TENDER DOCUMENTS

SELECTION OF FIRM

FOR

DEVELOPMENT & IMPLEMENTATION

OF

"PRECISION FARMING IN SIKKIM"

FOR

AGRICULTURE DEPARTMENT

Tender Reference: 338/IT/Agri

Dated: 17/11/2023

(Bid to be submitted online at www.sikkimtender.gov.in)

AGRICULTURE DEPARTMENT,

KRISHI BHAWAN, TADONG – 737102

GANGTOK, SIKKIM.

DISCLAIMER

This Tender Documents contains brief information about the project, qualification requirements and the selection process for the successful applicant (bidder). The purpose of this TENDER DOCUMENTS document is to provide applicants (bidders) with information to assist the formulation of their bid application (the “application”).

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The information (‘Information’) contained in this Tender Documents or subsequently provided to interested parties (the "applicant(s)), in writing by or on behalf of Department is provided to applicant(s) on the terms and conditions set out in this Tender Documents and any other terms and conditions subject to which such information is provided.

Each applicant should perform their own due diligence to check the accuracy, reliability and completeness of the information in this Tender Documents and obtain independent advice from appropriate sources. Submission of bid application shall be deemed to have been done after careful study and examination of the Tender Documents with full understanding of its implications.

The response to this Tender Documents should be full and complete in all respects. Incomplete or partial bids shall be rejected. The applicant must quote for all the items asked for in this tender. Intimation of discrepancies in the Tender Documents, if any, should be given to the office of the Department immediately by the applicants. If Department receives no written communication, it shall be deemed that the applicants are satisfied that the Tender Documents document is complete in all respects.

This Tender Documents document is not an agreement and is not an offer or invitation by Department to any other party. The terms on which the project is to be developed and the right of the successful applicant shall be as set out in separate agreements. Department reserves the right to accept or reject any or all applications without giving any reasons thereof. Department will not entertain any claim for expenses in relation to the preparation of Tender Documents submissions.

Contents

1. PROJECT INTRODUCTION

1.1. BACKGROUND

Agriculture is vital to the progress of Sikkim, because more than 64 per cent of population depend on agriculture of their livelihood. It has been the backbone of our economy, representing about a third of State's Gross Domestic Product.

The government has decided to adopt the policy of growth with sustainability, making agriculture a priority sector for higher income generation to farming community as well as to concentrate more on securing maximum crop production of agriculture crops and managing primary agro-resources like soil, water and bio-diversity.

Sikkim is a hilly State in the Eastern Himalayas where agriculture practices and adaptation are highly variable in time and space due to varying altitudes and agro-climatic situations. The surveyed arable land in the Sikkim is estimated to be around 1,09,000 hectares, i.e., 15:36% of the total geographical area and of which about 9.50% is the net sown area. Integrated farming dally suited system, is commonly followed by farmers in the State and which fits well in the developmental process of making Sikkim an Organic State.

The Government of Sikkim had intended to set AGRISNET in the State to provide improved services to the farming community through use of ICT. This will not only help farmers to augment their income but also to improve the overall capacity of the State. It will aggressively support the knowledge sharing among the farmers as well as among the policy makers and researchers through the database generated as Decision Support System.

Precision agriculture (PA) is an approach to farm management that uses information technology (IT) to ensure that crops and soil receive exactly what they need for optimum health and productivity. The goal of PA is to ensure profitability, sustainability and protection of the environment. PA is also known as satellite agriculture, as-needed farming and site-specific crop management (SSCM).

Precision agriculture relies upon specialized equipment, software and IT services. The approach includes accessing real-time data about the conditions of the crops, soil and ambient air, along with other relevant information such as hyper-local weather

predictions, labor costs and equipment availability. Predictive analytics software uses the data to provide farmers with guidance about crop rotation, optimal planting times, harvesting times and soil management.

1.2. Project Objective

Sikkim Government wants to help their farmers to produce healthier crops by using new farming technologies and techniques. Also, the government wants to keep records of all farming lands and its productivity.

