TERMS OF REFERENCE (TOR)

FOR

DEVELOPMENT OF FARMERS PORTAL

Background

Country: Nepal

Executing Agency: Agriculture Information and Training Centre (AITC) of the Ministry of Agriculture and Livestock Development, Government of Nepal.

Sector: Agriculture and Livestock Development

Start of the activity: April, 2022

End of the activity: July, 2022

Duration: two and half months with 1-year consultancy service for maintenance of software and mobile app.

Implementing Agency: Agriculture Information Training Centre (AITC), Hariharbhawan, Lalitpur

Title of the assignment: Development of Farmers' Portal

1. Introduction:

Introduction to AITC: AITC is working under the Ministry of Agriculture and Livestock Development. Agriculture Information and Training Centre (AITC) is   responsible for the dissemination of agricultural technologies and agricultural related information to the farmers and other stakeholders. Telecasting, Radio broadcasting and technical publication are the major means of information dissemination of AITC. AITC has a program, approved for this year, to develop a farmers' portal which is intended to be worked as one-door information hub for all technology packages and agriculture related information to the farmers and other stakeholders.

Providing right information to the right farmer at the right time from the right source is crucial for overall development of agriculture. With the emerging developments in Information and Communication Technology (ICT), dissemination of right information has become easier and faster. To harness such information and technology development opportunities and utilize them in Nepal's agricultural extension system, which is often blamed as having a narrow reach among farmers, AITC has planned to develop a "Farmers Portal". With this portal, AICT intends to

provide agriculture related data and information to the farmers and other agricultural stakeholders in an 'all in one' model. This ToR is developed to purchase consulting services to develop 'Farmers' Portal' from interested and eligible consulting firms and/or companies.

2. Objectives

Farmers Portal, a web and android mobile app-based system, manages agriculture related data and information to be used by farmers and agricultural stakeholders.

The development of online Farmers Portal under AITC aims to:

- provide easy access to information and data to the farmers and other stakeholders
- aggregate data and information from different agricultural organizations (for example, seed information from SQCC, fruits seedlings/saplings from NCFD, Plant quarantine and pesticide information from PQPMC, indigenous and genetic resource information from CCDABC, notice and other information from Provincial MOLMAC, DoAD, DoLFD and other offices, Agriculture notices and other information from local Governments.
- provide packages of practices of different crops and different livestock production practices useful for famers from NARC and other agencies
- manage database of different resource centres
- make available notices released from various agricultural organizations (State level, Provincial level and Local Government level)
- Provide space of forms and format for application for subsidized program for farmers and entrepreneurs.
- provide information regarding agricultural and livestock insurance and calculation of insurance premium
- provide list of contact details of all agricultural and livestock related government and non-government organizations

3. Scope of the work

The entire work under this consulting service is planned to focus on Farmers Portal Development to provide one door information system of MOALD. Consultant will be responsible for conducting necessary consultation meetings MOALD stakeholders especially with AITC. Expert and senior officer will be invited to update the progress and get feedbacks during the tenure. Draft final report of this service should be prepared by the consultant and be presented in the expert meeting for feedback. The constructive suggestions and feedbacks from the expert meeting workshop must be incorporated in the final report.

The entire work under this consulting service is planned to be carried out in 3 phases:

Phase I: Consultation phase

In the first phase, consultant will prepare a design of the Farmers Portal based on defined objective/s. And design of the software and mobile app will be finalized in an inception workshop with the concerned stakeholders. After accommodation of the inputs received in the inception workshop, the design of the software will be finalized by the consultant and get approved from the AITC.

Phase II: Software preparation phase

Based on the approved design, the consultant will develop the software and mobile app with the necessary consultation with AITC Officials. The developed software will be tested and orientation training to the users will be carried out along with the provision of user's guide by the consultant.

Phase III: Data entry phase

The consultant will enter the initial data and information required in the Farmers Portal provided and verified by AITC.

