

# **Social Development Foundation (SDF)**

## **Terms of Reference (ToR)**

### **Hiring of consulting firm for**

### **Modification, Upgradation and Addition of Loan Management System (LMS) under**

### **Package # .....**

#### **1.0 Organization:**

Social Development Foundation (SDF), having its head office located at 22/22 Khilji Road Mohammadpur, Dhaka-1207, was established by the Government of Bangladesh (GoB) in 2001 as an autonomous not-for-profit organization to predominantly creating further social and infrastructural facilities for the poorest, strengthening the community level organizations and mostly contributing to government's poverty alleviation strategies through working as a notable partner. SDF reinforces multidimensional programs that impact all aspects of the lives of the disadvantaged people, focusing on sustainable village institutions, building capacity and empowerment of women. With the vision to eradicate poverty, SDF has been predominantly assisting the Government of Bangladesh through implementing several flagship projects with the financial assistance of the Government of Bangladesh and The World Bank Group.

#### **2.0 Background:**

Social Development Foundation (SDF) has been dedicatedly working and directly implementing all the poverty alleviating projects assigned by the Government of Bangladesh to predominantly assist in its poverty alleviating initiatives since its institution in 2001 and facilitating the rural poor following the Community-Driven Development (CDD) approach and a balanced development strategy. Since its inception, SDF has been making every effort with need based approaches and professionalism to expand the capabilities of the extreme poor and poor to enhance their economic ability, to live healthy lives, facilitate them to nurture their talents and interests, and above all to afford them an opportunity to live in dignity and with self-respect exercising their rights properly in the society. The holistic approach adopted by SDF enables the poor, particularly women, to build, secure and use social assets to improve their well-being, reduce vulnerabilities, take advantage of new opportunities, exercise their rights and play a more active role in the society.

In a bid to boost up poverty eradicating efforts, meanwhile, SDF has successfully implemented several pro-poor projects including Social Investment Program Project (SIPP-I), Monga Mitigation Initiative Pilot Program, Livelihood Restoration Strategy in Cyclone SIDR Affected Areas, Emergency Flood (2007) Restoration, and Recovery Program, Empowerment and Livelihood Improvement 'Nuton Jibon' Project (SIPP-II) with the financial assistance from Ministry of Finance and the World Bank which significantly contributed in attaining Millennium Development Goals (MDGs) targets and putting Bangladesh in a position of global role model. Latterly, considering to achieve the core targets of Sustainable Development Goals (SDGs) on-time, SDF revamped its strategic objectives and

recently completed 'Nuton Jibon Livelihood Implementation Project (NJLIP)' from 2015 with a budget size of US\$ 220 million covering 12 poorest districts. NJLIP project was successfully completed in June 2021 despite the COVID-19 pandemic.

### **3.0 The RELI Project:**

The recent Corona Virus (COVID-19) crisis started from 1<sup>st</sup> quarter of 2020 in Bangladesh threatened to reverse the progress made by the country particularly, on rural poverty reduction and further undermined women's economic opportunities and outcomes. In the wake of the adverse effect of the pandemic on country's economy and livelihood, SDF, with the support from Ministry of Finance and The World Bank initiated to launch the Resilience, Entrepreneurship, and Livelihood Improvement (RELI) project from 5<sup>th</sup> October 2021, covering 20 poorest districts to predominantly address the emergency economic initiatives of the GoB to fight the COVID-19 crisis and climate-induced events. Building on the successful experience of implementing rural poverty alleviation predecessor projects, for instance, SIPP-I, SIPP-II, and NJLIP, The RELI Project focuses on the livelihood support for the vulnerable and support for their recovery and resilience building, employment generation, entrepreneurship development, and post-crisis economic recovery preparation in the intervening areas. Whilst RELI's approach for livelihood improvement support to the rural poor and extreme poor is essentially similar to that of NJLIP, most project activities have been adjusted to provide a timely and effective response to the disruptions created by the COVID-19 pandemic, to support post-crisis economic recovery, and to ensure greater resilience of beneficiaries. The RELI project is for five years where the World Bank will provide USD 300 million as Credit through the Ministry of Finance, GoB will chip in USD 40 million and beneficiary contribution will be USD 1 million making the total project cost USD 340 million.

