

## **TERMS OF REFERENCE (TOR) FOR ICT Programmer (Under Himachal Pradesh – Horticulture Development Project)**

### **PROJECT BACKGROUND:**

The Government of Himachal Pradesh (GoHP) is implementing World Bank funded project on Horticulture Development in the State of Himachal Pradesh (H.P). The project will address key, well known gaps and deficiencies in the horticulture sector in Himachal Pradesh and transform the sector (and the overall rural economy) to be more productive, efficient and profitable. By doing so, it will contribute to the key aspects of the GoI, GoHP and the Bank's strategic objectives related to faster and broader agriculture sector growth and inclusive development. The proposed Project Development Objective (PDO) is "to support small farmers and agro-entrepreneurs in Himachal Pradesh to increase the productivity, quality and market access of selected Horticulture commodities".

The Key Project Indicators (KPI) will be: (a) Productivity (in ton/ha) (i) of rejuvenated apple orchards; and (ii) of new plantations of selected horticulture crops. (b) Percentage of Apple Grades A, B and C. (c) Share of selected horticulture commodities sold through new marketing channels for (i) Apple, and (ii) Tomato. (d) Direct project beneficiaries (number), of which female beneficiaries (%).

The project will achieve the PDO by: (i) improving producer's access to knowledge and horticulture production technologies (including climate resilient technologies), and access to financial services so that they are able to better respond to climate variability and emerging market opportunities; (ii) promoting investments in agribusiness, fostering backward and forward linkages in the value chains for horticulture products, piloting negotiable warehouse receipts for horticulture commodities, and facilitating access to financial services for agribusiness enterprises, including collectives such as producer companies; and (iii) supporting the development of an improved platform for market-related information and intelligence, developing new e-market channels outside of regulated markets, and improved services provided by modernizing the promising traditional wholesale markets.

### **OVERALL PROJECT STRUCTURE**

The activities of the project are clustered around three main interlinked technical components that have the following purpose: (i) improving producer's access to knowledge and horticulture production technologies (including climate resilient technologies), and access to finance; (ii) promoting investments in agribusiness, fostering backward and forward linkages in horticulture product value chains, facilitating access to finance for agribusiness entrepreneurs, and, piloting negotiable warehouse receipts for horticulture commodities; and (iii) supporting the development of an improved platform for market-related information and intelligence, and upgrading and modernizing the promising traditional wholesale markets.

**Component A: Horticulture Production and Diversification:** The objective of this component is to enhance horticultural competitiveness at the farm level by supporting access to knowledge, technology and finance in order to increase long term productivity and farm incomes in an environment marked by changing market patterns and increased climate variability. This will be achieved by: (i) enhancing producer's access to disease free elite planting materials; (ii) supporting sustainable intensification and diversification of horticultural production through technology and knowledge transfer, including harvest, capture, collection, delivery and distribution of water; (iii) strengthening applied research and development; and (iv) enhancing the access to and use of financial services by producers.

**Component B: Value Addition and Agro-enterprise Development:** The objective of this component to improve value realization at the farm level, promote investments in agribusiness, fostering backward and forward linkages in the value chains for horticulture products, support supply chain infrastructure that prevents wastage and value erosion; and enable secondary and tertiary processing that create higher value for the produce. This will be achieved by: (i) building community/farm level marketing capacities and supporting them through matching grants to acquire productive assets; (ii) establishing a modern supply chain comprising pack-houses, controlled atmosphere (CA) stores, and processing facilities to be operated under operational management arrangement with private partners; (iii) piloting warehouse receipt systems linked to commodity exchanges; identifying, mobilizing and supporting agro entrepreneurs; and (iv) co-financing investments and facilitating access business advisory and to financial services for agribusiness enterprises, including collectives such as producer companies

**Component C: Market Development:** The objective of this component is to provide an improved platform for market-related information and intelligence, expand market access through alternative marketing channels, enhance transparency in the price discovery process, and improve market infrastructure. This will be achieved by: (i) supporting market information and intelligence services; (ii) introducing of e-marketing platforms; and (iii) upgrading wholesale markets.

**Component D: Project Management, Monitoring and Learning:** This component will ensure the effective implementation of the project activities and monitor and evaluate project implementation progress, outputs and outcomes, building on implementation experience. This component will support: (i) establishment and operations of Project Coordination Unit (PCU), which will oversee and coordinate activities of the implementing agencies of the project; (ii) establishment and operations of Project Implementation Units in the respective implementing agencies; and (iii) setting up of a monitoring and evaluation (M&E) system for the project, including a project management information system and contracting an external M&E agency to monitor project activities and impact. The component will also finance dedicated staffing for the project activities that are attributable to the outcomes of the project, consultancies, training and related material, office equipment, and operational costs

## **BACKGROUND OF THE ASSIGNMENT**

Under Component- C & D of the Project, ICT based applications are proposed to be developed for “Economic and Market Information and Intelligence Services (EMIS)”, “Monitoring and Evaluation (M&E) of the project and a Project Management Information System (PMIS). Accordingly, it is proposed to develop an “Integrated Horticulture Management and Monitoring System (IHSMS)” to be deployed as a part of the project to support service delivery as well as real time monitoring and evaluation of all the activities carried out under various components of the project. IHSMS will have following key components:

- a) Horticulture Sector Portal– The portal will provide information regarding best practices and latest developments in the sector.
- b) Economic and Market Intelligence Services (EMIS) Module - EMIS system is MIS will provide producers, enterprises and trade intermediaries with relevant information and technological knowledge based upon the demand from the stakeholders.