Therefore, the government wants to implement precision farming techniques with the help of IoT sensors, drones and other tools to provide the right information at the right time to farmers so that they can take the necessary precaution.

i. Farmer's Benefits

- Improve methods of cultivation.
- Increase production.
- Reduce Labor Time.
- Precise application of pesticides, herbicides, and fertilizers, and better control of the dispersion of those chemicals.
- Significantly reduce the amount of nutrient and other crop inputs used while boosting yields. Farmers thus obtain a return on their investment by saving on water, pesticide, and fertilizer costs.
- Ensure the effective management of irrigation processes.
- Provide dada feeds necessary to self-educate with new agricultural tips and techniques.
- Provide dada feeds necessary to quickly informed with any natural disaster.

ii. Department's Benefits

- Creating a more environmentally friendly farm.
- Producing a higher yield and controlling food shortage or inflation.
- Help to grow agricultural economy.
- Reducing expenses on subsidy in long term.
- Provide data feeds necessary to educate the farmer.
- Able to provide agricultural ecosystems with farming and other subsidiary products.

1.3. Need for Precision Farming

- **For assessing and managing field variability:** We know that our fields have variable yields across the landscape because of variations to management practices, soil properties and/or environmental characteristics. One's mental information database about how to treat different areas in a field requires years of observation and implementation through trial-and error. Today, that level of knowledge of field conditions is difficult to maintain because of the variable farm sizes and changes in areas farmed due to annual shifts in leasing arrangements. Precision agriculture offers the potential to automate and simplify the collection and analysis of information.
- **For doing the right thing in the right place at the right time:** After assessing the variability precision agriculture allows management decisions to be made and implemented in right time in right places on small areas within larger fields.
- **For higher productivity:** Since precision farming proposes to prescribe tailor made management practices, it will definitely increase the yield per unit of land, provided nature's other uncontrollable factors are in favor.
- **For increasing the effectiveness of inputs:** Increased productivity per unit of input used indicates increased efficiency of the inputs.
- **For maximum use of minimum land unit:** After knowing the land status, a farmer tries to improve each and every part of land and uses it for the production purpose.

2. PROJECT TIMELINES

The proposed work is to be carried out as per the following timelines. "T" as referred to in the table is treated as the date of award of work to the selected Vendor.

Milestone	Project Activity	Timeline (Week)
1	Letter of Intent / Statement of Work Signup.	T+ 0 week
2	Requirement Analysis, Project Planning, Resource Planning, Risk Planning, Implementation Planning, WBS Creation, Quality Management Planning, Procurement Planning.	T + 2 weeks
3	IoT based Sensors Procurement and Installation	T + 4 weeks

4	Proof of Concept – Working prototype	T + 6 weeks
5	Design Application UI for Web Portal (Department or Admin Use). Mobile App Design for Farmers.	T + 8 weeks
6	Development and Unit Testing for Web Portal (Department or Admin Use) and Farmers Mobile App	T + 24 weeks
7	Integration of IoT Sensors with Web Portal Integration of Farmers Mobile App with Web Portal	T + 26 weeks
8	Completion of System Integration testing and Business User testing	T + 28weeks
9	Trial Run for 1 Installation	T + 30 week
10	Go live for all 4 Installation	T + 32weeks

Note: After the successful IoT Sensors Trial for 1 installation, next Sensor's installation will be done within 4 weeks. There are a total of. 4 installations

3. DATASHEET

Sl. No.	Item	Details
1.	Project Name.	Selection of Firm/Agency for Development & Implementation of the Precision Farming in Sikkim for Agriculture Department.
2.	Bid Inviting Authority.	Agriculture Department, Krishi Bhawan, Gangtok – 737101, Sikkim
3.	Contact person of the bid.	Deputy Director (IT), Agriculture& Horticulture Department
4.	Tender Reference with Date.	Ref No: 338/IT/Agri Date: 17/11/2023
5.	Pre bid Meeting	Date 23/11/2023 Address for submission of queries: Agriculture Department, Krishi Bhawan, Gangtok – 737101, Sikkim, Mobile No-08967946066

		Email: bikramrai@gmail.com
6.	Cost of tender Document (non- refundable).	Rs. /-50,000 (Rupees Fifty Thousand only) in the form of a Bank Receipt (BR) in head of 0401.800.01 for Agriculture Department", payable at Gangtok.
7.	Earnest Money Deposit(EMD)(refundable).	Rs. 15,00,000/- (Rupees Fifteen Lakh only) in the form of a Demand Draft on any Nationalized/Scheduled bank in favor of "Secretary, Agriculture Department", payable at Gangtok. The validity of the EMD is 90 days. Bid security shall be refunded to the successful bidder upon signing of contract/agreement with client. For unsuccessful bidders, the bid security shall be refunded after end of the overall bid process.
8.	Last date and time of submission of Bid.	Date:1/12/2023 Time 10.30 am
11.	Date and time for opening of pre-qualification bid, technical bids & commercial bids.	Date: 2/12/2023 Time: 11 am
12.	Venue for opening of bid.	Agriculture Department, Krishi Bhawan, Gangtok – 737101, Phone No- 8967946066

Note:

* No financial information should be submitted under technical bid.