#### **Purpose of RELI Project**

The project will provide immediate livelihood support for rural communities, primarily women, whilst contributing to building back better in a resilient way. The project adopts the approach of NJLIP, which documented great success in reaching the poor and poorest, and will tailor livelihood opportunities to respond to the following urgent needs: (a) respond to the impact of the COVID-19 pandemic and climate-induced events such as cyclone Amphan on the livelihood of vulnerable rural households and support recovery and resilience building, (b) help rural households graduate out of poverty through IGAs, as well as skills development and employment support, (c) support NJLIP's current beneficiaries who have fallen back into poverty because of recent crises, and (d) support rural entrepreneurship for sustained post-COVID-19 economic recovery.

#### **Project Beneficiaries and Coverage**

Target project beneficiaries are the poor and extreme poor in the poorest districts (zillas) and sub-units of districts (upazilas) of Bangladesh. The RELI project is aimed to have 744,600 direct beneficiaries (489,600 RELI Project beneficiaries and 255,000 COVID-19 affected NJLIP beneficiaries), of which 90 percent will be women. The project will be implemented in 3,200 villages

in 20 districts throughout the country. Out of the 20 districts covered by the RELI project, 12 districts have received prior support from SIPP-II or NJLIP: Barishal, Chandpur, Dinajpur, Khulna, Kurigram, Mymensingh, Naogaon, Nilphamari, Patuakhali, Pirojpur, Rangpur, and Sherpur. The 8 new districts are Chapainawabganj, Chattogram, Jhenaidah, Kishoreganj, Lakshmipur, Lalmonirhat, Magura, and Netrokona. The twenty (20) districts of RELI Project will be covered under 5 regions such as Jashore, Rangpur, Mymensingh Cumilla and Barishal. A total of 3,200 villages under 68 upazilas are targeted for intervention. In addition, twenty-five (25) villages will be organized under each cluster segmenting 3,200 villages under 128 clusters for intervention. Succinctly, the coverage is as follows:

- 1. Jashore region** (Altogether 5 districts, 15 upazilas, 800 villages & 32 clusters)
  - Magura, Khulna, Jhenaidah, Chapainawabganj and Naogaon districts
- 2. Rangpur region** (Altogether 5 districts, 18 upazilas, 625 villages & 25 clusters)
  - Dinajpur, Kurigram, Rangpur, Nilphamari and Lalmonirhat districts
- 3. Mymensingh region** (Altogether 4 districts, 15 upazilas, 725 villages & 29 clusters)
  - Mymensingh, Kishoreganj, Netrokona and Sherpur districts
- 4. Cumilla region** (Altogether 3 districts, 9 upazilas, 500 villages & 20 clusters)
  - Chattogram, Chandpur, and Lakshmipur districts
- 5. Barishal region** (Altogether 3 districts, 11 upazilas, 550 villages & 22 clusters)
  - Barishal, Patuakhali, and Pirojpur districts

#### **4.0 Background of LMS:**

SDF developed user-friendly and interactive web-based Loan Management (Microfinance) System to automate and monitor the community finance activities (loan management) of project villages through a reputed software company in the country. This system is a robust system, in terms of handling a very large number of users (about 3000) and a huge volume of data and transactions. This system has suitable flexible interactive user-friendly tools to allow collation of inputs from various village institutions (i.e. Gram Somiti (GS) and Village Credit Organization (VCO)), produced standard reports; term-based and drill-down reports, and disseminating information to policymakers and stakeholders in a systematic way. Note that less educated and less technical knowledge Community Resource Persons (CRP) enter data into this software.

The following tools/technologies are using to develop this Software:

- Server OS: Ubuntu 16.04
- Database Name: MySQL Server 5.7
- Framework: CodeIgniter CI\_VERSION 3.1.5
- Theme: Google Materialize
- Language: HTML5, CSS3, JavaScript ES6, PHP 7.2, MySQL 8

- Report Tools: Datatables 2, TCPDF 6.2.22, mPDF 8.0
- Web Server: Apache HTTP Server

## 5.0 Objectives of the assignment

The main purpose of the assignment is to upgrade/modify/add our ongoing **web-based Loan Management (Microfinance) System** in a timely manner. With this software, 3200 villages of our current Resilience, Entrepreneurship and Livelihood Improvement (RELI) project and 2500 villages of the previous NJLIP, a total of 5700 villages will be to automate and monitor the community finance activities (Loan Management). This system will be a robust system in terms of handling very large number of user (about 7000), to handle around 12.0 Lac loan account and huge volume of data and transactions. This system should provide suitable flexible interactive user-friendly tools to allow collation of inputs from various village institutions (i.e. Gram Somiti (GS) and Village Credit Organization (VCO)), produce standard reports; term based and drill down reports, and disseminate information to policymakers and stakeholders in a systematic way. The detailed scopes of the work are specified in Scope of Work Section.

