user credentials and role access.
<b>Manage Device Registration</b>	
24	Functionality to register user's devices with- <ul style="list-style-type: none"> <li>• Device Type</li> <li>• Device Name</li> <li>• Device MAC/IP</li> <li>• User Name (Mapping)</li> <li>• Active/Inactive</li> <li>• Purpose of uses</li> </ul>
25	Ability to accept minimum and maximum number of authorized devices for every single user by administrator. Ensure system mapping to track user credentials.
26	System should have the functionality to count and track authorized & un-authorized devices logged in request with device MAC/IP address. Ensure system will block those devices and IDs after certain number of attempts.
27	Functionality to track device service time with geo-location that helps administrator to identify sequential login Id's from several devices.

**Application and Selection Module:** This module intend to in-dept consideration of application management including beneficiary selection, replacement and allotment on program consideration.

No	Description
<b>Online Application Management</b>	
28	System needs to adapt hybrid online application module for ensuring the most secured platform that enhance beneficiaries' information collection on it design and interoperability for mobile, laptop, desktop and other devices.



29	System should have to design application form with following fields- <ul style="list-style-type: none"> <li>• Program Name- Preferred Allowance Program</li> <li>• NID/BRN No [Define on Applicable]</li> <li>• Birthdate</li> </ul>
30	Ability to pull requester major credentials from NID Server and identify the eligibility status through system inner approach before move into next section.
31	Functionality to continue application steps in following features- <ul style="list-style-type: none"> <li>• Name- Bangla, English</li> <li>• Father Name- Bangla, English</li> <li>• Spouse Name- Bangla, English</li> <li>• Mother Name- Bangla, English</li> <li>• Demographic Information- Division, District, Thana/Upazilla, City Corp./Poushova, Union, Word, Village</li> <li>• Address</li> <li>• Religion</li> <li>• Mobile No</li> <li>• Socio economic information</li> </ul>
32	System will generate unique tracking ID for every successful submission and share it through SMS/Email with beneficiaries. During GAP analysis tracking ID convention will define through comprehensive analysis.
33	Ability to search the application progress status through tracking ID and visualize mapping process from its status.
34	Functionality to set mandatory fields with required flag that identify missing information should check before insert application.
35	System needs to track every successful application MAC with IP address that enhance identification process of unique access points by program.
36	System should have provision for searching, sorting and merging beneficiaries application on criteria.



37	<p>System should have feature to define application status dynamically with-</p> <ul style="list-style-type: none"> <li>• Under Process</li> <li>• Union Committee</li> <li>• Upazilla Committee</li> <li>• Final Selection [Approved]</li> </ul>
<b>Beneficiary Selection Management</b>	
38	<p>System should have the feature to integrate with National Household Database (NHD) for identifying beneficiary poverty status that will enhance application selection.</p>
39	<p>Ability to validate applicant scope automatically during selection of next process. If find any information mismatch then system will generate flag without jump into next stage.</p>
40	<p>Functionality to generate system recommend approval process should be carried out on predefined scores that enhance automation process.</p>
41	<p>System should have the feature to keep match and mismatch data into system database and provide extensive features to analysis.</p>
42	<p>Functionality to generate system flag if any applicant data seems to duplicate and pop-up alert for the administrator.</p>
<b>Dashboard &amp; Reports</b>	
43	<p>Reporting features should be-</p> <ul style="list-style-type: none"> <li>• System should generate- Match &amp; Mismatch Data Lists</li> <li>• Access Point report- Mac and IP with demographic information</li> <li>• Application report- Demographic Data</li> <li>• Application Status Report</li> </ul>
44	<p>Report should be available for users to identify its capability on role that enhance accessibility on data.</p>
45	<p>Report should provide that data been aggregated and formatted on locations/point of contacts where beneficiaries/non-beneficiaries was applied through MAC/IP.</p>



46	Report should provide an assessment of applications on enrollment decision that was made within a set of service standard for non-beneficiary applies.
47	System should provide a report on total number of unions process for selecting beneficiaries on poverty scores ranked by NHD.
48	Report needs to view percentage of beneficiaries selected on division/district/upazila on poverty scores.

**Beneficiary Management Module:** This module should responsible to manage and process beneficiary information, allotment, replacement and committee information. This has to design and integrate with other modules to process systemic tagging.

No	Description
<b>Manage Committee Information</b>	
49	System should develop committee information form with followings- <ul style="list-style-type: none"> <li>• Committee Name/Type</li> <li>• DSS Center- Tagging</li> <li>• Allowance Program- Tagging</li> <li>• Committee Member List</li> <li>• Committee Details</li> </ul>
50	System should ensure committee's name must be unique; pop-up if any duplicate may arise/made.
51	Functionality to allocate beneficiaries lists for approving union committee by union/upazilla social service officer.
52	Ability to tag and upload approve beneficiary list for upazilla committees that will enhance selection process.
53	System needs to capture and upload with followings- <ul style="list-style-type: none"> <li>• Meeting Title</li> <li>• DSS Centre</li> <li>• Financial Year</li> <li>• Allowance Program</li> </ul>



	<ul style="list-style-type: none"> <li>• Meeting Date &amp; Time</li> <li>• Place of Meeting</li> <li>• Meeting Description</li> <li>• Beneficiary List</li> <li>• Attached Document</li> <li>• Verification Status</li> </ul>
54	Functionality to sort and compile beneficiary list on allotment and financial budgets should allocate through system mapping by upazilla/union authority.
55	Ability to sort application based on following status- <ul style="list-style-type: none"> <li>• Approved</li> <li>• Waiting</li> <li>• Rejected</li> </ul>
56	Functionality to generate unique Beneficiary ID for every approved application and share congratulation SMS/Email with ID to register mobile.
<b>Manage Allocation Information</b>	
57	Functionality to manage and track allotment information with- <ul style="list-style-type: none"> <li>• Allotment Order No</li> <li>• Allotment Issue Date</li> <li>• Financial Year</li> <li>• Allowance Program</li> <li>• Office Order- attachment</li> <li>• Percentage</li> <li>• Previous Year Allocation &amp; Expenses [Pull System Data]</li> <li>• Projection Data for coming year</li> </ul>
58	Ability to map system integral information on beneficiary allotment and allocation on DSS centers.
59	Functionality to collect projected data from DSS Centers to define allocation for coming years.
60	System needs to store following information-



	<ul style="list-style-type: none"> <li>• DSS Center-Multiple</li> <li>• Allocation Number</li> <li>• Responsible Officer</li> </ul>
61	System should have to integrate with Beneficiary Management and other modules for mapping beneficiary information's.
62	Functionality to identify any duplication on mapping activity and generate system flag for administrator before approving.
<b>Beneficiary Information Management</b>	
63	<p>System needs to develop beneficiary information form with following features-</p> <ul style="list-style-type: none"> <li>• Program Name</li> <li>• Beneficiary- ID, Name, Father, Mother &amp; Spouse Name- Bengali, English</li> <li>• NID/BRN</li> <li>• Age</li> <li>• Gender</li> <li>• Beneficiary Photo &amp; Signature</li> <li>• Demographic information</li> <li>• Address</li> <li>• Contact Number/ Mobile</li> <li>• Nominee Information- Name, Photo, Mobile &amp; NID/BRN</li> <li>• Nominee Relation</li> <li>• Nominee Photo</li> <li>• Pass Book Number/Digital ID Number</li> </ul>
64	Ability to update/modify beneficiary information from DSS Centre by field verification; the information will process by system user of DSS Centre.
65	Functionality to generate system flag for duplicate entry specially: Nominee Information, Mobile No, Nominee NID.
66	Functionality to update and upload beneficiary, nominee information by union or upazilla social service officer.