*The bidder shall bear all costs associated with the presentation and submission of the tender and Agriculture Department will, in no case, be responsible or liable for those costs, regardless of the conduct or the outcome of the bidding process.

4. SCOPE OF WORK

The Government of Sikkim invites qualified and experienced implementing agencies to submit their proposals for the development and implementation of a Precision Farming Project aimed at enhancing agricultural productivity and sustainability in the State of Sikkim. The project scope includes the following key components:

- Implementation Agency, hereinafter called asIA shall then propose a solution:
    - For the implementation of Precision Farming techniques to improve crop yields, resource utilization and overall agricultural practices in Sikkim.
    - Development of an integrated web portal for Department and Admin usage and a mobile app for farmers to support and enhance precision farming efforts.

- IA shall be responsible for the following components:
    - Conduct comprehensive assessments of the current agricultural landscape in Sikkim.
    - Identify key crops that would benefit from precision farming techniques.
    - Select appropriate precision farming technologies, including but not limited to GPS/GIS systems, sensors, drones and data analytics tools.
    - Procurement of the necessary IOT based sensorsrequired for the project.
    - Deploy sensors to gather data on soil conditions, weather patterns and crop health etc.
    - Analyse collected data to provide actionable insights to farmers. Design and develop a user-friendly Department web portal that integrates AI capabilities for data analysis and recommendations.
    - The web portal will provide data feed to Farmers Mobile App and shall allow farmers to access analyse and make informed decisions based on nearreal-time data.
    - Develop a farmers mobile app that provides easy access to the Farmers on various data needed for improving their Agriculture. Farmers mobile App will receive data from web portal's features.
    - Establish a centralized data hub within the web portal to facilitate data sharing and collaboration among stakeholders.

- Develop and deliver training programs for local farmers on precision farming techniques.
- Ensure knowledge transfer and capacity building.

- The IA shall provide regular progress reports to the Agriculture Department, detailing the project status and performance metrics.
- Once the solution is approved by the Agriculture Department, IA shall take up third party security audit through GoI empanelled Security Audit Organization and host the web portal and mobile appin Department Servers.
- The IA should provide maintenance for 2 (Two) year during the operation phase and the date of the maintenance period shall be considered from the go live date of the portal.

TRAINING:

- Develop a comprehensive training program that caters to farmers of varying knowledge levels and backgrounds.
- Design training materials that are easy to understand and engaging.
- Conduct training sessions for relevant department officials on how to operate, maintain and administer the web portal and mobile app.
- Provide training for end-users and other stakeholders to ensure they can effectively use the web portal and mobile app.
- The IA shall also be responsible for re-training/refresher training to the employees / agencies who are involved, whenever major changes are made in the system.

PRECISION FARM STATION:

- Total 4 Nos. Of Precision farm Station to be installed in two Districts.

<< Location >>	<< Address >>
<< Location >>	<< Address >>
<< Location >>	<< Address >>
<< Location >>	<< Address >>

The IoT sensors should be capable to take care of:

a. **Global Positioning System (GPS) receivers:** GPS provides continuous position information in real time, while in motion. Having precise location information at any time allows soil and crop measurements to be mapped. GPS receivers, either carried to the field or mounted on implements, allow users to return to specific locations to sample or treat those areas.

b. **Differential Global Positioning System (DGPS):** A technique to improve GPS accuracy that uses pseudo range errors measured at a known location to improve the measurements made by other GPS receivers within the same general geographic area

c. **Geographic information systems (GIS):** Geographic information systems (GIS) are computer hardware and software that use feature attributes and location data to produce maps. An important function of an agricultural GIS is to store layers of information, such as yields, soil survey maps, remotely sensed data, crop scouting reports and soil nutrient levels.

d. **Remote sensing:** It is the collection of data from a distance. Data sensors can simply be hand-held devices, mounted on aircraft or satellite-based. Remotely-sensed data provide a tool for evaluating crop health. Plant stress related to moisture, nutrients, compaction, crop diseases and other plant health concerns are often easily detected in overhead images. Remote sensing can reveal in-season variability that affects crop yield, and can be timely enough to make management decisions that improve profitability for the current crop.

e. **As a part of Precision Farming, Bigger should ensure IOT driven Sensors able to generate data and feed for**

    i. **Soil:** Soil Texture, Structure, Physical Condition, Soil Moisture; Soil Nutrients, etc.

    ii. **Crop:** Plant Population; Crop Tissue Nutrient Status, Crop Stress, Weed patches (weed type and intensity); Insect or fungal infestation (species and intensity), Crop Yield; Harvest Swath Width etc.

    iii. **Climate:** Temperature, humidity, rainfall, solar radiation, wind velocity, etc.