### A. Scope of Work

#### 1. Present Operational Process of Community Finance Activities

Before going into the user specification of Loan Management System (LMS), it is important to know the business process of existing community finance activities.

##### 1.1 Loan Process Management

**Receive Fund** – Operating offices (Village Credit Organization (VCO)) receive the allocated fund from Gram Somiti (GS) Office in multiple installments through bank transfer or by Cheque (to deposit in bank account).

**Loan Application** – Operating office receives loan application from the NJG (Nuton Jibon Group) members in prescribed application along with required documents. VCO checks the eligibility of the applicant, evaluate application and prepare list of eligible candidates against approved loans. Then, VCO sets a schedule for loan distribution.

##### **Loan Distribution or Disbursement –**

- Based on the list of eligible candidates VCO withdraws required money from the bank and disburse/distribute money to the applicants in cash. But in some cases (large amount), VCO gives the loan in cheque.
- Update Loan Distribution Register and prepare individual beneficiary's pass book (Loan Account).
- Update Cash Book.

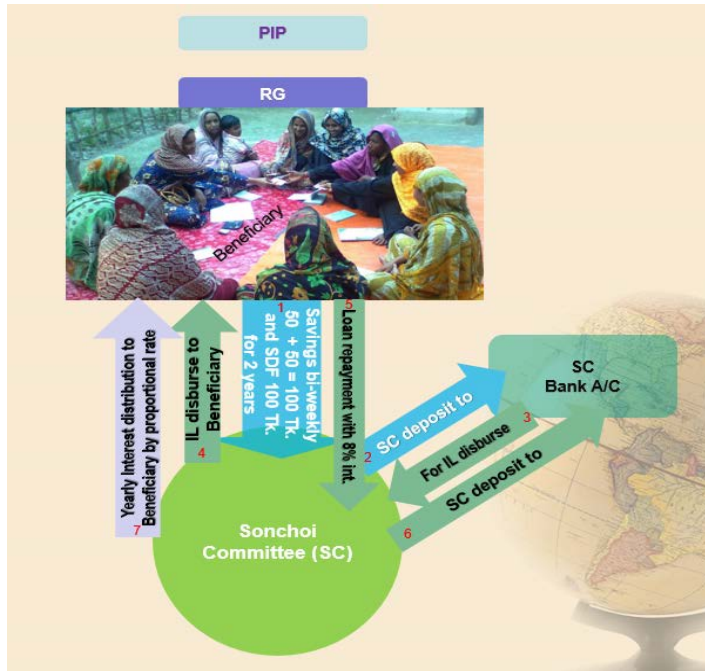
##### **Installment Collection –**

- Usually VCO fixes up the installment collection schedule for a month in the beginning of that month as per the installment interval period of the respective villages.
- Nominated members from VCOs collect installments against loan as per predefined

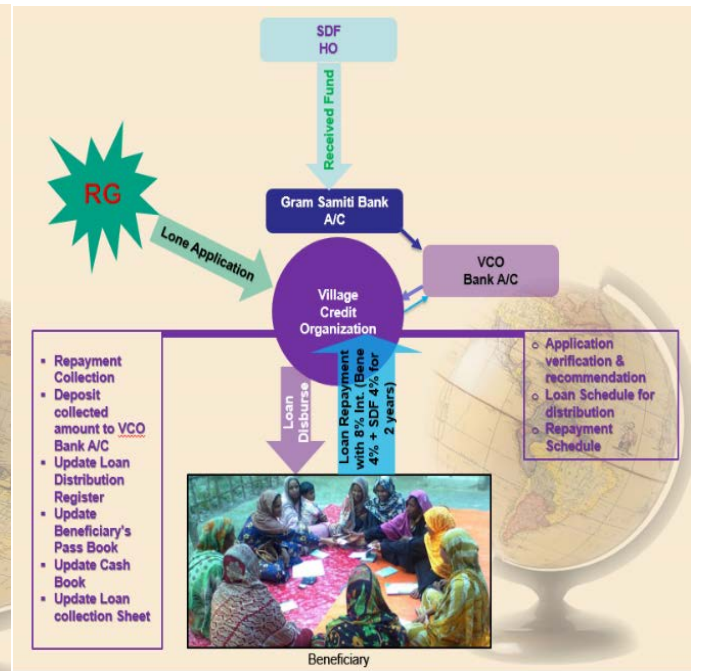
schedule.