<b>Manage Beneficiary Replacement</b>	
67	System should have functionality to replace beneficiary if meet graduation criteria or death/Missing/Migration.
68	Ability to replace beneficiary automatically from waiting list from system priority list.
69	System needs to develop graduation criteria form- <ul style="list-style-type: none"> <li>• Allowance Program</li> <li>• Graduation Condition</li> <li>• Guideline</li> </ul>
70	Functionality to include special conditions that emphasizes the graduation process through system automation
<b>Beneficiary Digital ID Card</b>	
71	System should have to generate individual beneficiary card/card template with basic field such as: <ul style="list-style-type: none"> <li>i)Name</li> <li>ii) Father Name</li> <li>iii) Mother Name</li> <li>iv) Beneficiary Unique ID</li> <li>v) Account number etc.</li> </ul>
72	System needs to generate unique bar code/QR/RFID for printing it.
<b>Dashboard &amp; Reports</b>	
73	System needs to generate application report on completion of selection process at Standard Timeframe.
74	Ability to generate system driven analysis report on application status, timeframe and approval process.
75	Reporting feature should be: - <ul style="list-style-type: none"> <li>• Beneficiary List- Demographic, DSS Centre</li> <li>• Reports based on allowance program</li> <li>• Report on financial year- allocation</li> </ul>



	<ul style="list-style-type: none"> <li>Allowance Program- approved, waiting, reject</li> </ul>
76	Report will provide percentage of program beneficiaries replaced with newer ones (due to death, migration etc.)

**Payroll Management Module:** This module should process payment requests and integrate with third party payment processors through API to disburse into beneficiary's account. It should also be designed and develop reconciliation process to reiterate the payment process.

No	Description
<b>Manage Payment Processor Information</b>	
77	<p>System should design input form with –</p> <ul style="list-style-type: none"> <li>Processor Type- Bank, MFS</li> <li>Name- Bengali, English</li> <li>Coverage Area- DDS Centre</li> <li>Contact Point- Mobile, Email</li> <li>Process Model- API, Branch</li> <li>Active/Inactive</li> </ul>
78	Ability to control payment processor information by administrator and verify system integration possibility for potential challenges should implement through third-party API.
79	Functionality to manage processors activity and accessibility of data; administrator should only provide set of information for payment processing.
<b>Manage Accounts Information</b>	
80	<p>System should facilitate to insert beneficiary accounts information like-</p> <ul style="list-style-type: none"> <li>Account Type- MFS, Bank</li> <li>Account Name</li> <li>Account No</li> <li>Branch Name- If Bank</li> <li>Routing number</li> </ul>



81	Functionality to verify beneficiary account details with payment processors credentials through API connectivity.
82	Ability to send confirmation SMS/Email to beneficiary with an acknowledgement that account successfully verify/modify.
83	Ability to track MFS account opening status, update and verification information through API (Differ by Processor) that enhance account management system.
<b>Manage Payroll Generation</b>	
84	Functionality to prepare payroll list by DSS Centre and recommend it to administrator for process.
85	Ability to verify payroll list by Centre supervisor (USSO) and provide confirmation through system approval process to move into central payment authority (DS HQ Admin).
86	System should have to store following information for enhancing the payroll generation process forms like- <ul style="list-style-type: none"> <li>• Financial Year</li> <li>• DSS Centre- Auto Tag</li> <li>• Allowance Program</li> <li>• Installment</li> <li>• Date Range- Installment</li> <li>• Disbursement Period</li> <li>• Office Order</li> </ul>
87	Functionality to track and manage beneficiary ledger with- <ul style="list-style-type: none"> <li>• Installment Payment- History</li> <li>• Amount Paid</li> <li>• Disbursement History</li> </ul>
88	Functionality to manage following features for payroll creation- <ul style="list-style-type: none"> <li>• Beneficiary List- Payment Eligible</li> <li>• Account Information</li> <li>• Rate</li> </ul>



89	Ability to generate payroll record with- <ul style="list-style-type: none"> <li>• Pay for- Months</li> <li>• Last Successful Payment Credentials</li> <li>• Unsuccessful Payment Credentials with reason for reverse feed</li> <li>• Payment Amount</li> <li>• Next Payment Cycle</li> </ul>
90	Functionality to check beneficiary installment payment records on- <ul style="list-style-type: none"> <li>• Monthly – 12 installments</li> <li>• Quarterly – 4 installments</li> <li>• Half-yearly -2 installments</li> </ul>
91	Ability to verify process/paid installments on criteria before payroll generations. A beneficiary will only get maximum 12 installments (monthly) in a year. No payroll requests will generate if meet the above condition.
92	Functionality to reconcile the payment records according missing records/requests on payment status.
93	Ability to manage reconcile history to run the reiteration process to confirm missing payments.
94	System should only process unique payment request for every beneficiary; pop-up system flag if any duplicate or double tipping found in the payroll list.
95	System will process single payment request and should not allow to process same request in multiple time; Beneficiary will not receive multiple payment of same amount in same cycle.
96	System will generate payment notification flag for system user to track every successful and unsuccessful payment request through API.
97	Functionality to generate SMS/Email notification with payment details for beneficiary's acknowledgement.
98	Functionality to check and verify beneficiary payment data by users of DSS Center.