Following IoT based sensors are to be installed in a single Precision farm station at a minimum

    iv. Wind Speed

    v. Wind Direction

    vi. Atmospheric Humidity

vii. Atmospheric Temperature
viii. Atmospheric Pressure
ix. Solar Radiation
x. Rainfall Sensor
xi. Soil Temperature
xii. Soil Moisture
xiii. Soil PH
xiv. Soil Salinity
xv. Soil EC
xvi. CO2
xvii. Data Logger
xviii. Drones

All the items will be checked thoroughly by concern authorities before installation to ensure the qualities of Items.

AI CAPABILITIES:

Some of the key AI components in precision farming software shall include:

- **Remote Sensing and Image Analysis:** Using AI to analyse satellite and drone imagery to monitor crop health, identify areas of stress, detect pests and diseases, and assess soil conditions.
- **Predictive Analytics:** Using Machine learning models to predict crop yields, facilitate farmers with AI driven recommendation to suggest varieties of crops to be planted, disease outbreaks, and optimal planting and harvesting times based on historical data and current conditions.
- **IoT and Sensor Integration:** Use AI systems to process data from sensors and IoT devices that monitor environmental conditions such as temperature, humidity, soil moisture, and nutrient levels.

- **Weather Forecasting:** Use AI algorithms to analyse weather data and provide real-time forecasts, helping farmers make informed decisions about irrigation and other weather-dependent activities.
- **Soil Health Assessment:** Use AI to analyse soil samples and provide recommendations for soil improvement and nutrient management.
- **Pest and Disease Management:** Use AI to help in identify and track the spread of pests and diseases, enabling targeted treatment and minimizing the use of pesticides.
- **Crop Monitoring and Yield Prediction:** Usage of AI systems to monitor crop growth and predict yields, allowing farmers to make informed decisions about resource allocation and marketing.
- **Data Management and Decision Support:** Integration of AI-driven software to help manage and interpret large volumes of agricultural data, providing insights and recommendations to optimize farming operations.
- **Precision Irrigation:** Usage of data by the AI-powered irrigation systems to determine when and how much water to apply, conserving resources and improving crop health.

Overall, the proposed precision farming web portal shall leverage AI to enhance efficiency, reduce resource wastage, and increase yields in agriculture. These AI technologies shall enable farmers to make data-driven decisions and improve the sustainability and profitability of their operations.

Web Portal in scope of IA:

IA should be responsible for developing Web Portal with the following characteristics:

a) The web portal shall be integrated with AI technologies for data analysis, predictions and recommendations based on the data gathered from the IOT Devices and sensors installed
b) Design, development, testing, implementation, commissioning of a Precision Farming System Web Portal with the help of Artificial Intelligence, IoT sensors, drones and other tools. This includes Requirement Analysis, Project Planning, Risk Planning, UI/UX design, Software development and Quality Management, Testing and implementation of Web Portal System with Real time data availability for Department of Agriculture. Web Portal should be

able to run in all web browsers. Mobile devices, hand-held PDA's etc are not in scope. In-fields variability, spatially or temporally, in soil-related properties, crop characteristics, weed and insect-pest population and harvest data are important databases that need to be developed to realize the potential of precision farming. High level functionalities of the Web Portal includes:

I. Multi User role Management
II. Single authorization factor based login
III. Farmers Management
IV. IoT Sensor Management
V. Farmers Field Management
VI. Drone Management
VII. Farmers Training Management
VIII. Event Management
IX. Collateral Management
X. Notification Broadcasting
XI. Real time feeds to Farmers App.

c) Connectors / APIs for and from Farmers database. Development and Maintenance of Farmers database is non in scope
d) Connectors / APIs for and from Sikkim Agriculture Department Websites. Development and Maintenance of Sikkim Agriculture Department Websites is non in scope
e) Connectors / APIs for all IoT sensors
f) Non Functional requirements of Web Portal
    i. Real Time data feed
    ii. 99.99% availability
    iii. Runs on Artificial Intelligence and Machine learning
    iv. Security using Block chain
    v. Run in all web browsers
    vi. Easily portable
    vii. Plug and Play any new Sensors
    viii. Plug and Play for any new installations of Sensors
    ix. Agile way of development and deployment
    x. Checking for exception logs and fixing
    xi. Performance monitoring and tuning
    xii. Monitoring & keeping track of all the file & record transaction
    xiii. Database will be fully searchable through text
    xiv. Allow users to find data quickly, and filter results by various categories
    xv. English language only
    xvi. Single currency