- Update individual beneficiary’s pass book and Loan Collection Sheet.
- Deposit collected amount to the respective bank account.
- Update Cash Book.

Savings and IL flow Chart



SF disbursement flow chart



## 1.2 Monthly Reporting

VCO prepares the summary statement of monthly loan distribution and installment collection. Field Officers (Cluster Facilitator) collect that summary report from villages along with other information and put into Project Monitoring System (PMS)<sup>1</sup> at cluster/upazila offices.

## 2. Scope of Proposed Loan Management System

For all the key activities and deliverables mentioned below the consultant has to consult with the project development team, head department team, and SDF management team. As the project is in initial stage, it requires a modular approach of software development, in succession, where each module will follow a cycle of Requirement Assessment, designing and development, testing, integration, piloting and final roll out with training.

Loan Management System (LMS) will be upgraded / modified with desired flexibility, so that the system could be configured dynamically. The following section discussed about the detailed scope of proposed system.

<sup>1</sup> Project Monitoring System (PMS) is one of the crucial and important module of SDF-MIS which consists of four modules.

## Task 1: User Requirement Assessment

The consultant will

- Improve familiarity with all project activities through project documentation, field visits, and discussions with stakeholders.
- Determine detailed user requirements for the MIS based on business requirements of SDF at various levels – community, cluster, district, region, and headquarter and related different tiers of management including:
  - Determination of MIS stakeholders (all who have a role in data acquisition, processing, reporting, or use/decision making)
  - Determination of detailed project management and tracking indicators for the basic project Tracking Indicators
  - Determination of various types of reporting content, formats, and frequency
  - Determination of various types of information to be catalogued and stored in the MIS (e.g. alphanumeric data, location, reports, photographs, videos, etc.) relating to the status and effectiveness of various project activities
  - Basic information flow requirements (into, within, and out of the MIS)
  - Basic additional hardware/software/dataset requirements
- Detail design recommendations in a Systems Requirements Specification (SRS) for the proposed Loan Management system. The design should be based on close interaction with the Client and be flexible to incorporate changes in activities or future phases of the project/program.

## Task 2: Upgrade / Modification / Addition of Loan Management System (LMS)

*SDF expects the vendor work the following features, but not limited to:*

### 1. Microcredit Module

#### ❖ **System Setup**

- Loan Product Configuration
- Manage Bank (Create Bank & Branch)
- Holiday Management
- Notification Setup
- Office Setup <sup>2</sup>
- Upload initial data to start operation

#### ❖ **Loan Process Management**

- Member Inclusion and Group Formation <sup>3</sup>
- Receive Fund
- Loan Disbursement/ distribution
- Security Fund / Safety-net Fund
- Schedule Setting for Installment Collection

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<sup>2</sup> Office Setup and creating New Project Village will be done in Project Monitoring System (PMS) Module, only the integration is needed.

<sup>3</sup> Member Inclusion and Group Formation will be done in Project Monitoring System (PMS) Module, only the integration is needed.

- Installment Collection
- Reschedule Repayment
- Generate Reminder for Installment Defaulter and Loan Defaulter
- Loan Settlement

#### ❖ **Savings Management**

- General Savings Transactions
  - Deposit
  - Withdraw

## **2. Accounts Module**

- Charts of Accounts
- Bank Management
- Voucher (Payment, receive, journal, transfer)
  - Auto Voucher posting
  - Manual voucher posting

## **3. Reports**

- Standard MIS Reports on Microfinance Program
- Different Reports on Financial Statement
- Dynamic Report Designer Tool

Final Report requirements to be identified/ finalized during system study.