<b>Manage Emergency Payment</b>	
99	<p>Functionality to manage emergency payment request information with-</p> <ul style="list-style-type: none"> <li>• Allowance Program- Multiple</li> <li>• Payment Amount</li> <li>• Applicable- All/Selected DSS Centre</li> <li>• Payment Cycle</li> <li>• Office Order- Upload</li> </ul>
100	System needs to process instructions as standalone request without mapping payroll generation on conditional instructions for payment disbursement.
101	Ability to process service instructions under special dynamic control management should not hamper other modules; it will applicable only for special condition. Only Administrator can set those instructions with prior approval before process the payments.
102	Ability to sort successful and unsuccessful payment requests with system generated error message will help to identify potential problems based on error code.
103	Functionality to reconcile missing payments and reiterate those instructions for seeking successful notification.
<b>Dashboard &amp; Reports</b>	
104	<p>Report should be-</p> <ul style="list-style-type: none"> <li>• Allowance Program- Payment</li> <li>• Demographic Information- Payment</li> <li>• Disburse Amount- Details</li> <li>• DSS Centre- Payment</li> </ul>
105	<p>System should have to generate report with transferred amount to beneficiary accounts by-</p> <ul style="list-style-type: none"> <li>• PSP [MFS/Agent bank/Com. Banks]</li> <li>• Gender [Male/Female]</li> <li>• Location [Division/District/Upazila/Union]</li> <li>• Program [OAA/WA/DA]</li> </ul>



	<ul style="list-style-type: none"> <li>• Time [Year/Month]</li> </ul>
106	Ability to generate missing payment requests report with potential error type and cause with payroll details.
107	<p>Functionality to generate reports on payment points that would indicate the ratio of beneficiary's payment receiving points on-</p> <ul style="list-style-type: none"> <li>• PSP</li> <li>• Location</li> <li>• Program</li> </ul>
108	<p>Functionality to generate special payment reports on-</p> <ul style="list-style-type: none"> <li>• Allowance Program</li> <li>• PSP</li> <li>• Location</li> <li>• Financial Year</li> <li>• Gender</li> <li>• DSS Centre</li> <li>• Payment Amount- Total Amount, Program and PSP</li> </ul>
109	System should generate reconcile payment reports with reiteration timeframe and process status.

**Grievance Management:** The MIS Platform should design with a module to manage and monitor various kinds of complaints and grievances made in order to improve program service deliveries and monitoring aspects.

No	Description
<b>Manage Grievance Category Information</b>	
110	<p>Functionality to create type/classifications by-</p> <ul style="list-style-type: none"> <li>• Program Outreach</li> <li>• Intake &amp; Registration</li> <li>• Assessment &amp; Criteria</li> <li>• Eligibility &amp; Enrollment</li> </ul>



	<ul style="list-style-type: none"> <li>• Benefits &amp; Packages</li> <li>• Onboarding &amp; Services</li> </ul>
111	Ability to define the cases on <ul style="list-style-type: none"> <li>• Beneficiary</li> <li>• Program Design</li> </ul>
112	Ability to add complaint type by administrative users and provide accessibility to put request if any new complaint needs to create.
113	Functionality to sort complaint cases and define priority standards for solving it faster.
<b>Grievance Information Management</b>	
114	Functionality to register complaint with- <ul style="list-style-type: none"> <li>• Allowance Program</li> <li>• Type of Complaint</li> <li>• Beneficiary ID/Mobile No</li> <li>• NID/BRN No</li> <li>• Beneficiary Name</li> <li>• Demographic Information</li> <li>• Complaint Details</li> </ul>
115	Ability to tag complaint with DSS Center and Wing with system flag to enhance resolving process.
116	Functionality to generate unique Case ID for every successful submission and set priority based on complaint.
117	Functionality to provide visual progress with status of complaint stages through searching by Case ID.
118	Functionality to store resolve processes with <ul style="list-style-type: none"> <li>• Complaint Statement- root cause</li> <li>• Resolve status</li> <li>• Resolve by</li> </ul>



	<ul style="list-style-type: none"> <li>Attachment- if any</li> </ul>
119	Functionality to share complaint resolve notification status with result for issuer as SMS or Email.
120	Functionality to include record resolution strategy and guidelines for approval on classification by authorities.
121	Ability to provide alerts on unresolved cases for a pre-fixed period of waiting time;
122	Ability to record feedback from complains for outstanding cases/case resolution
123	Ability to sort complaints on standard complains resolution timeframe that will ensure services in faster pace.
124	System should have functionality to define grievance redress matrix by system administrator.
<b>Dashboard &amp; Report</b>	
125	Ability to generate report on total number of service/case request in a day/week/month/year; types of requests made, status of case registered (opened, pending, processed, resolved, unresolved, closed)
126	Ability to provide grievance application list by beneficiaries or non-beneficiaries have considered to resolve within a set of time.
127	Generate Reports on: <ul style="list-style-type: none"> <li>Complaint Register by Gender</li> <li>Case formed by Demographic Information</li> <li>Complain by Allowance Program</li> <li>Fiscal Year</li> <li>Payment Cycle</li> <li>By Classification</li> </ul>
128	Functionality to generate case resolve report by DSS Centre and Wing.



**M&E and Reporting:** MIS should generate information and indicators for M&E process report on programs at various levels

No	Descriptions
<b>General Requirements</b>	
129	Function in low bandwidth settings. Allow for data uploads wherever activities are taking place nationally, and for data it should be viewable (with adjustable user permissions) instantly.
130	Ability to collect, process, store and report data from various sources. Protect program's data against manipulation and losses through restricted access and frequent back up for archiving.
131	Ability to import data from multiple systems into data tables. Be compatible with other systems, such as DIS and internal data systems.
<b>Program Result Management</b>	
132	Ability to verify data at facility level using multiple data sections, both from direct user entry and mapping information from various sources, including but not limited to DIS, NHD, NID and BRN, etc.
133	An in-built mobile data collection and verification interfaces would preferable and ensure Offline data entry or batch verification for system users.
134	System should have the facility to update/upload supplementary documents (e.g., Fiscal year plans, policies, approval methods and pictures)
135	Ability to add and remove various disaggregation depends on indicators that combine data tables from various sources.
136	Data input forms/screens should be user friendly and intuitive. Ability to store and verify data into prescribe format to calculate indicator results.
137	Ability to collect feedbacks from beneficiaries and system users on predefined forms for indicator outcomes;
138	Ability to enter and maintain various formats for measuring performance on programs being implement;



<b>Survey &amp; GIS Data Integration</b>	
139	Ability to navigate system for visualizing map in different places through system integration dynamically.
140	System should facilitate design/integration on dynamic survey forms/tools/apps to conduct assessment/survey.
141	Ability to export/integrate data for analysis that make outputs (e.g. map, graph) on prescribed format from system
<b>Reporting</b>	
142	Ability to define and print regular performance reports.
143	Ability to analyze data and create ad-hoc performance reports.
144	Ability to automatically produce exception reports. For example, list of beneficiaries who did not collect their payments
145	Ability to generate statistical reports- <ul style="list-style-type: none"> <li>• Beneficiary Budget</li> <li>• Payroll</li> <li>• Grievance Redress</li> <li>• Application</li> </ul>
146	System should have the following reporting features- <ul style="list-style-type: none"> <li>• Aggregate data across several components on indicators</li> <li>• Disaggregate indicators by criteria, which will vary by indicator</li> <li>• Modify or add fixed tables and graphs</li> <li>• Create data visualizations that each user can customize and share</li> <li>• Export data quarterly to non-proprietary, machine-readable formats</li> <li>• Monitoring archived data will show in the system</li> <li>• Periodical monitoring report on program</li> </ul>



**Reporting and Business Intelligence Tool:** The MIS Platform should generate various inbuilt and ad-hoc reports for programs on effective monitoring, program improvement and assessment. It should also be designed and integrated with an enterprise level business intelligence to support DSS data warehouse needs for statistical/quantitative techniques to apply industry proven Business Intelligence & Forecasting techniques/tools. The Consultant is expected to supply, deliver and integrate BI tool within MIS platform.