Mobile App for Farmers in scope of IA:

- IA shall develop a basic quick help mobile app that shall work on Android devices
- The Mobile app shall have offline capabilities for users working in areas with limited internet connectivity.
- Mobile App will be able to receive all important communication from Web Portal. Such communication will provide alerts and messages to farmers
- Enable the mobile app to store essential data locally for offline access and sync with the web portal when a network connection is available.
- The mobile application shall feature an intuitive dashboard that facilitates users with farm data analysis and visualization, crop health report, realtime weather forecasts report and get AI-driven recommendations (notifications and updates in real-time).
- Prepare the app for submission to app stores (Google Play Store and Apple App Store) by complying with their guidelines and policies.

Handholding Activities in scope of IA:

- Post Implementation the IA shall be responsible for preparing comprehensive documentations that includes technical manuals, user guides and system architecture documentations.
- Educate department officials on data management practices, including data backups, storage and security measures.
- Explain the data collection process, data entry and data quality assurance.
- Handover the complete source code of the web portal and mobile app to the department officials.
- Ensure that department officials have access to all project documentation, including design documents, project plans, technical specifications and code comments.

Operation & Maintenance in scope of IA

- Operation & Maintenance for a period of 1year from Go-Live.
  - Compliance to the Functional, Technical & other Requirements
  - Specified in the RFP.
  - Application Software Maintenance, Problem identification
  - &Resolution.
  - Software Change & Version Control as per industry standards.
- Sensor Support & Maintenance - 2 year from Go-Live

Key deliverables of IA

To define the solution addressing the above requirement to include:

- Functional Architecture
- Integration &Deployment Architecture
- Deriving the Detailed Hardware Specification
- GAP analysis & Reporting of the infrastructure
- Defining the SRS
- Unit test plan, Acceptance Test plan and Test cases
- The Application integration architecture with SMS Gateway.
- Application Documentation
- Civil, Mechanical and Electrical work needed for IOT sensor installations
- Procurement, installation configuration of servers.
- Drone operator Training.

5. Terms & Conditions

5.1. Accountabilities

i. It is the Agriculture Department's responsibility to ensure that the selected Vendor has access to documentation owned by Agriculture Department from the immediate beginning of the work and for the duration of that work.

ii. It is the Agriculture Department's responsibility to ensure that any member of their organisation/division can make them available for brief consultation on 1 weeks' notice. Agriculture Department shall provide the Selected Vendor with contact details of all such organisation/division employees.

iii. It is the vendor's responsibility to ensure that the Project Manager (PM)/ or any other authorized person in full knowledge of the project and the matter under discussion is available to meet with Agriculture Department provided that the meeting relates to the work proposed and/or the objectives proposed.

iv. It is the vendor's responsibility to ensure that data transfer connection from IoT sensors to Web application.

v. It is the Vendor's responsibility to ensure that all objectives proposed and all deliverables proposed are achieved and disclosed prior to the agreed end-date of the project.

vi. It is the Vendor's responsibility to ensure any information it possesses relating to Agriculture Department that is not available in the public domain be treated with the utmost confidentiality and discretion.

vii. It is the Vendor's responsibility to ensure any information it possesses relating to Agriculture Department that is not available in the public domain be treated with the utmost confidentiality and discretion.

5.2. Tender Fee

Tender document fee of INR /-50,000 (Rupees Fifty Thousand only) in the form of Bank Receipt (BR) in the head 0401.800.01 for Agriculture Department" payable at Gangtok should be submitted along with the technical bid.

5.3. Earnest Money Deposit

i. An earnest money deposit (EMD) of INR 15,00,000/- (Rupees Fifteen Lakhs only) in the form of Demand Draft in favour of "Secretary, Agriculture Department" payable at Gangtok shall have to be submitted by the bidders' along with the bid. The EMD shall be furnished in Indian National Rupees (INR) and should be valid for a period of minimum 90 days.

ii. Any bid not secured in accordance with above mentioned clause, shall be rejected by the Purchaser as being non-responsive, without any further correspondence. Unsuccessful bidders' EMD will be discharged / returned after end of the overall bid process.

iii. Earnest Money Deposit furnished by selected Bidder shall be refunded after signing of contract and submission of Performance Security Deposit. The EMD can be forfeited if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Bid Form or during the bid process, if a Bidder indulges in any such deliberate act that would jeopardize or unnecessarily delay the process of bid evaluation and finalization, or if any information is found wrong / manipulated / hidden in the bid.

iv. The decision of the Purchaser regarding forfeiture of the EMD shall be final & shall not be called upon question under any circumstances. No interest will be paid on the EMD.