## **4. Dashboard**

Dashboard is to be designed in a manner to project continuous and overall picture and status of microcredit program at a glance for different level of management people. At the same time information of dashboard will ensure transparency and accountability. The system requires different dashboard for different level of management. Following are required different category of Dashboards and every dashboard should have location wise components showing i). Current usage of the system i.e. statistics of user using the system by location, and ii). Microcredit Service-wise performance.

- Dashboard for Village
- Dashboard for Cluster Offices
- Dashboard for District Offices
- Dashboard for Region Offices
- Dashboard for Head Office

Dashboard should present summary information along with relevant graphical representation in separate Tab. Probable information initially identified for dashboards are as follows. Final dashboard information is to be identified during system study.

- Total Fund Utilized
- Total Service Charge Earned
- Total Savings
- Recoverable Vs Recovered (Current & Total)
- Total Beneficiary
- Recovery Rate
- Loan Defaulted Amount, Number of Beneficiaries, Percentage
- Total Cash in Bank

## 5. Administration

### ➤ Manage User

- **Define User Role** - User role and access permission to be defined in two steps. User role to be created and access permission to be defined as below.
  - ✓ Menu Level Permission
  - ✓ Action Level Permission for each menu
    - Add
    - Edit
    - View
    - Delete
  - ✓ Permission for Report Retrieval – Permission for all reports is to be assigned against every user role. In case of drilldown/interactive reports, all sub/sub-sub reports will get the permission automatically with the permission of main report.
- **Activate User** - A user may belong to multiple user roles for different office locations such as National/HQ, Region, District, Cluster, and Village.

The current LMS software consists of two modules. One is Management Information System (MIS) and the other is Accounting Information System (AIS). Their content is as follows:

Management Information System (MIS)			
Dashboard			
Admin	Manage User	User	
		User Role	
	Audit Trail		
	Message Notification		
System Setup	Loan Management System	General Configuration	
		Village Wise Configuration	
		Collection Day	
		Holi Day Configuration	
		Languish Translation	
		Funding Organization	
		Fund	
	Project Management System	Project	
		Village Institutions	Gram Samity
			Village Credit organization
			Sonchoy Committee
		SDF Office Setup	Head Office
			Regional Office
			District Office
			Cluster Office
Village Information			
Villager Information			
Natun Jibon Group			
Saving Product			



Saving Management	Saving Account
	Saving Deposit
	Saving Withdraw
	Saving Transfer
	Saving Close
Loan Management	Loan Product
	Current Service Charge
	Loan Disburse
	Loan Repayment
	Loan Adjustment from Saving
	Loan Migration
	Loan Purpose
Process	Day End Process
Report	Loan Schedule
	Worksheet Report
	Saving Collection Sheet
	Loans Collection Sheet
	Villager wise Loan Disbursements
	Individual Savings Transection Status
	Individual Loan Repayments Status
	Work Sheet Recoverable vs Recovered
	Status of RELI Group (RG) and RG Member
	Profit distribution on Savings
	Statement of Savings
	Status of Loan (Disbursement and Outstanding Loan)
	Status Loan Recovery & Due (Current + OD)
	Report Due Register
Information Regarding Backlog Data Entry in LMS	

Accounting Information System (AIS)			
Dashboard			
Configuration	Leger Account		
	Voucher Activity		
	Auto Voucher Configuration		
	Voucher Signature		
Voucher	Manual Voucher		
	Auto Voucher		
Process	Opening Balance		
	AIS Day End		
	Villager Profit Distribution		
Report	Chart of Account		
	Leger Report		
	Day End Report		
	Cash Book		
	Bank Book		
	Cash and Bank book		
	Income Statement		

	Receipt Payment report		
	Trail Balance Report		
	Balance Sheet Report		

### Task 3: Institutional Capacity Building

The Consultant will develop electronic and hardcopy documentation for all aspects of the system developed and provides appropriate training to relevant LMS stakeholders. This will include on-the-job support and handholding (including in-person, telephone and on-line support), as well as formal courses at regular intervals throughout this assignment.