No	Descriptions
147	Extensive functionality to generate various kinds of MIS reports based on data availability and user-defined input parameters selected by user.
148	Such reporting structure should be able to meet requirements at various levels of user needs; such as the higher management might require MIS reports for policy and planning issues.
149	System should generate some predefine report format on PDF, Excel, etc.
150	Ability to generate all kinds of reports generate manually.
151	Ability to allow generate standard and/or common periodic reports that will avoid redundant effort in report generation and improve system performance.
152	Ability to allow generate custom reports need without writing code.
153	System should provide dashboards, analysis and drill-down ability.
154	Reporting tool should have capability to generate ad-hoc reports.
155	MIS should have strong integration with business intelligence tool to support MIS data warehouse needs, which is an integral part of an integrated MIS.
156	Business intelligence tool should implement to analyze bulk data for meaningful conclusions; use statistical/quantitative techniques to apply best practices for Business Intelligence & Forecasting techniques.
157	Functionality to generate several reports on graphical, statistical and ad-hoc; ability to perform data analysis.



**Mobile App:** Users can access services offered by DSS through MIS using mobile app available on Android and iOS. The app could be in hybrid architecture or platform independent on different types of users.

No	Requirements
<b>General Requirements</b>	
158	The core of Android, IOS apps should have interactive input forms, native features on apps; built using platform-specific development tools and technologies defined by Google, Apple and Microsoft respectively.
159	The application and department service forms are designed by HTML, CSS and JS architecture that render the app for platform specific customization.
160	The app, with continuous improvements, follows platform specific best practices for security and performance to ensure a smooth hassle-free experience for users.
161	For UI/UX part, the app follows a customized design guidelines based on Material Design guidelines define by Google for Android, Apple HIG's for IOS.
<b>Service &amp; Module Integration</b>	
162	An aggregated app provides several functionalities within MIS itself for interfacing applications with functionalities. The integrations can vary on need base analysis and emerging requirements.
163	The app is enabled for NID, NHD and DIS authentication on system guidelines. MIS and all its components are required to be competent with NID/BRS guidelines issued by administrator; should kept compliant such guidelines in future.
164	In service pattern where Payment Service Provider (PSP) will integrate to avail services for beneficiary payment through payment gateway should have enabled through MIS. The payment service decision will define on department offering.
165	Grievance Management System (GMS) is a platform to collect Feedbacks on services delivery for various programs. Departments are seeking feedbacks for end users that can trigger them through web and Apps; both in online and offline through API exposed by service management layer by API Manager.



<b>Key Functionalities &amp; Features</b>	
166	<p><b>Online Application:</b></p> <ul style="list-style-type: none"> <li>• Beneficiaries can apply on DSS app/web using their Mobile. Provide all basic information structure for application module with dynamic filter should access directly without registering on platform.</li> <li>• App should map with modular section for program management and pull all government run safety net programs for the beneficiaries and information come directly through APIs.</li> <li>• System should envision on role-base users to allow informational/search on services directly;</li> </ul>
167	<p><b>Approval Management:</b></p> <ul style="list-style-type: none"> <li>• Manage all committee selection and approval management through App. System should have facility to check real-time data and synchronize it through API.</li> <li>• Ability to view and check upload documents to modify beneficiary information through submission.</li> <li>• Functionality to manage role base auto tagging system for seeking approval on process application and ensure system actions.</li> </ul>
168	<p><b>Allotment &amp; Replacement:</b></p> <ul style="list-style-type: none"> <li>• System should have functionality to adjust financial year allotment and provide tagging facilities for tracking process through mobile apps.</li> <li>• Ability to assess and apply all committee's decisions through mobile apps. System should tag with approval manager for necessary actions.</li> <li>• Ability to apply beneficiary replacement and inclusion through mobile apps.</li> </ul>



169	<p><b>Beneficiary Management:</b></p> <ul style="list-style-type: none"> <li>• Functionality to modify/update beneficiary information by union/upazilla social service officer. System will show notification for further approval to accept changes by administrator or supervisors.</li> <li>• System needs to integrate mandatory checking before submission of beneficiary key identifier like; NID/BRN, Mobile No.</li> <li>• Ability to update nominee information, beneficiary non-key information through mobile apps.</li> </ul>
170	<p><b>Payroll Generation &amp; Verification:</b></p> <ul style="list-style-type: none"> <li>• System should verify and check union/upazilla payment information by concern officer and collect feedback.</li> <li>• Ability to check and verify beneficiary payment history for generating payroll on program.</li> <li>• Functionality to verify and check for final approval before jump into payment by the key system users.</li> <li>• Provide all missing and problem payrolls to verify by union/upazilla social service officer.</li> <li>• System needs to collect final approval of every successful payment receiver from DSS Centre through mobile apps.</li> </ul>
171	<p><b>Grievance Redress:</b></p> <ul style="list-style-type: none"> <li>• A responsive grievance form needs to design that will enhance collection of complaints and improve service delivery.</li> <li>• System should have to provide search facility that shows current status of complaints.</li> <li>• Every grievance application will assign an auto-generated tracking ID that enhance the follow-up process.</li> <li>• Ability to provide feedback against the complaint through mobile apps by DSS Centre or administrative users.</li> </ul>



<b>Reporting</b>	
172	The mobile apps should have the facility to generate very concise and basic report based on user requirements.
173	System should have the facility to pull data from MIS and shows the lists of approval or successful application, grievance, payment related report.

### **Training Management:**

<b>No</b>	<b>Description</b>
174	System should have the ability to design user training courses with contents- <ul style="list-style-type: none"> <li>• Course Name</li> <li>• Course Type</li> <li>• Course Content</li> <li>• Upload</li> </ul>
175	Functionality to register user's information as training participants with courses through system mapping.
176	System should have functionality to integrate with training MIS system for synchronizing the content and participants with production server.
177	Functionality to create questionaries with expected pass marks for participants that enhance training quality and system user knowledge.
178	Ability to generate certificate based on training exam and ensure the download/print version of it.

