

DEPARTMENT OF SOIL SURVEY & SOIL CONSERVATION

DIRECTORATE, HQ

Vazhuthacaud, Thiruvananthapuram

e-mail:soildirector@gmail.com, Phone: 0471-2778760/1

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Sub:- Expression of Interest (EOI) for hand holding support for the development of Geo portal- called for-reg:-

EXPRESSION OF INTEREST

The Department of Soil Survey and Soil Conservation, Government of Kerala, possesses an Enterprise GIS infrastructure for management and dissemination of soil and land-resource information, including ArcGIS Server Enterprise Advanced and associated GIS infrastructure. The Department has generated extensive spatial and attribute datasets through systematic soil survey, soil mapping, land resource assessment and related GIS activities. These datasets constitute a valuable repository of soil, land and natural-resource information of the State.

The Department proposes to utilize its existing GIS infrastructure and departmental datasets for establishing an interactive, statewide Soil Information WebGIS Portal for dissemination, visualization, query and management of approved soil and land-resource information.

For this purpose, the Department has prepared a Software Requirements Specification (SRS) defining the functional, technical and operational requirements of the proposed WebGIS . The SRS shall form the principal technical basis for the proposed system and shall be referred to for detailed requirements and implementation.

The Department proposes to obtain **technical handholding and implementation support from a competent institution, preferably a Government institution or other technically competent organization having proven experience in ArcGIS GIS, ArcGIS Server Enterprise and WebGIS implementation.**

The selected institution will be expected to provide technical expertise, system design, configuration/development support, data integration, testing, training, knowledge transfer and handholding so as to enable the Department to progressively develop, operate, administer, update and maintain the system independently.

Objectives

1. Expression of Interest (EOI) meant to identify and select a suitable technically competent institution preferably a Government institution capable of providing technical handholding and implementation support for the proposed Soil Information WebGIS having proven experience in Enterprise GIS, ArcGIS Enterprise/ArcGIS Server and WebGIS implementation.
2. The proposed engagement shall primarily be in the nature of technical handholding, system configuration/development, implementation assistance, training and knowledge transfer, utilizing the Department's

existing GIS infrastructure and datasets.

3. The EOI is intended to facilitate evaluation of the technical capability, institutional experience, proposed methodology, manpower, implementation schedule and financial requirements of interested institutions.
4. Based on the EOI and the subsequent discussions/assessment by the Department, the selected institution may be engaged for implementation of the proposed activities through an appropriate Memorandum of Understanding (MoU)/agreement with the Department, subject to the applicable Government/Departmental procedures and approvals.

Existing Departmental Infrastructure and Resources

The Department shall make available, subject to applicable administrative and security procedures, the existing resources required for implementation, including:

1. Existing ArcGIS Enterprise/ArcGIS Server Enterprise Advanced infrastructure and associated software licences.
2. Existing server, virtual machine, storage and network infrastructure available for the GIS environment.
3. Existing departmental spatial and attribute datasets.
4. Departmental subject matter expertise and a team to develop the required for validation and approval of datasets and outputs.
5. Required administrative and technical access to the Enterprise GIS environment, as considered appropriate.
6. Nodal officers and designated Department personnel for coordination, review, testing and training.

The technical handholding institution shall provide the required technical expertise, implementation support, configuration/development support, data preparation assistance, testing, training, documentation and knowledge transfer.

Principal Technical Basis – Software Requirements Specification

The Department approved **Software Requirements Specification (SRS)** shall constitute the principal technical basis for the proposed Soil Information WebGIS Portal.

The SRS broadly envisages an Enterprise GIS ecosystem comprising:

- Citizen GIS Portal;
- Internal Department GIS Portal;
- Enterprise Geodatabase;
- Soil and land-resource datasets;
- Search and query functions;
- Spatial analysis;
- Reports and maps;
- Dashboards;
- Role-based access;
- Data governance;
- QA/QC;

- Metadata;
- Security;
- Administration and monitoring.

The selected institution shall review the SRS and translate the requirements into an implementable technical architecture and phased implementation plan.