5.4. Payment Terms

Phase	**Payment Milestone**	**Payment**
1	Awarding of Work	0 % of contract value
2	SRS, Installation of IOT sensors for 1 installation and Completion of UX designs and wire frames	25% of contract value
3	Completion of Development and Unit Testing of 1 module of Web Portal (Department or Admin Use)	25% of contract value

3	Completion of Development and Unit Testing for entire Web Portal (Department or Admin Use) and Farmers Mobile App	25% of contract value
4	Completion of System Integration testing and Business User testing and start of Trial Go Live	20% of Contract value
5	After one year of completion of Project	5% of Contract value

*Note: Payment will be made subject to release of payment by Government of India.

*SRS = System requirement Specification.

*IoT = Internet of Thing.

5.5. Procedure for Submission of Bids

a. It is proposed to have a Three Cover for this tender:

   Pre – Qualification Bid (Technical Bid)– (1 copy) in one cover/ also to be submitted online.

   Commercial Bid - (1 copy) to be submitted online.

b. Pre-Qualification Bid, (Technical Bid) sealed covers super-scribing Pre-Qualification Bid/Technical Bid".

c. The one covers containing Pre-qualification Bid/Technical Bid shall be put in single envelope clearly marked “Selection of firm/agency for Development & Implementation of Precision Farming in Sikkim for Agriculture Department.” These cover is to be superscripted with Tender Number and the wordings “DO NOT OPEN BEFORE 11.00 AM on “”.

d. The cover thus prepared shall also indicate clearly the name, address, telephone number, E-mail ID and fax number of the Bidder to enable the Bid to be returned unopened in case it is declared "Late”.

e. Each copy of the tender shall be a complete document and shall be bound as a volume. The document shall be page numbered and appropriately flagged and must contain the list of contents with page numbers. Different copies must be bound

separately. Any deficiency in the documentation may result in the rejection of the Bid.

f. The Tender should be signed on all the pages by the Bidder 's authorized signatory and should be affixed with the bidder's Seal.

g. The representative participating in the bid process should carry a letter of authorization on the company letter head.

5.6. Selection Procedure

Only the bidders fulfilling the Prequalification Bid Criteria as per Clause 5.7 and scoring 70 or above in the Technical Evaluation criteria as per Clause 5.8. The covers marked "Pre-qualification Bid/Technical bid" shall be opened first. The cover marked "Financial Bid" online shall be opened only after evaluation of technical bid.

Evaluation of Bid:

For financial evaluation, the total cost indicated in the Financial Bid including all Taxes will be considered. The Lowest financial bid will be allotted a financial mark of 100 marks. The financial marks of other Bidder(s) will be computed by measuring the respective financial bids against the lowest financial bid.

$$\text{Financial Marks } (M_F) = \frac{\text{Lowest Financial Bid Amount}}{\text{Bidder's Actual Financial Bid Amount}} \times 100$$

Combined and Final Evaluation

The composite mark is a weighted average of the Technical and Financial Marks. The ratio of Technical and Financial mark is 70:30 respectively. The Composite Mark will be derived using the following formula.

$$\text{Composite Mark} = (MT \times 0.7 + MF \times 0.3)$$

*MT= Marks in Technical Evaluation

*MF= Marks in Financial Evaluation

Thus, the composite mark shall be out of a maximum of 100 marks. The responsive Bidder(s) will be ranked in descending order according to the composite marks, which is calculated based on the above formula. The highest-ranking Bidder will be the firm who scores the highest composite marks.