### **Technical requirements**

#### **Data Security, Access and Authentication**

<b>No</b>	<b>Requirements</b>
179	The security of system shall build in a combination of Login Identification and passwords. The security shall be provided at the Operating System Level (Level 1), Application Login Level (Level 2) and at the Menu/Program Execution Level (Level 3), and are user definable;



No	Requirements
180	System should implement user login, pin-based authentication on comprehensive analysis of requirements;
181	System should secure and proof of incorporation on industry standard proven data encryption techniques and methodologies.
182	Implementation of Secure Socket Layer (SSL) is a must for web MIS system. The Consultant is expected to procure SSL certificates on behalf of Purchaser and implement into system;
183	System shall provide access control on user roles and privilege levels to access system functions and data. Concepts of Triple-A: Authentication, Authorization and Access Control should be implemented to stay in line with latest security techniques;
184	System shall support to define virtually unlimited number of user types from different sets of access levels;
185	System shall block user account for a parameter-driven length of time after defining the number of invalid login attempts;
186	In case of multiple unauthorized attempts for administrator access, it should report immediately to administrative staffs of MIS through Email, pop up notification or SMS;
187	In case there are 3 failed login attempts for a specific admin user, IP should block from further access and issue password reset request to administrator.
188	The system shall provide capability to change user passwords;
189	The system shall provide a facility to force users to change their password after a parameter-driven time period;
190	The system shall provide definable password enforcement rules, including but not limited to: <ul style="list-style-type: none"> <li>• Password length</li> <li>• Required Alpha character</li> <li>• Not same as previously used password</li> </ul>



No	Requirements
191	Strength of the passwords provided by users can be measured and suggested as Weak, Medium and Strong;
192	System should encrypt the password before storing through encryption algorithm or stronger process;
193	System should have functionality for system administrator to force terminate selected user connections without adversely impacting on system;
194	System access control function shall provide a facility for administrator to suspend any user access rights for a specified period of time indefinitely;
195	System should provide facility to lock user session automatically after a definable period of inactivity;
196	The system shall provide a log of changes to user access rights.
197	SSL encryption on HTTPS protocol, which is implemented for systems public-key encryption method use as part of SSL encryption;
198	Implement two factor authentication;
199	Some fields are required (Mandatory) because certain information must be captured into database. If these fields are not all filled in, system must reject the form with relevant message.

## System Audits

No	Requirements
200	<p>System should maintain an audit trail of any change or updates made that will consider as vital and it should maintain audit log with information such as</p> <ul style="list-style-type: none"> <li>- Log the users who are accessing the system;</li> <li>- Log the parts of the application that are being accessed;</li> <li>- Log the fields that are being modified;</li> <li>- Log the results of these modifications;</li> <li>- Log attempted breaches of access;</li> </ul>



	<ul style="list-style-type: none"> <li>- Log attempted breaches of modification rights;</li> <li>- Log the users MAC and IP Address</li> <li>- Timestamp.</li> </ul>
201	Ensure an audit trail is kept for all transactions on data archiving warehouse method that kept all system audit data into database.
202	System should have to archive all audit logs and define it by types.
203	Ability to generate system audit reports.

### **Data Exchange Protocol and Data Exchange Mechanism/System Integration**

<b>No</b>	<b>Requirements</b>
204	Data exchange within the system at different levels via the internet shall be encrypted;
205	System should have functionality to exchange data with third-party databases; external institutions including with NID, NHD and DIS database in secure environment.
206	System should have the functionality to export/import files on standard template define through web services and/or API;
207	System should be able to maintain log of such data import and perform by authorized users. The log should maintain such as <ul style="list-style-type: none"> <li>▪ Name of the file exported/imported;</li> <li>▪ Login ID;</li> <li>▪ Timestamp;</li> </ul>

### **API Manager**

<b>No</b>	<b>Requirements</b>
208	System should customize API Manager to manage all sort of communication with other integrated systems/e-services
209	API Manager will communicate with e-Services for data sharing that ensure security and authentication of transactions.



210	Ability to build and publish APIs/Services for a selected set of gateways in multi-gateway environment
211	System should support/enforce government policies for actions like API/Service subscriptions, application creation, etc., via customizable workflows
212	Manage API/Service visibility and restrict access to specific agencies
213	System should facilitate to integrate configuration settings of third-party API's.
214	Functionality to provide push/pull services on datasets through API.
215	Ability to verify and check all datasets collected from API and generate report.
216	Ability to integrate with BI tools for reporting and analysis.

## Security & Privacy

No	Requirements
217	<p>System should provide functionality to implement security algorithm to define policy parameters. For instance, MIS platform should be able to strengthen the security on the following instances:</p> <ul style="list-style-type: none"> <li>• User roles - Accessibility, Authorization and Accountability</li> <li>• Data Management</li> <li>• Code level securities on development &amp; implementation</li> <li>• Hosting</li> <li>• Client and service side application</li> <li>• Training and Production system.</li> </ul>
218	<p>System should have Role based access, encryption of user credentials. System application security should be provided through standard practice algorithm including the following:</p> <ul style="list-style-type: none"> <li>• Prevent SQL Injection Vulnerabilities for attack on database</li> <li>• Prevent XSS Vulnerabilities to extract user name password (Escape All Untrusted Data in HTML Contexts and Use Positive Input Validation)</li> <li>• Secure Authentication and Session Management control functionality shall be provided through a Centralize Authentication and Session Management</li> </ul>



	<p>Controls and Protect Session IDs from XSS</p> <ul style="list-style-type: none"> <li>Prevent Security Misconfiguration Vulnerabilities (Automated scanners shall be used for detecting missing patches, misconfigurations, use of default accounts, unnecessary services, etc. maintain Audits for updates)</li> <li>Prevent Insecure Cryptographic Storage Vulnerabilities (by encrypt off-site backups, ensure proper key storage and management to protect keys and passwords, using a strong algorithm)</li> <li>Prevent Failure to Restrict URL Access Vulnerabilities (By providing authentication and authorization for each sensitive page, use role-based authentication and authorization and make authentication and authorization policies configurable)</li> <li>Prevent Insufficient Transport Layer Protection Vulnerabilities (enable SSL for all sensitive pages, set the secure flag on all sensitive cookies and secure backend connections)</li> <li>Prevent Id Redirects and Forwards Vulnerabilities</li> </ul>
219	Establish processes for viewing logs and alerts which are critical to identify and track threats and compromises to environment. Granularity and level of logging must be configured to meet security requirements.
220	System needs to deploy technology that enhance active monitoring and managing perimeters on internal information security.
221	Ability to defense against malicious resource consumption, denial of service, node capturing and node injection.
222	System should facilitate to perform periodic scanning of network to identify system vulnerabilities.
223	System should protect/integrate Project information against unauthorized access, denial of service, and both intentional and accidental modification. Data security, audit controls and integrity must ensure across data life cycle management from creation, accessed, viewed, updated and when deleted (or inactivated).



## Email Notification

No.	Requirements
224	System should have functionality to trigger email notification as defined in business rules on parameter. For instance, MIS platform should be able to send automatic email notification to user when following instances will occur (for example): (i) User is created and approved; (ii) Password is changed; (iii) Payment is triggered;
225	The content of such email shall be user configurable as per business need.

## Query and Advanced Search

No.	Requirements
226	System shall provide simple and advanced query search facilities to all users. User and groups must provide information on scopes that only allow to query and show search results.
227	Data generated because of selection of such query criteria should be exported to MS-Excel; download and /or print in PDF format.