- c) Department Wide Management Information System: MIS is proposed to be put in place to enhance the efficiency of various administrative activities. The workflow of the department will be transformed and made IT enabled through MIS.
- d) Mobile and Cloud based Monitoring and Evaluation Module (M&E): The system will be developed to enable the field officers to submit data regarding their activities directly from the field with block level and district level officers being able to use the data for administrative functions.
- e) Citizen Engagement and Grievance Redress Module – This module will be designed to engage all the stakeholders especially end users during all stages of the project. The module will also have a Grievance

### **OBJECTIVES OF ASSIGNMENT:**

The **Integrated Horticulture Management and Monitoring System) (IHSMS)**, leveraging the potential of ICT and new media technologies is to be designed, developed and deployed under the project. The M&E system will use the features of GPRS enabled mobile devices and data analysis tools, to enable submission of data relating to the project activities under each of the components, directly by the field functionaries. This data submitted, will be Geo tagged and time stamped, thus enabling real time and evidence based monitoring of all the project activities. The project monitoring and management system will generate automated reports for all the PDO indicators, customized for each level of project administrators (role based access to data).

Programmers are proposed to be hired in the PCU to assist IT/MIS Specialist to oversee the design & development and operation of the IHSMS and all other IT related activities in the project.

### **QUALIFICATIONS, EXPERIENCE & SKILLS:**

Essential Qualification: B.E./B.Tech in Computer Science/IT or MCA

Experience: Minimum 3 years of work experience in the IT Industry / relevant experience with practical knowledge in MS Share point, Core JAVA/J2EE, Spring, SQL, MS Sql Server, JavaScript, HTML, CSS, JSP Servlet, etc

Desirable: Concept of RDBMS, Networking, SDLC, ERP, S A P , e - t e n d e r i n g etc.

### **KEY SKILLS**

- Analytical Thinking - Job requires analysing information and using logic to address work-related issues and problems.
- Support ongoing software development activities required for HPHDP.
- Proficiency in Microsoft SQL Server including T-SQL and Enterprise Manager.
- Working experience in ERP projects for providing Integrated Business Solution on different technological platforms.
- Experience of all the phases of SDLC/ERP projects starting from Requirement Analysis to Implementation and Project initiation process through closure process.
- Functional & technical skills in working with ERP products and its implementation.
- Domain knowledge on various application areas.

- Ability to collect, collate & analyse data as per Business Requirement.
- Good communication skills.

## KEY TASKS

- Application programming and database support.
- Follow the Software Development Life Cycle process (SDLC).
- Complete simple to medium-complexity programming assignments.
- To oversee development and deployment of an Integrated Horticulture Management and Monitoring System (IHSMS) so as to improve service delivery as well as real time monitoring and evaluation of all the activities carried out under various components of the project.
- To maintain ICT-based Integrated Horticulture Management and Monitoring System (IHSMS) for monitoring project implementation
- To strengthen the capacity of the project implementing agencies to monitor the project impact and use the IHSMS by providing on-the-job training;
- To help in generation of reporting system with semi-annual and annual progress reports with data generated from the IHSMS.
- To assist in introducing ICT-based tools to capture beneficiaries' feedback; assess changes in the performance of beneficiaries over time; and real time monitoring and evaluation of all the activities carried out under various components of the project by using the potential of geographical information system (GIS) for evidence-based monitoring and planning.
- Help in validating Monitoring and Evaluation data in the IHSMS entered at the District/Block/market level and entering additional data as required.
- To assist and oversee the development of the modules under IHSMS like Horticulture Sector Portal; Department Wide Management Information System (MIS) Module; Mobile and Cloud based Monitoring and Evaluation Module (M&E); and Citizen Engagement and Grievance Redress Modules etc.
- To ensure development of the IT infrastructure solutions, security policies for end to end implementation of Applications for running the IT infrastructure of the Project, configuration and tuning of Databases and ensure a robust IT infrastructure for internal users.
- Provide Technical and Functional Support to users help in resolving recurring operational issues.
- Data processing and analysis,
- Preparation of MIS reports.
- Maintain and manage project's/HPMC website and its content (modification/deletion/updation, etc) as and when required.
- To ensure compliance with all technical aspects of information security.
- Any other ICT related work assigned by the Project Director or ICT Specialist.

## **TRAVEL REQUIREMENTS**

The programmers will be required to undertake field visits and tours as per the requirement of the Project.

## **REPORTING AND PERFORMANCE REVIEW**

The programmer will report to the Managing Director, HPMC or to any other person assigned by him/her. The work and performance of the candidate shall be reviewed by the Managing Director, HPMC on a periodic basis.

## **TIME FRAME**

The contract will be initially for 11 months from the date of signing of agreement and extendable to the entire project period subject to the satisfactory performance of the candidate.

## **REMUNERATION AND PAYMENT TERMS:**

The remuneration for the position of ICT Programmer is Rs. 40,000 per month (fixed) and TA/DA as per HR policy. The remuneration will be enhanced on annual basis, subject to performance.

Applications received after last date (including postal delays) will not be accepted.

The Managing Director, HPMC reserves the right to accept or reject any application/candidate without assigning any reason.