Scope of Technical Handholding Services

The technical handholding support shall cover the following areas.

1. System Architecture and Technical Design

The selected institution shall:

- Review the SRS and existing GIS environment.
- Assess the existing Enterprise GIS infrastructure.
- Prepare the technical architecture for the proposed WebGIS .
- Define application, data, service and user-access architecture.
- Recommend appropriate ArcGIS Enterprise components and configuration.
- Identify priority datasets and applications for initial implementation.
- Prepare an implementation methodology and work programme.
- Provide recommendations for subsequent expansion of the system.

2. Enterprise Geodatabase

Technical assistance shall be provided for establishment/configuration of the Enterprise Geodatabase framework, including:

- Database architecture;
- Feature dataset organization;
- Feature class structure;
- Attribute structure;
- Domains and coded-value domains;
- Basic relationships;
- Spatial reference framework;
- Naming conventions;
- Data ownership structure;
- Data publication structure;
- Data dictionaries and metadata framework.

The database design shall be finalized in consultation with the Department based on the datasets identified for implementation.

3 Data Integration, Preparation and QA/QC

The selected institution shall provide technical support for integration and preparation of prioritized departmental datasets, including, as applicable:

- Administrative boundaries;
- Soil and land resources datasets;
- Hydrology/watersheds;
- Soil nutrient datasets and
- Other priority datasets identified by the Department.

Data preparation and quality checking may include:

- Geometry validation;
- Projection and coordinate-system checks;
- Attribute validation;
- Domain/value checks;
- Duplicate identification;
- Missing-value checks;
- Basic topology checks;
- Boundary consistency checks;
- Data organization and naming;
- Metadata preparation; and
- Preparation of datasets for Enterprise GIS publication.

The final list and priority of datasets shall be mutually agreed during the inception stage.

4 ArcGIS Enterprise Configuration

Technical support shall be provided for configuration and optimization of the Department's existing Enterprise GIS environment, including, as required:

- GIS services;
- Map/feature services;
- Web maps;
- Portal groups;
- Users and roles;
- Sharing and access permissions;
- Layer publication;
- Service organization;
- Application configuration;
- Basic administrative configuration;
- Security and access-control configuration; and
- Monitoring and troubleshooting.

5 Citizen GIS Portal

The selected institution shall provide technical support for development/configuration of an initial Citizen GIS interface based on the SRS and approved Departmental requirements.

The initial implementation may include:

- Public landing page;
- Interactive map;
- Layer catalogue;
- Administrative/location-based search;
- Identify/query;
- Basic map navigation;
- Selected soil information;
- Selected thematic layers;
- Basic map printing/output;

- Approved public information;
- Selected reports/statistics; and
- Basic citizen-oriented visualization.

The complete Citizen GIS functionality envisaged in the SRS may be progressively expanded based on requirements and available resources.

6 Internal Department GIS Portal

Technical support shall also be provided for establishment of an initial secured Internal Department GIS interface for authorized Department personnel.

The system may include:

- Secure user access;
- Role/group-based access;
- Internal map viewing;
- Layer search;
- Attribute query;
- Basic spatial query;
- Measurement;
- Layer filtering;
- Authorized editing, where required;
- Controlled data access; and
- Internal information visualization.

Detailed workflows for field officers, district users, reviewers, laboratory users, decision-makers and GIS administrators may be progressively developed.

7 Soil Information Module

As the core component of the proposed system, priority shall be given to development/configuration of an initial Soil Information module.

The module may include:

- Soil survey layers;
- Soil mapping units/soil series;
- Soil attributes;
- Administrative-unit-based search;
- Feature identification;
- Soil information pop-ups;
- Basic statistics;
- Thematic visualization; and
- Approved soil-related reports.

The scale and datasets to be included shall depend upon data readiness and Departmental priority.

8 Land Use, Hydrology and Other Thematic Components

Subject to data availability and priority, selected land-use, watershed, stream, waterbody and other thematic layers may be integrated and published.