## Sizing, Performance, load testing and Scalability Requirements

No	Requirements
228	System should be able to handle online transactions with followings: <ul style="list-style-type: none"><li>• At least 10% simultaneous transactions of total beneficiary number;</li><li>• Maintains at least 575 DSS Center with 10,000 individual users</li></ul>
229	System should process scalable volumes of estimated data for a period of 20 years on 10-12% annual growth rate.
230	Consultant should conduct a load testing to take above factors into consideration and submit those load testing result.
231	Database architecture should focus on such system that will be available to users at 24 X 7 X 365 days without any down-time



232	Page load time, login response-time, ‘on-click’ load time for the Portal should be less than 3 seconds.
233	Average transaction response time, ‘On-submit’ response-time, any other database access/ search time should be less than 5 seconds.
234	With consideration of network infrastructure challenges in Bangladesh; provide solution and support it in narrow bandwidth conditions.
235	In case of mobile application, this should support very narrow bandwidth even in 2G, 3G and 4G network.
236	System should design to handle utmost 10,000 simultaneous connections (system users) at a time to roll out.
237	System should have to maintain standard testing compatibility assessment of Bangladesh Computer Council (BCC).

### **Hardware Requirements**

The Consultant is expected to conduct a hardware and networking need assessment to develop a comprehensive technical specification that bills of quantity of all required hardware and IT equipment’s including networking arrangement for deploying system in accordance with business objective of the project. Therefore, the high-level requirements on this component shall be as follows:

<b>No</b>	<b>Requirement</b>
238	<p>Consultant shall conduct a hardware and networking need assessment during system requirement study phase of the project and deliverable with following</p> <ul style="list-style-type: none"> <li>- Hardware and Networking need assessment report;</li> <li>- Proposed hardware architecture with back-up provisioning;</li> <li>- List of hardware to be procured and their full specifications based on the proposed hardware architecture;</li> <li>- Bills of Quantity based on the requirements;</li> <li>- Any licenses required based on the proposed hardware architecture</li> </ul> <p>Note: Based on approved hardware specifications and Bills of Quantity, DSS will</p>



	procure equipment's under a separate package
239	Consultant is expected to collaborate and work closely with hardware vendor to ensure a proper hardware implementation and system deployment.
240	Consultant shall certify that all hardware procured in compliance with developed specifications and submit a full hardware review report.

## SMS Integration

No	Requirements
241	System should have a functionality to broadcast and manage an SMS service to the eligible beneficiaries based on the program business rules and criteria (SMS management module).
242	The SMS module should be designed, developed and integrated with MIS for seamless data exchange for SMS broadcasting.
243	Consultant shall identify all the hardware and IT equipment necessary (such as SMS gateway) for implementing this solution. Such hardware and IT equipment shall be identified, proposed in the Hardware need assessment.
244	Consultant is expected to design, develop a complete solution for SMS broadcasting as a part of this scope. DSS will bear only the recurring cost of SMS (if any).

## Data Backup and Recovery Requirements

No	Requirements
245	The backup and restoration plan should be developed and implemented;
246	Consultant shall be responsible for monitoring data backups in accordance with backup plan developed during warranty period;
247	System needs to implement required backup solution for real time/scheduled/automatic backups which should be monitored and reported;



248	Must implement data recovery mechanism in case of database failover;
249	System should synchronize between multiple production (DC) and recovery (DR) sites. That synchronization should be on real-time and manage service log through integration.

### **Electronic Document Management and tracking**

<b>No</b>	<b>Requirements</b>
250	System should have a functionality to upload scanned images and maintain history for future retrieval. For instance, user should be able to upload scanned copy of supporting document;
251	Such documents/images to be uploaded into definable document category, for instance, scanned photograph, financial statement, application form etc.;
252	System shall allow user to enter specific supporting details like attaching documents at all levels.
253	Scanned images could be in the form of PDF, word, Excel, JPG files; [File format should be defined by administrator]
254	The maximum file size should be user definable and validate in order to restrict large file sizes upload.

### **System Monitoring**

<b>No</b>	<b>Requirements</b>
255	System should have to integrate and show real-time tracker of incidents for servers and networks.
256	Ability to showcase update status of system on dashboards. Provide system generated reports on device status.
257	System shall allow the users view the reports like: Rainmetes.



258	System should have facility to integrate any third-party system monitoring tools that can allow users to share necessary updates.
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### System Ownership and Source Code requirements

No	Requirements
259	DSS will be the owner of this MIS Platform without any preconditions or whatever;
260	Consultant shall handover all the source code and technical documentation of system without any preconditions.
261	For any proprietary or third-party software used, Consultant shall provide perpetual and valid license for at least period of 5 (five) years.
262	Consultant should have to provide all the uses tools and technologies with license and there will be no conditional clause allowed in that case.

### Exception Handling

No	Requirements
263	<p>System should throw appropriate alert or error messages when exceptions are discovered which impacts the data integrity. For instance, the appropriate validations should error/exception if: -</p> <ul style="list-style-type: none"> <li>- Blank value/data is passed where mandatory;</li> <li>- Invalid date format is entered and/or does not fall between the acceptable data range;</li> <li>- Invalid Unique Identifier;</li> <li>- Invalid code is entered;</li> <li>- Duplicate entries detected</li> </ul>

## 5. SYSTEM DEVELOPMENT TOOLS

No	Requirement
1	The solution must support industry standard enterprise RDBMS systems.



2	<p><b>For centralized MIS System:</b></p> <ul style="list-style-type: none"> <li>• Use open-source language Java (Preferable Spring Framework) as back-end or server-side scripting.</li> <li>• System architecture should follow micro service design approaches.</li> <li>• Secure interaction with Core-service and shared service using dynamic token</li> <li>• Messaging protocol support e.g. AMQP 1.0, STOMP, MQTT, HTTP</li> <li>• OAuth2 token revocation support</li> <li>• OAuth token introspection</li> <li>• Open ID connect based session management, discover and dynamic client registration</li> <li>• Federated SSO via SAML2 or Open ID with external identity providers</li> <li>• White label login and registration process</li> <li>• Role-based authorization support for SSO</li> <li>• Support for multi-option/multi-step authentication <ul style="list-style-type: none"> <li>○ X.509 Authentication</li> <li>○ 2-factor authentication (2-FA) (hardware based or soft OTP)</li> <li>○ Time-based one-time password (TOTP) based authentication</li> </ul> </li> <li>• Enterprise Linux or Unix to host the application</li> <li>• Bootstrap, Foundation, AngularJS, React, VueJS for UX</li> <li>• Industry standard database as RDBMS</li> <li>• REST API for eService bus (Enterprise Service Bus)</li> <li>• Radis, Mem cache, CDN or Varnish for caching and faster data delivery</li> <li>• Must ensure load balancing for scalability and failover for high availability of service endpoints</li> <li>• Code Version Controlling using GIT or Bit bucket in private mode</li> <li>• Use Jira or Asana for issue tracking and feature change management</li> <li>• Jenkins's deployment</li> </ul>
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## 6. KEY DELIVERABLES