- **Training for Trainers (TOT)** - A group to be formed identifying capable and interested personnel for initial user training. A total of about 200 nominated persons from different locations to be given initial training on the operation of the software. A rigorous ToT (Training of Trainers) to be planned and conducted by the Vendor to educate this advance user group, so that, this group of personnel could conduct user training and implement the system in future at community level. This ToT would be conducted at the Region level office (Mymensingh, Barishal, Cumilla, Rangpur and Jashore).
- **Admin and Maintenance Level Training** - Vendor will conduct technical training on database management, system setup, configuration, data export-import, frontend backup-upload, technical support & maintenance of the developed system.

#### B. Technical Requirements:

The proposed system should contain the following technical requirements/functionalities, but not limited to:

- Application must be completely web-based, and must not require any client software other than a web-browser to use it.
- Application should be preferably free from any proprietary software in its architecture.
- Implement data validation for both client and server (e.g: AJAX technologies, Javascript, etc)
- Implement Search, Create/Add, Read/View, Update/Edit, Delete (SCRUD) operations;
- Implement filter option to quickly reach to desired information for some pages;
- ***Adopt Role-Based Access Control (RBAC) to authorize system resources allocation to users based on roles. User authentication is secured from every user-end, where super admin should have option to maintain the level of security. Option for maintaining User Access privileges based on Head Office, Region, District, Cluster/Upazila, and Village level.***
- At the development stage, vendor must follow the standard code and naming convention, code level documentations, code level and other necessary documentation.
- Ensure compatibility to all major browsers such as Mozilla Firefox, Internet Explorer, Google Chrome, Opera, etc.
- Software should be scalable and upgradeable as and when the number of users and contents increases;

- Maintain and ensure that the software system supports maximum concurrent users;

### C. Security Requirements:

The consultant shall adhere to following security requirements:

- The Information Management and Security Policy (IMSP) document during deployment.
- The software should provide audit trails and logs mechanism for content changes performed by system users.
- Maintain time series data so that certain information is not lost with passage of time and repeated updating.
- Include up-to-date CAPTCHA program as a remedy to stop spam and other intrusions wherever required.
- Handle Session Hijacking, session replay, etc
- Enough Input Validation checks and Crosschecks to prevent spurious data to be entered and to prevent attacks such as buffer over-flow, cross-site scripting, SQL Injection, etc.
- Mandatory Password reset option after a certain period.

### D. Development Tools and Platform:

Vendor must propose in detail regarding the development tools, platforms, methodologies, framework and RDBMS that will be used for the project with proper justification. Proposed technology and tools should be stable and robust enough to handle such a huge system at same time it should not be outdated or to be outdated in near future. Vendor must have proven track record and successful (developed & implemented) large software projects in operation at multiple client sites using the same technology & tools.

For developing the software following tools/technologies are recommended:

- **Type of Application** : Web based
- **OS Platform** : Windows/ Linux
- **Technology** : Open source languages with MVC based web framework/  
Oracle Apex frame work
- **Database** : Open Source Database (MySQL / Oracle or any other  
compatible with the existing database)
- **Reporting & Dashboard** : Compatible
- **Web Server** : Apache Server or any other compatible with existing server

### Operating and System Environment

The main components of the software will be web based application. It should be run in Windows operating system and Server operating environment will be Windows / Linux.

Alike the present system environment the **Head Quarter (national) Unit would be expected to have a LAN installed with web-server/ client server technology. The region, district, cluster offices, and Villages would be expected to connect through internet connectivity using broad band/Wifi/mobile Internet.**

## E. Responsibility

### Client

- Shall ensure bi-weekly updates are reviewed and comprehensive requirement specifications are provided within review period;
- Make available all project documents including PIP, Different Formats, M&E and Results Frame Work, present Data base of MIS, MPR, QPR, etc.
- Shall maintain the delay register and notify the vendor of all delays in writing;
- Shall appoint the point of contact or project focal person(s);
- Inform the stakeholders and arrange for joint sessions with consultant

### Vendor/Consultant

- Shall ensure timely delivery of deliverables;
- Since LMS is a web-based software, the vendor will follow the home-based work modality using own space and equipment.
- Shall provide the development platform acceptable to client;
- Shall maintain the delay register and inform the client on the delays;
- Shall appoint a project manager who shall be the point of contact; and