Basic visualization, identification, filtering and query functionality may be provided during the initial implementation.

9 Soil Nutrient Component

Where suitable departmental laboratory nutrient datasets are available and approved for publication, selected nutrient information may be integrated.

The initial functionality may include:

- Sample/point visualization;
- Selected nutrient attributes;
- Administrative filtering;
- Basic thematic representation;
- Selected fertility/deficiency classification; and
- Basic reporting.

Advanced interpolation, modelling, historical analysis and other specialized functions may be considered in subsequent phases.

10 Search, Query, Reports and Dashboards

Technical support shall be provided for selected essential GIS tools and outputs, including:

- Identify;
- Attribute search;
- Administrative filtering;
- Basic spatial query;
- Measurement;
- Layer visibility;
- Transparency;
- Selection;
- Map navigation;
- Map printing;
- Administrative-unit-wise statistics;
- Selected soil statistics;
- Selected land-use statistics;
- Basic nutrient/fertility statistics; and
- Selected dashboard views.

The number and nature of reports and dashboards for Phase-I shall be finalized during the inception stage.

11 User Roles, Security and Access Control

The selected institution shall assist the Department in establishing an appropriate user and group framework, including:

- Public users;
- Internal Department users;
- Editors;
- Reviewers;
- GIS administrators;
- Laboratory/technical users; and
- Other authorized users as approved by the Department.

Access shall be controlled according to the approved role and responsibility of users. No departmental data shall be made publicly accessible without authorization from the Department.

12 Metadata and Data Governance

Technical support shall be provided for establishing a basic data governance and metadata framework covering:

- Dataset ownership;
- Source;
- Scale;
- Projection;
- Date;
- Update responsibility;
- Description;
- Attribute definitions;
- Quality statement;
- Public/internal classification;
- Publication status; and
- Restrictions/limitations on use.

13 Testing, UAT and Commissioning

The selected institution shall provide technical assistance for:

- Functional testing;
- Data validation;
- Application testing;
- Access-control testing;
- Basic performance checking;
- User Acceptance Testing;
- Rectification of implementation-related issues; and
- Initial commissioning.

The Department shall nominate officers/personnel for UAT and provide consolidated observations and feedback.

14 Deployment and Handover

The system shall be configured/deployed within the Department's existing infrastructure, subject to infrastructure readiness and required permissions.

The selected institution shall assist in:

- Deployment;
- Configuration;
- Final testing;
- Initial commissioning;
- System handover;
- Documentation; and
- Knowledge transfer.

Expected Deliverables

The selected institution shall provide, as applicable to the agreed Phase-I scope:

A. Technical Deliverables

1. Inception report and implementation plan.
2. Technical architecture document.
3. Enterprise Geodatabase/data model framework.
4. Configured Enterprise GIS services.
5. Priority datasets integrated and prepared for publication.
6. Initial WebGIS application.
7. Initial Citizen GIS interface.
8. Initial Internal Department GIS interface.
9. Soil Information module.
10. Selected reports/dashboard.
11. Basic role and access-control framework.
12. Testing and UAT support.

B. Data Deliverables

1. Prepared datasets.
2. Data dictionary.
3. Basic metadata.
4. QA/QC records.
5. Data publication-ready datasets.

C. Documentation Deliverables

1. Technical architecture documentation.
2. Database/data model documentation.
3. Data publication procedures.
4. Basic system administration guidelines.
5. User guidelines.
6. QA/QC guidelines.
7. Handover documentation.

D. Training Deliverables

1. Hands-on training sessions.
2. Administrator training.
3. User training.
4. Knowledge-transfer materials.
5. Basic troubleshooting guidance.

Implementation Schedule

The project shall be completed within a maximum period of six months from the date of execution/signing of the MoU/agreement, subject to timely availability of infrastructure, datasets, approvals and Departmental support.

Institutional Eligibility and Experience

Interested institutions should preferably satisfy the following requirements:

1. Minimum 10 years of institutional experience in GIS/geospatial activities.
2. Demonstrated experience in Enterprise GIS and WebGIS implementation.