The Consultant shall provide all documentation in both hard and soft copies in English language. The key deliverable shall, at minimum, include the following:

No.	Requirement
1.	<b>Project Inception Report</b> – Provides, at a minimum, Consultant’s overall plan for completing the project, describes the manner in which the Consultant’s team will work with DSS TEAM; provides a timeline for project execution including dates, resources, and dependencies; provides a plan for communications/issue resolution with the DSS TEAM, and agreed technical requirements.
2.	<b>Gap Analysis, Functional and System Requirement Study Document (SRSD)</b> – Provides a detailed review of the existing MIS platform and description of business processes and functionalities of the proposed MIS in line with the business process needs outlined the TOR. The document should also include process/data flow diagram of the proposed system.
3.	<b>System Design Document (SDD)</b> – Provides a detailed description of the underlying system architecture of the proposed systems including table structure, data dictionary, Entity Relationship Diagram (ERD), object model etc.
4.	<b>Hardware, IT Equipment and Logistics</b> – Need assessment report containing the proposed hardware architecture and its description, detailed technical specifications, bills of quantity of hardware to be procured.
5.	<b>Prototype Demonstration</b> - Provides a Graphical User Interface (GUI) based user templates with basic validation included to determine the functionality compliance and navigation flow of the system.
6.	<b>Handover MIS Software with complete Source Code and ownership</b> —provides a complete source code and file of the application software and any other related bespoke application software and third-party software such as BI tool, RDBMS etc.
7.	<b>Operational Acceptance Test Plan</b> – Provides a narrative of the approach that will be used to obtain user acceptance of the developed systems as well as test scripts that will be used to verify application operation.



8.	<b>Technical Documentation</b> – Provides a description of the system architecture, module integration points, work flow engine, data dictionary, user manual etc. and any other technical material the technical team will need to understand and support the System in a longer run.
9.	<b>Training Materials</b> – Copies (and electronic) of handouts, manuals, Power Point slides and any other materials used prior to conducting training to staffs at various levels.
10.	<b>Monthly Status Reporting</b> – Copies (and electronic) of all status reports provided by the Consultant during the execution. Each status report should include, at a minimum, the current period's activity, current issues and planned activity for the next period.
11.	All the documentation deliverables must comply the following <ul style="list-style-type: none"> <li>- 2 copies in English Language in hard copy</li> <li>- Electronic submission</li> </ul>

### **Resource Requirements and Team Composition**

It is the responsibility of the Consultant to maintain, manage and allocate all its team resources as deemed necessary to achieve overall objective of the project. This project is a delivery-based assignment in which payments are linked to milestone. Following underlines, minimum expected skill sets of technical resources that the consultant is expected to deploy during the project period. While the consultant is expected to propose its own team resources and skill sets to execute the project as deemed necessary, Consultant must deploy at least following resources on-site during whole project period that DSS requires closer interaction with stakeholders to avoid any ambiguity in understanding.

	<b>Key Activities</b>	<b>Consultant's participation</b>	<b>Full-time</b>	<b>on-site</b>
1.	Gap Analysis, Functional and System Requirement Study; SRS documentation review and discussion	Team Leader, System Analyst, Business Process Specialist		
2.	System Design phase; System Design documentation review and discussion			
3.	MIS prototype demonstration (during system development)			



	<b>Key Activities</b>	<b>Consultant's participation</b>	<b>Full-time</b>	<b>on-site</b>
4.	System Development & Integration	Team Leader, System Analyst, System Development		
5.	MIS user training and Implementation Support team	Team Leader, Training & Implementation Support team		
6.	User testing/ data migration/Operational acceptance testing/Go LIVE	Team Leader, System Analyst, Business Process Specialist		
7.	System warranty and maintenance support services	Training and Implementation Support Team		

Considering the project size, nature and its complexities, the table below set outs minimum number of technical resource utilization firm is expected to deploy during the life span of the project.

Table 1: Resource requirements deploy on site for the design, development and implementation of MIS including implementation support services period.

#	<b>Key Experts</b>	<b>Number of Staff</b>	<b>Person Month</b>
1.	Team Leader/Project Manager	01	18
2.	Business Process Specialist	01	06
3.	System Analyst	01	12
4.	System Developers	09	12
5.	UI/UX Specialist	01	12
6.	SQA Specialist	01	06
7.	Database Specialist	01	06



#	Key Experts	Number of Staff	Person Month
8.	System Security Specialist	01	06
9.	Hardware/Network Specialist	01	06
<b>Non-Key expert</b>			
10.	Technical Documentation Specialist	01	06
11.	Training Team	04	03
12.	Implementation Support team	02	18

Project considers the following resources are the key experts. CVs of the following position must be provided since it will be one of the criteria for proposal evaluation. It is to be noted that Consultant is not allowed to alter key position without prior consent of DSS. In case of any alteration has to be done due to avoid circumstances, Consultant must propose equivalent or better candidate for purchaser review and approval.

### **Key expert Positions qualification Requirements**

#### **Team Leader (01)**

- 10 (ten) years of demonstrated experience working in previous projects of similar size and nature;
- Minimum academic requirement is Masters in Computer Science and Engineering preferably having a degree from a reputed university;
- At least five of these years should consist of working as the Project Manager/Team Leader;
- Demonstrated knowledge and experience in the area of social services such as pensions, cash transfer programmers, human resources, livelihoods, health, education or similar public programs;
- Strong experience of working with Government organizations and structures;
- Demonstrated work experience in developing countries conducting related work in the region.



### **Business Process Specialist (01)**

- Eight years of demonstrated knowledge and experience in the area of social services such as pensions, cash transfer programs, human resources, livelihoods, health, education or similar public programs;
- Strong experience in conducting business process reviews, functional gaps and overlaps in the programs, particularly in the social cash transfer programs;
- International work experience in developing countries conducting similar work is an advantage;
- Sound knowledge of MISs or other relevant information systems.

### **System Analyst (01)**

- eight (8) years of demonstrated experience working in previous projects of similar size and nature;
- At least two project experiences working as the System Analyst for the design and implementation of IT system of similar size and nature;
- Excellent knowledge and experience of conducting system requirement study/gap analysis, developing data/process flow diagrams to effectively map the business requirements into MIS; preferably in the relevant areas such as financial management information system, core banking solutions, pension system or similar public programs;
- Excellent knowledge and experience in system design and development methodologies (software development life cycle);
- Strong experience of working with Government organizations and structures;
- Demonstrated work experience in developing countries conducting related work.