Phase IV: Finalization and Reporting

A validation workshop will be organized by the consultant in consultation with AITC. The software, mobile app and its features will be demonstrated in the workshop. The inputs received in the workshop will be accommodated in the software. Final software and mobile app will be handed over to AITC along with the report covering the entire sets of tasks. Consulting firm continue to operate and maintain the software and mobile app for one year.

Consulting firm must treat the data and information collected for this purpose confidentially and must not use collected data and information for other purposes. All the modules should be developed in Nepali Language and should be developed both in Web based and android based mobile application. The consulting firm should keep all codes and data as confidential and hand them over to the AITC at the end of the assignment.

4. Deliverables and Due Dates

Deliverables include up-to-date Farmers Portal software and mobile app along with the inception report, validation workshop report, users' guide and final report. The final design of the software must be in line with objectives of the consultation service. Final report should cover the entire set of tasks and submitted to AITC.

Deliverable	Time Line
Inception report and inception workshop	Within 15 days of agreement
Farmers Portal (web based and mobile app based) development with initial data and information management	Within 1.75 months of agreement

Validation workshop report	Within 2 months of agreement
Final Completion Report (5 copies), users' guide and launch of ready to use' 'Farmers' Portal' and handing over of all the codes and data used in the portal, and end of assignment	Within 2.5 months of agreement
Consultation service for maintaining and maintenance of the portal	For 1 year

5. Client Inputs

To support and facilitate the tasks identified in the ToR, AITC will provide the following support services.

    i.   Space for consultant to carry out liaison works. This should not rule out the possibility of renting space for this service.

    ii.   Make recommendation with different concerned government organizations for compilation and accumulation of data and information regarding agriculture and livestock required for Farmers Portal.

    iii.   Coordination task for the meeting, workshop and consultation.

    iv.   Timely disbursement of funds as per contract.

    v.   Designate a nodal person for routine contacts.

    vi.   Other supports as deemed necessary and mutually agreed.

6. Qualification of the consulting firm

Bidding firm must have the provision of providing Consultancy service. Firm should have minimum 7 years of working experience in software development. Firm must have accomplished minimum 10 assignments of working with government organizations with software or mobile app development for database management. Agricultural related assignments will be given additional advantages.

1. Team leader: (1)

The team leader must have completed master degree in related field and a minimum of 5 years of experience in software development sector. S/he must have proven track record of software development along with management, leadership, and coordination skills. S/he must have led minimum 5 projects related to software development sector. Consulting Firm must submit CV of Team leader with support documents.

2. System Analyst: (2)

The System Analysts Must have a bachelor's degree in IT/ICT/Computer Science/Computer Engineering/Computer Application. Minimum 2 years of experience in Software development. Consulting Firm must submit CV of System Analyst with support documents.

3. Database Administrator: (2)

The Database Administrator Must have a bachelor's degree in IT/ICT/Computer Science/Computer Engineering/Computer Application with 2-year experience in working with database such as MySQL or Postgre SQL or Mongodb or Oracle, REST API. S/he

must know the web development programming using PHP, Python or relevant language or any framework used for the app and web server. Consulting Firm must submit CV of Database Administrator with support documents.

4. **System UI developer: (1)**

   The System UI develop must have 1-year experience in working in software design with bachelor's degree in IT, CSIT or computer engineering. Consulting Firm must submit CV of System UI developer with support documents.

5. **Data and Information Operator (1)**

   The Consulting firm must assign one data and information operator. S/he must have completed B.Sc. Agriculture and have good typing skills. S/he must have adequate knowledge in Ms Word, MsPowerPoint, and Ms Excel and have good knowledge on working TOR of different agricultural organizations. Consulting Firm must submit CV of data and information operator with support documents.