3. Demonstrated technical expertise in ArcGIS Enterprise/ArcGIS Server and associated ESRI technologies.
4. Experience in spatial database/Enterprise Geodatabase development and management.
5. Experience in WebGIS application development/configuration.
6. Experience in GIS data integration, validation and QA/QC.
7. Experience in GIS-based dashboards, web applications and spatial information systems.
8. Experience in training, capacity building and technical handholding.
9. Availability of suitably qualified technical personnel for the proposed assignment.
10. Experience in implementation of comparable GIS projects for Government Departments, public institutions, academic/research institutions or other organizations shall be given due consideration.

The EOI shall include details of comparable projects undertaken, preferably indicating:

- Name of project;
- Client/Department/Institution;
- Year and duration;
- Scope of work;
- GIS/ ArcGIS technologies used;
- Enterprise/WebGIS components implemented;
- Role of the institution;
- Major deliverables; and
- Present status of the system, wherever applicable.

Proposed Technical Manpower

The interested institution shall indicate the technical manpower proposed for the assignment.

The EOI shall indicate the qualification, experience and proposed role of each key personnel.

Financial Proposal

The interested institution shall furnish the proposed financial outlay for providing the technical handholding and implementation support.

The financial proposal shall clearly indicate:

1. Total professional/technical service charges.
2. Applicable taxes, if any.
3. Major cost components, if applicable.
4. Training and knowledge-transfer costs.
5. Post-deployment/stabilization support included in the proposal.
6. Any additional costs, exclusions or assumptions.

The Department's existing GIS infrastructure and software licences shall be utilized for the proposed implementation. Any requirement for additional hardware, software licences, third-party services or major infrastructure upgrades shall be

separately identified.

Training and Knowledge Transfer

Training and knowledge transfer shall form an integral part of the assignment. The selected institution shall provide hands-on training to designated Department personnel covering, as applicable:

- ArcGIS Enterprise environment;
- Enterprise Geodatabase;
- Data management;
- Data publication;
- Web map management;
- WebGIS application management;
- User and group management;
- Dashboard/report management;
- Data updating;
- QA/QC;
- Basic troubleshooting;
- Routine administration; and
- System operation and maintenance.

The objective shall be to enable Department personnel to progressively develop, operate and manage the system independently.

Post-Deployment and Technical Support

The selected institution shall provide technical handholding during the implementation and initial stabilization period.

The support may include:

- Technical troubleshooting;
- Configuration assistance;
- Data publication assistance;
- User-management support;
- Basic application support;
- QA/QC assistance;
- Training support;
- Knowledge transfer; and
- Resolution of implementation-related issues.

The institution shall clearly specify the duration and nature of post-deployment/stabilization support included in its proposal.

Long-term AMC/support beyond the agreed engagement period may be considered separately by the Department, if required.

Data Ownership and Custodianship

All departmental spatial and attribute datasets, maps, databases, documents and information provided to the selected institution shall remain the exclusive property and custodianship of the Department of Soil Survey and Soil Conservation.

The selected institution shall not claim ownership or intellectual property rights

over the Department's existing datasets.

Any new database structures, configurations, application components or documentation developed specifically under the assignment shall be dealt with as per the terms of the MoU/agreement.

Confidentiality, Security and Access Control

The selected institution shall maintain confidentiality regarding departmental datasets, system configurations, credentials, infrastructure details and other information accessed during implementation.

1. Departmental data shall be used only for the approved purpose.
2. Access to departmental systems shall be provided only to authorized personnel.
3. System credentials shall not be shared with unauthorized persons.
4. Confidential/internal datasets shall not be published or transferred outside the approved environment without written authorization.
5. Public dissemination shall be restricted to datasets and information specifically approved by the Department.
6. The selected institution shall follow the security and access-control procedures prescribed by the Department.
7. On completion of the assignment, access provided to external personnel shall be withdrawn or modified as directed by the Department.