### **System Developer (09)**

- Minimum academic requirement is graduation in Computer Science and Engineering/ICT preferably having a degree from a reputed university;
- 6 years of experience in system development;
- Develop, record and maintain cutting edge application software development of same service platforms;
- Must be familiar to build innovative, state-of-the-art applications and collaborate with the User Experience (UX) team;



- Capability to maintain all applications utilizing standard development tools;
- Familiar with backend data services and contribute to increase existing data services API;
- Capable to lead the entire web application development life cycle right from concept stage to delivery and post launch support;
- Convey effectively with all task progress, evaluations, suggestions, schedules along with technical and process issues;
- Coordinate with co-developers and keeps project manager well informed of the status of development effort and serves as liaison between development staff and project manager.

### **UI/UX Specialist (01)**

- Minimum academic requirement is graduation in Computer Science and Engineering/ICT/Fine Arts preferably having a degree from a reputed university;
- 3 years of experience on Web and Mobile application UI design;
- Expertise to create high-quality UX and UI deliverables to communicate the intended user experience such as screen flow diagrams, prototypes, mockups, icons, and UI specification;
- Expertise on communicate complex, interactive design concepts clearly and persuasively across different audiences and varying levels of the organization;
- Experience with libraries like React/Flux, Backbone, or Angular for structuring UI implementations;

### **Software Quality Assurance (SQA) Specialist (01)**

- Minimum academic requirement is graduation in Computer Science and Engineering/ICT preferably having a degree from a reputed university;
- 3 years of experience on API Testing, QA Testing, Software Testing, Unit Testing, Web Testing;
- Experience with Test Planning for the entire project (Web and Mobile Interface as well as Server-side testing) after analyzing functional specifications;
- Experience with manual and automated testing processes and tools;
- Experience with Load and Performance testing and documenting the Test Outcome.



### **Database Specialist (01)**

- Bachelor of Science (BSc) in IT, ICT, CS, EEE or Engineering related field, Master of Science (MSc) in IT/ICT/CS/EEE/Engineering related field;
- 6 years of experience in installing, configuring and troubleshooting SQL Database systems on RDBMS such as Oracle, MS SQL Server, PostGreSql, MySQL, etc;
- Knowledge of Windows Server and Linux environments;
- Practical experience of managing data migration;
- Professional Database Administration certification will be an advantage.

### **System Security Specialist (01)**

- Bachelor of Science (BSc) in IT, ICT, CS, EEE or Engineering related field;
- 5 (five) years of demonstrated experience in Information Security;
- 3 (three) years' experiences in Software Security and Testing;
- Certification in CISSP/CISA/CISM will be preferred;
- Demonstrated skills on software security testing methods and techniques (Black box Testing with DAST, Negative testing, Functional & Non-Functional Testing).

### **Hardware/Networking Specialist (01)**

- 10 years of demonstrated experience in conducting hardware needs assessment, analyzing and developing an optimum hardware architecture for the implementation of the IT system;
- Experience in developing a hardware technical specification, bills of quantity;
- Experience in installing, configuring and tuning hardware and networking equipment such as servers, routers, switches as required for MIS implementation;
- Ability to configure supplied equipment in a most secure environment taking into consideration of local environment;
- Certified hardware and/or network engineer is an advantage.



## **Non-Key Positions qualification requirements**

While the Consultant is not mandated to submit CVs of the following positions, it must comply the following qualification requirements for these positions when fulfilled. The purchase will have full rights to accept or reject the proposed candidate at any given time if their performance or qualifications requirements are found to be unsatisfactory.

### **Technical Documentation Specialist (01)**

- Bachelor's degree in Business Administration, Business Communications, Computer Science, or related field
- Three (3) years of experience.
- Demonstrated experience in technical writing, document design, and documentation user experience methods.
- Experience with Microsoft 365 Office apps, Adobe Acrobat Pro and process mapping tools like Visio.
- Familiarity with version control features of project collaboration tools such as SharePoint, GitHub, Jira, and Confluence.
- Strong written and verbal communication and interpersonal skills.
- Knowledge of major style guides, such as AP Stylebook.
- Working knowledge of information technology (IT) systems and software development life cycle (SDLC) documentation requirements.
- Technical skills in a programming language, such as XHTML, PHP, SQL, markdown, YAML a plus

### **Training Specialist (04)**

- three years of demonstrated knowledge and experience in system design and development life cycle (software development life cycle);
- Strong knowledge and experience in software programming tools such as Dot Net, Java, PHP or equivalent;
- Strong knowledge and experience in RDBMS systems such as MySQL/MS SQL/Oracle or equivalent.



## **Implementation Support team (02)**

- Ability to conduct hands-on training of customized application software, preferably the MIS system of this project size and nature;
- Ability to impart user level training in groups or in individuals;
- Hands-on knowledge of proposed MIS System or in similar systems;
- Excellent command in English language communication skills.

## **System Handover**

At the end of the warranty period, the Consultant will be responsible for transferring system operation to DSS. In preparation, the Consultant must thoroughly provide training to the key user staff before the system transfer. Full system documentation must be provided as per the requirements of *Key Deliverable Section*. These documents must be current at the time of the handoff and cover the final version of the system implemented. All project documents, such as technical memoranda, change requests and status reports, must also be delivered to the DSS TEAM. To ensure a smooth transition, the Consultant will agree a handoff checklist with the DSS TEAM that will verify that all required tasks are completed before the system handover is accepted.

## **7. IMPLEMENTATION SCHEDULE**

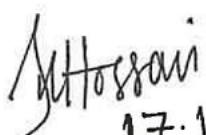
The following outline of Implementation schedule for consultant to get a sense of key tasks and activities with proposed timeline. Consultant may propose their own tasks and lists of activities in the best possible manner, however must meet the following timeline.

### **Schedule Deliverables:**

<b>SL</b>	<b>Deliverable Task</b>	<b>Duration</b>
1	<b>Inception, SRS &amp; SDD Report:</b> ➤ Project Mobilization/Inception, System Requirement Study including hardware/networking needs assessment, System Requirement Document Submission, Review and Approval, System Design, SDD Document submission, Review and Approval.	3 Months



SL	Deliverable Task	Duration
2	<b>Develop 01 (one) modules:</b> ➤ System Configuration Module	2 Months
3	<b>Develop 02 (Two) modules:</b> ➤ Application and Selection ➤ Beneficiary Management	2 Months
4	<b>Develop 02 (Two) modules:</b> ➤ Payroll Management ➤ Grievance Management	3 Months
5	<b>Develop 05 (Five) modules:</b> ➤ M&E and Reporting ➤ Reporting and Business Intelligence Tool ➤ Mobile App ➤ Training Management ➤ API Manager	2 Months
6	<b>Develop 01 (One) modules:</b> ➤ System installation, configuration ➤ Data Migration	3 Months
7	➤ System Training and testing ➤ handover key deliverables ➤ Issuance of Operational Acceptance Certificate ➤ Go LIVE	3 Months
8	System Maintenance	6 Months

  
17.11.2021  
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