5.7. Pre-Qualification Bid Criteria

The bidders must enclose the (hard copy) also in the following documents for pre-qualification evaluation:

SNo	Criteria	Documents Required
1	The Bidder must be a reputed company in the field of Information Technology with a comprehensive experience in Software development & deployment solutions registered with Government of Sikkim and must be in the business for the last 5 years (as on 31st December 2022)	Registration of firm, trade license and GST registration should be submitted
2	The Bidder must have valid IT empanelment certificate issued from Department of Information Technologies, Government of Sikkim.	IT Department, Govt. Of Sikkim empanelment certificate
3	Bidder (Bidder(s) in the case of consortium) should have a registered business entity in the state of Sikkim. In case of the Consortium Bidder, Bidder will have to submit Consortium agreement/ MoU	Consortium agreement/ MoU
4.	The bidder should have at least last three years (2020-2021, 2021-2022, 2022-2023) financial statement audited.	The Financial statement should be duly certified by the Chartered Accountant.
5.	The bidder should have provided and successfully completed at least Five (5) IT/software-based services to Government of Sikkim during the last three financial years.	Work Orders and completion certificate to be enclosed. The information should be submitted as per the format 3 of the Annexure I of this document

6.	The bidder should be a registered firm/company in Sikkim and should have a well-established office in Gangtok with at Least 4 qualified IT personnel in their continuous pay roll for the last 2 years.	The address proof of the office, website and salary certificates of the IT developer along with their Curriculum Vitae as per format 2 of Annexure I should be submitted. Registration of firm with the Government of Sikkim certification.
7	The consortium bidder must have average annual year turnover of Rs. 12 Crore (Rupees Crore) in the last five financial years ending with 31st March 2023.	The Financial statement should be duly certified by the Chartered Accountant.
8.	Bidder should NOT be under a declaration of ineligibility for corrupt and fraudulent practices issued by the tendering authority.	Self-declaration certification to be submitted.
9.	The Bidder shall furnish, as part of its Bid, an Earnest Money Deposit (EMD) of Rs.15,00,000/- (Rupees Fifteen lakh Only) in the form of a DD in the favor of "Secretary, Agriculture Department", payable at "Gangtok". No Bank Guarantee would be entertained for the same.	The EMD shall be denominated in Indian Rupees.
10	The offer is for the entire work and not for part of the work.	Undertaking to be submitted.

***Note**:*

i. The tender fee and EMD to be submitted in original as mentioned in this Tender Documents.
ii. Bidders must provide supporting documents for the eligibility criteria as mentioned against each criterion and in the same order.
iii. Bidders shall provide its proposal covering letter as per format of Annexure-III, organizational details as per Format 1 of Annexure-I.
iv. Bidders failing to meet any one of the criteria laid above shall be disqualified and will not be allowed to participate in the technical bid.

5.8. Technical Evaluation Criteria

The eligible bidders shall be evaluated based on the following criteria and technical mark shall be awarded to the bidders. The bidder needs to score at least 70 marks or above out of a total of 100 marks to be able to qualify for commercial/financial bid opening.

Sl No	Phase	Details	Maximum Marks
1	Project Requirements understanding, creative and usability, design and operational management	Details on how usability will be handled, requirements will be gathered, risk and people management process.	15 Marks
2	Technical Expertise	Expertise and experience required to deliver the project as defined in the qualification criteria. Bidders to share: 1. TieUps / Partner agreements with AI, ML, Blockchain and Cloud providers	10 Marks
		2. Projects where you have implemented AI / NLP with Project value Completion certificate and Client references	10
		3. One project where you have implemented "Precision Farming" with Project value, Completion certificate and Client references (Bidder should fill the details in Annexure 1, Format 3)	10
		4. Overall Manpower, qualification and experience you have and manpower proficient in AI and ML (Bidder should fill the details in Annexure 1, Format 2)	10

3	Technical Presentation	Presentation of overall system development, implementation and support strategy	15 Marks
4	Valuation of firm/JV	The annual turnover and valuation	6 marks
5	Already worked as a software provider for the Sikkim Government	Having worked for the Sikkim government earlier would give the bidder understanding of the lay of the land.	10 Marks
6	Presence in Sikkim	A registered branch/company in Sikkim	7 marks
7	Promotion of Local Representation	Bidder is of Sikkimese origin (Sikkim Subject or COI to be submitted). Developers, Manages with Sikkimese origin (Sikkim Subject or COI to be submitted).	7 marks

*Note : Sl. No. 1 to 3 are to be presented in ppt format before Tender Committee on 29/11/2023 at 11 am at Conference hall, Agriculture Deptt., Krishi Bhawan, Tadong.

5.9. General Terms and Conditions of Tender Documents

The following general terms and conditions shall apply:

i. If any date mentioned in this Tender Documents is declared as a public holiday, the schedule shall be shifted to the next working day.

ii. The undersigned reserves the right to cancel any or all of the bids without assigning any reasons thereof.