Departmental Responsibilities

The Department shall provide necessary support including:

1. Existing ArcGIS Enterprise infrastructure and available software licences.
2. Server, storage and network resources available for the project.
3. Required datasets for the agreed Phase-I scope.
4. Available metadata and data dictionaries.
5. Subject-matter expertise.
6. Approved classifications and symbology.
7. Approved public-facing content.
8. Malayalam/English content, wherever required.
9. Nodal officers and designated technical team
10. Timely review and approval of outputs.
11. UAT support.
12. Personnel for training.
13. Required permissions for system integration and deployment.

General Terms and Conditions

1. The EOI shall be submitted based on the requirements contained in this document and the SRS supplied/made available by the Department.
2. The SRS shall constitute the principal technical reference for the proposed system.
3. The Department reserves the right to modify/refine the scope in consultation with the selected institution.
4. The final list of datasets and functionalities shall be mutually agreed during the

inception stage.

5. The project shall be completed within a maximum period of six months from execution of the MoU/agreement, subject to the conditions specified herein.
6. The selected institution shall provide adequate technical manpower throughout the agreed implementation period.
7. The Department shall retain ownership and custodianship of its datasets.
8. The selected institution shall maintain confidentiality and comply with Departmental security requirements.
9. Major changes to the approved scope may require revision of the implementation schedule and financial requirements.
10. Any additional hardware, software, third-party services or infrastructure upgrades shall be outside the financial proposal unless specifically included.
11. Any substantial additional development shall be considered separately.
12. Applicable taxes, duties or statutory charges shall be indicated separately in the financial proposal.
13. The final engagement shall be subject to administrative and financial approvals and execution of an appropriate MoU/agreement.
14. Submission of an EOI shall not confer any right on the applicant for selection or award of the assignment.
15. The Department reserves the right to accept or reject any EOI, wholly or partly, without assigning reasons, subject to applicable rules and procedures.
16. The Department may seek clarification, presentation or technical discussion from interested institutions, wherever considered necessary.
17. The selected institution shall coordinate with the designated Departmental nodal officer throughout the implementation.
18. The Department may consider subsequent phases based on the outcome of Phase-I and future requirements.

Submission Requirements

Interested eligible institutions are requested to submit a detailed EOI containing the following:

1. Institutional profile.
2. Details of institutional experience in GIS/geospatial activities.
3. Details of experience in Enterprise GIS, ArcGIS Enterprise/ArcGIS Server and WebGIS.
4. Details of at least relevant/comparable projects undertaken.
5. Proposed approach and methodology.
6. Proposed technical architecture/implementation approach.
7. Proposed scope and deliverables.
8. Proposed six-month implementation schedule.
9. Proposed technical manpower and qualification of key personnel.
10. Training and knowledge-transfer plan.
11. Post-deployment/stabilization support proposal.

12. Financial outlay with applicable taxes indicated separately.
13. Relevant terms and conditions proposed by the institution.
14. Any other information considered relevant to demonstrate technical capability.

Submission of EOI

The detailed EOI shall be submitted to the Department of Soil Survey and Soil Conservation **on or before 12.10.2026** for further necessary action.

The submission shall clearly indicate that the proposal is for **technical handholding and implementation support for the Soil Information WebGIS Platform based on the Department's existing Enterprise GIS infrastructure and the requirements specified in the SRS.**

Conclusion

The proposed Soil Information WebGIS Portal is intended to provide an integrated dissemination and management system for extensive soil and land-resource information generated by the Department.

The Department has already established the essential GIS infrastructure and possesses substantial spatial and attribute datasets. The proposed technical handholding engagement is therefore intended to leverage this existing investment by obtaining specialized technical support for system architecture, Enterprise Geodatabase establishment, data integration, WebGIS configuration/development, Citizen and Internal GIS interfaces, testing, training, knowledge transfer and initial operationalization.

The Department accordingly invites technically competent institutions having proven experience in Enterprise GIS, ArcGIS Enterprise/ArcGIS Server and WebGIS implementation to submit their detailed Expression of Interest for consideration.

Yours faithfully,

Saju K Surendran
DIRECTOR