## F. Deliverables and Timing

Phase	Deliverables	Description/ Activity	Timing	Remarks
Phase-1	Inception Report-MIS	Inception report detailing schedule of work plan, key staff deployment, methodology, etc.) and Inception Workshop to discuss with Client.	10 days	
	User Requirements Specification (URS)	Carryout detailed system study with different stakeholders to find out the actual requirements of the software.	10 days	
	System Requirement Study (SRS) & System Design Document (SDD)	All key aspects of design (MIS structure, modules, indicators, report formats, information flow, finalizing tools, technologies & framework, additional hardware/ software/data/connectivity requirements, institutional arrangements, etc.)	10 days	
	Developed / upgrade system, Source Code with code documentation and relevant test reports	Development/ upgradation /customization of Microfinance system as per the project needs, users' requirements.	90 days	
	System Installation & Setup report,	<ul style="list-style-type: none"> <li>• System Setup and integration</li> <li>• Software testing, upload base data, project data entry, Beta test.</li> <li>• Initial training for key users</li> </ul>	20 days	

Phase	Deliverables	Description/ Activity	Timing	Remarks
	relevant test report	<ul style="list-style-type: none"> <li>Incorporate suggested changes identified during testing</li> </ul>		
	Documentation, User Training, and Final Roll-out	<ul style="list-style-type: none"> <li>MIS documentation (design, use and training manuals, organizational roles etc.)</li> <li>Train Project staff and select stakeholders at the national, regional, district and cluster levels on how to collect, record, aggregate, filter and submit data</li> <li>Train the Project's information technicians on how to maintain the LMS, Data Export &amp; Import and system backup and restore</li> <li>Deployment of system in all project areas for full functionality</li> </ul>	25 days	
<b>Phase-2</b>	Post Roll-out	<ul style="list-style-type: none"> <li>Handholding support, proactive use surveys, bug fixes, modification, additional report generation, fine tuning &amp; updates till end of Assignment.</li> <li><b><i>Phase completion Report:</i></b> Final overview of activities, review of LMS use, user perspectives, and issues.</li> <li>Get final approval from the Project</li> </ul>	15 days	Newer interventions/ Pilots will happen in due course of time which needs to be captured in the system; hence these new requirements during the period of post roll-out phase will be part of TOR.
	<b>TOTAL</b>		<b>180 days</b>	

**N.B: In Timing, day means calendar day**

### G. Annual Maintenance Support

- The consultant will provide annual maintenance support services after consultancy period which will include bug fixing, fine tunings, slight modifications, slight addition and enhancements in the software application as well as database support with respect to cleaning of databases, rectifying errors and security issues, if any in person or through remote arrangements. A log file on maintenance has to be maintained and periodic report has to be submitted to the client.
- After successful completion and rolling out of SDF-LMS, the Consultant will provide maintenance and support for next three Years (i.e. after rolling-out). Accordingly, the consultant will provide year wise budget line separately which will be renewed every year subject to client (SDF) requirement and the performance of the consultant. A log file has to be maintained capturing issues identified/ reported, solution provided, remarks along with date stamp.

### H. Final Products or Services

- Approved URS (User Requirement Specification).
- Approved SRS (System Requirement Specifications) SDD (System Design Document).
- UAT (User Acceptance Testing) and SQA (Software Quality Assurance) Report.
- Approved final released version of the developed system.
- Source code with code documentation and relevant test reports.
- User Manual (detailed manual in English and a brief manual in Bangla).

- Reports on TOT and user feedback.

**I. Procurement Method and Duration**

QCBS (Quality and Cost Based Selection) procurement method shall be followed for this consultancy service. Total duration of the assignment is 6 (six) months. The activities include development, testing, roll-out and the post roll-out activities such as fine tuning, additional report preparation, modification, bug fixing etc.