In case of any dispute, the jurisdiction of the Courts of Law at Gangtok would apply.

iii. A delay of more than 3 weeks in executing the task to be treated as material breach & the contract may be terminated with a notice of 7 days.

iv. Arithmetical errors in the Financial Bid will be rectified on the following basis:

   a. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and will be considered for future calculations.

   b. If there is a discrepancy between words and figures, the amount in words shall prevail.

   c. If the bidder does not accept the correction of errors, its bid will be rejected and its EMD may be forfeited.

(Sd/-)
Deputy Director (IT),
Agriculture Department

Annexure – I: Technical Bid Formats

Format 1: General Information about the Bidder

SNo	Particulars	Details
1.	Name of the Firm/Bidder and GST number	
2.	Address of the Firm/Bidder	
3.	Constitution of the Bidder	
4.	Name & Designation of the Contact Person	
5.	Telephone No.	
6.	Email of the contact person	
7.	Fax No.	
8.	Website	
9.	Certificate/License of Incorporation	
10.	No. Of years in software development business	
11.	No. Of employees with biodata having experience in the field of Information Technology*	
12.	Technical Certifications obtained	
13.	Experienced of Firm on Precision Farming	
13.	Income Tax Registration/ PAN Card No.	
14.	Goods & Service Tax Registration No.	

***The firm had to submit undertaking that the employees selected for the purpose of preparing the application shall not be replaced unless with higher categories of man power.**

Format 2: Curriculum Vitae of the IT resources

SNo	Particular	Details
1.	Name	
2.	Position	
3.	Date of Birth	
4.	Educational Qualification	
5.	No. of years of relevant experience	
6.	Key Projects/Responsibilities Handled	

Format 3: Project Experience

SNo	Name of the Project	Department Name & Address	Project Value (In INR)	Project Period (From-To/Ongoing)	Page Ref. of Supporting Documents in the Technical Bid
1.					
2.					

Annexure – II: Financial Bid Formats

Financial Bid Format:

Sl. No	Item	Total Price in INR	Total Price in Words
1.	Development & Implementation of Precision Farming (Web Portal & Mobile App) for Agriculture department.		
2.	Security Audit and hosting of application in SDC/NIC Server		
3	Training, Handholding with 2 years post implementation maintenance and support		
	GST		
	Grand Total		

Note*

i. The amount quoted shall be inclusive of all taxes and fees.
ii. Income tax will be deducted at source from the payments made as per the law applicable in India.
iii. If financial bid is found more than actual estimated cost of Project then Department shall proceed for negotiation or reserve the right to reject the bid.

Annexure – III: Proposal Covering Letter

COVERING LETTER for "Selection of Firm for Development & Implementation of Precision Farming in Sikkim for Agriculture Department"

Date: Reference No.: /……..

[Bidders are required to submit the covering letter as given here on their letterhead]

To,
Name,
Address
Gangtok – 737101, Sikkim

Dear Sir,
We …….. (Name of the bidder) hereby submit our proposal in response to Tender Documents date …….. and Tender Documents no. …….. and confirm that:

i. All information provided in this proposal and in the attachments is true and correct to the best of our knowledge and belief.
ii. We shall make available any additional information if required to verify the correctness of the above statement.
iii. Certified that the period of validity of bids is 90 days from the last date of submission of proposal, and
iv. We are quoting for all the services mentioned in the tender.
v. We, the undersigned, having carefully examined the referred Tender Documents, offer to Propose for the selection as a Software developing firm, in full conformity with the said Tender Documents.
vi. We have read all the provisions of Tender Documents and confirm that these are acceptable to us.
vii. We further declare that additional conditions, variations, deviations, if any, found in our proposal shall not be given effect to.
viii. We declare that we do not have any interest in downstream business, which may ensue from the E Tender Documents prepared through this assignment.
ix. We hereby declare that all the information and statements made in this proposal are true and accept that any misrepresentation or misinterpretation contained in it may lead to our disqualification.
x. We understand you are not bound to accept any proposal you receive, not to give reason for rejection of any proposal and that you will not defray any expenses incurred by us in bidding.
xi. Demand Draft: Draft No. _____ dated _____ drawn on _____ for Rs. /- is enclosed towards EMD.

xii. Bank Receipt: BR No. _____dated ___ for Rs. /- is enclosed towards Tender Documents cost.

Signature……..

In the capacity of……

Duly authorized to sign Proposal for and on behalf of……...

Date……..

Place……..

[*: Strike off whichever is not applicable].