7. **Technical Information:**

Technical information required for the Farmers Portal:

   a. User Categories

Role	Permission	Remarks
1. Super Admin Role	Access rights to all modules Listing Primary Data Creating users and granting privileges Validating Data Publishing Reports Add Information and Data	1 user for AITC Chief
2. Manager Role	Data Entry and updated information of different sectors	5 users for AITC Team
3. Login User	Agriculture related Government Organizations	Registered based verified users
4. Public Users	Farmers and agricultural stakeholders	View and generate required data and information.

b. Platform

   i. RDBMS : MySql
   ii. Language : PHP
   iii. UI Design : Responsive Design
   iv. Framework: Python, Drupal or any framework

c. Modules

1) **Agricultural Package of Practices Module:** This module should include the package of practices of major agricultural commodities. The package of practices should be gathered and maintained in the portal as below and should display the content with a click.

Name of Commodity
Variety Name
Scientific name
Introduction
Uses
Climate Requirement
Soil requirement
Production Practices
Disease Management
Physiological Disorders
Insect Pest Management
Harvesting Technologies
Post-Harvest Handling
Market Management

2) **Livestock Production Management Practices Module:** This module should include the package of rearing major livestock, poultry and fisheries. The package of practices should be gathered and maintained in the portal as below and should display the content with a click.

Name of Livestock
Breed
Characteristics
Housing Management
Bio-sanitary Measures
Disease Management
Pest Information
Feeding Practices
Production Techniques
Market Management

3) **Frequently Asked Questions Module:** This module should adjust around 1000 plus questions and answers being asked by farmers under Kissan Call Center of AITC.

Question
Answer
Category
Crop / Livestock Name

4) **Weather Information:** Contextual information of weather should be integrated. Weekly Agriculture weather bulletin should be incorporated.

5) **Seed and Sapling Information:** All the registered and released varieties should be managed under this module. Database of seed suppliers should be managed. Along with crop seed database, breeds of livestock information, seedlings/saplings of fruits and should be incorporated.

6) **NARC Technologies:** Under this module, the recent highlighted technologies developed under NARC should be focused. Crop and Livestock wise technologies developed should be categorized and disseminated.

7) **Machineries Information:** Under this module, information of machineries and their specifications should be maintained. List of major suppliers and list of custom hiring centers established under different agricultural program should be managed.

8) **Fertilizer Information:** Fertilizer information is the most crucial for the farmers. The need of fertilizer for crop production should be managed within the portal. Based on the soil test, fertilizer recommendation should be generated as a fertilizer calculator. Along with fertilizer information, there should be information regarding the list of cooperatives or suppliers who can supply fertilizers.

9) **Agricultural and Livestock Sector Notice:** Under this module, all the notice released from State, Province and Local Government Level should be integrated. Farmers or stakeholders should get facility to search the notice District wise or local government wise.

10) **Organizational Database**: Under this module, the list of all of the government agricultural organizations should be managed with contact details.

11) **Form and formats of different agricultural subsidy program:** Under this module, all the form and formats required for getting or applying for the subsidy program should be managed and displayed.

12) **Agriculture and Livestock Business Plan Sample format for Subsidized Loan Application:** Government of Nepal have focused on the subsidized loan. But due to lack of proper business plan sample and format, farmers are not able to get subsidized loan. This module should have managed the sample of business plan of major commercial agricultural and livestock commodities.

13) **Agricultural Information Dissemination Mobile App:** An android based mobile should be developed for the dissemination of major agriculture information and for linkage of stakeholders with AITC.

All the modules should be developed in Nepali Language and should be developed both in Web based and android based mobile application. The developed software should be operated for one year with the PCS operator of consulting firm. After the consulting service, the whole system should be handover to the AITC

8. Selection of Consultant

The consultant will be hired competitively based on QCBS (Quality and Cost Based Selection) method as per the provisions of Public Procurement Act, 2063 and regulation 2064.

9. Duration of Contract and Indicative Timelines

The contract will remain valid only for the FY 2078/79 and the client will not be responsible to ensure the payment upon failure of the consultant to complete the assignment within the agreed deadline.

Details	Proposed Deadline
Signing of the Contract	Second week of Baisakh, 2079
Consultation Meetings	As required
Demonstration of Software	As required
End of the assignment	Last week of Asadh, 2079

10. Reporting and Supervision Arrangements

The Consultant will report to the Chief of AITC. The Consultant will work in close collaboration with other officials of AITC.