**J. Qualification of Firm/Agency**

- The firm must be registered and affiliated in Bangladesh.
- Experience of similar tasks such as experience as a software development firm with experience of designing, developing, maintaining computerized web based Microcredit System that is being used by at least 2(two) organizations from at least 20 different office locations.
- Availability of appropriate skills among staff: The agency/firm must have appropriate professional and technical team with high level of competencies to handle tasks and responsibilities. Evidence of engagement of software development professionals should be in the regular payroll of the concerned firm.
- Support service of the consultants (firm)

**K. Team Composition**

Position Title	Qualification & Experience
Project Manager / Team Leader	At least graduate degree in Computer Science or Information Technology; Should have at least 8-10 years intensive working experience in developing different integrated software and management information systems particularly 5 years intensive experiences in designing and developing microfinance system along with handling large databases, working knowledge in handling RDBMS, web-technologies and web-based MIS solutions etc.
Software Architect/ System Analyst	At least graduate degree in Computer Science or Information Technology; Should have at least 5-7 years' intensive working experience in developing different integrated software and management information systems; person having good experience in designing, developing, maintaining of a computerized and web-enabled Microcredit system in WB/Externally Supported/Similar projects will get preference. <ul style="list-style-type: none"> <li>• At least 3 years of UML experience</li> <li>• Must have good Analytical skill and knowledge in web-based applications development</li> <li>• working knowledge in handling large RDBMS etc.</li> </ul>

Position Title	Qualification & Experience
Software Engineer	<p>At least graduate degree in Computer Science, Information Technology (IT), or Masters in Applied Physics/Mathematics/Statistics; Person having good experience in handling large Database management will get preference. At least 5 to 7 years' experience in setting up and running individual systems confidently.</p> <ul style="list-style-type: none"> <li>• Must have experience in designing and developing a robust and large web technology based solution.</li> <li>• Experience in working with MySQL or other open source RDBMS are desirable.</li> <li>• Sound knowledge in designing and developing microcredit system.</li> <li>• Good hands on experience in designing and developing different dashboard reports;</li> <li>• Ability to adapt to community based software solutions, provide solutions in local languages, meet deadlines and achieve desired results.</li> <li>• Ability to impart training and capacity building on the developed software</li> </ul>
Web Developer	<p>At least graduate degree in Computer Science, IT or Applied Physics or Mathematics or Statistics. Minimum 2 (two) years working experience on web programming with MySQL or any other open source RDBMS platforms.</p>
Training Expert	<p>At least graduate degree from a recognized university. Minimum 2 (two) years' experience in training conduction especially on microcredit system. Presenting critical/technical phenomenon in a more familiar word, especially for the non-technical and/or less educated users, is the key for this position;</p>

## L. Approval & Ownership

**Approval:** The Consultant's outputs will be accepted by SDF subject to the approval of the General Manager (M&EL) and Managing Director or LMS Monitoring Committee. SDF management may seek comments and feedback from external members/specialist, as required.

**Ownership:** SDF will be the sole and absolute owner of the LMS software, Source codes, technical documents, LMS design, data, reports, and training materials and modules. These products shall not be reproduced for commercial purposes.

## 6.0 Summary

- The database & frontend must be secure and be able to work quickly with huge data and be free. Extracting data from the database and inputting data should be easy and fast. Must be all the latest facility and technology compatible.
- Will run on Windows, Android, Linux, iOS, Mac etc. and all browser compatible.
- Data security, Data backup, frontend backup, incremental backup etc.
- Training for data backup and import, Frontend backup and upload etc.

- Training of Trainer (TOT)
- All UI & Report English and Bangla version.
- All activities should be projects wise and user friendly.
- Software generated message should be sent to the beneficiaries mobile as per the requirement of SDF. (Such as Loan Disbursement and Loan Recovery etc.)
- Should have opportunity to send Report to Beneficiary's/specific e-mail.
- Must be Updated and newly created all User Interface (UI) and reports as per Microfinance standards and SDF requirements.
- All reports must be converted to Excel & PDF format and the header of the report must be freezing and easily Printable.
- Microfinance standards and SDF requirements wise Dashboard for village to national level (e.g. National, region, district, cluster/upazila and village).
- Bug fixing / If the information in the existing reports is not correct, it must be corrected.
- User: 7000
- All Reports should be date range, parameter wise (e.g. National, region, district, cluster/upazila and village).
- The necessary data must be brought from another server through Restful API.
- The data collected from the field via kobotoolbox (*GEMS- Geo-Enabling initiative for Monitoring and Supervision*)/ODK should have the opportunity to be integrated into the LMS database through the API.
- Android app may be required for data entry in remote areas without internet service. Later, as soon as the Internet connection is obtained, the data will be stored in the server.
- Report Servers may be required to make complex/large reports faster.
- After entering the data by CRP, a check master must check whether the data is correct.