



Food and Agriculture
Organization of the
United Nations



Expression of Interest (EOI)

Consultancy Services for

“Development of an interactive online portal to link nurseries, youth entrepreneurs, and buyers, facilitating seedling sales, business networking, and knowledge sharing on best practices”

Project

Strengthening community capacity in nursery management, scaling up tree seedling supply chain, and fostering youth environmental stewardship for sustainable reforestation and ecosystem rehabilitation in Cox’s Bazar, Bangladesh

Supported by

Food and Agriculture Organization of the United Nations (FAO)

Implemented by

CENTER FOR NATURAL RESOURCE STUDIES (CNRS)

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Center for Natural Resource Studies (CNRS)

Expression of Interest (EOI)

Strengthening community capacity in nursery management, scaling up tree seedling supply chain, and fostering youth environmental stewardship for sustainable reforestation and ecosystem rehabilitation in Cox's Bazar, Bangladesh project

Supported by Food and Agriculture Organization of the United Nations (FAO)

Date: 06 August 2025

Assignment title: Development of an interactive online portal to link nurseries, youth entrepreneurs, and buyers, facilitating seedling sales, business networking, and knowledge sharing on best practices

Contract type: Firm or Individual Consultant

1. Background

The Centre for Natural Resource Studies (CNRS) is a nationally pro-environmental NGO in Bangladesh, working since 1994 to promote sustainable natural resource management and community resilience. With operational coverage in 124 upazilas across 31 districts, CNRS has a strong track record in implementing innovative programs on climate change, disaster risk reduction, sustainable livelihoods, health, and applied research. Its approach emphasizes community participation, technological integration, and inclusive development.

CNRS, with the support of the Food and Agriculture Organization of the United Nations (FAO), is implementing a project titled "Strengthening community capacity in nursery management, scaling up tree seedling supply chain, and fostering youth environmental stewardship for sustainable reforestation and ecosystem rehabilitation in Cox's Bazar, Bangladesh Under Safe Access to Fuel and Energy Plus (SAFE+) 2" from December 2024 to December 2025. The project aims to contribute to the restoration and preservation of Cox's Bazar's ecosystem by promoting sustainable and community-based practices in environmental conservation, establishing new or enhancing existing government and private nurseries in the four sub-districts of the Cox's Bazar region: Ramu, Cox's Bazar Sadar, Teknaf, and Ukhia, improving the environment and ecosystems in Rohingya camps, and promoting environmental stewardship among youth and communities.

Key activities of the project include capacity building of local nurseries, strengthening the tree seedling supply chain, reforestation and ecosystem rehabilitation, youth engagement in nursery business and environmental stewardship, conservation of endangered mother tree species, establishment of model nurseries, development of an online portal, assessment of the overall nursery production system, and development of a monitoring guideline/framework for sustainable operation of the nurseries.

2. Objectives of the assignment

To design, develop, and deploy an interactive, inclusive, and user-friendly digital platform (web portal) that strengthens the nursery seedling supply chain by facilitating seedling sales, enhancing market linkages, promoting youth entrepreneurship, and enabling knowledge sharing and collaboration among nursery owners, buyers, and other stakeholders contributing to sustainable reforestation and ecosystem restoration efforts in Cox's Bazar.

The specific objectives are:

- i) Design, develop, and implement a secure, robust, and user-friendly web portal to connect nursery owners, youth entrepreneurs, buyers, and other stakeholders in the seedling supply chain, with multilingual functionality and integration into the relevant website(s).



- ii) Enable a digital marketplace to facilitate seedling sales, real-time buyer-seller interactions, and inventory tracking, while promoting business networking, mentorship, and association building among nursery actors, especially youth-led and rural enterprises.
- iii) Support knowledge sharing and capacity building through accessible training content, climate-resilient practices, and localized resources, while ensuring inclusivity, digital accessibility, and basic monitoring features to strengthen sustainable nursery operations and environmental stewardship.

3. Scope of work

Based on the objectives of this assignment, the selected firm or individual will be responsible for conceptualizing and developing the architecture, design, and full software solution for the web platform in accordance with the specified requirements:

1. Modules

- i. Develop features for nursery profile creation and management, including nursery name, geolocation (map-based), licensing details, contact information, and seedling listings with species, descriptions, quantities, pricing, and images. Include a buyer inquiry/contact feature.
- ii. Develop inventory management for nurseries, such as species-wise catalog, real-time stock tracking, and advanced sorting and filtering options, including location-based nursery search and regional species availability.
- iii. Create a resource hub for uploading and accessing knowledge materials (documents, images, presentation slides, and videos), with a rotating display showcasing at least the five most recent uploads.
- iv. Develop a content management system (CMS) for administrators to manage platform content, including creation, organization, media handling, and a publishing workflow (e.g., drafts, reviews, approvals). The CMS should support customizable themes, an admin dashboard for managing registered nurseries (e.g., approve/reject registrations), monitoring transactions and listings, generating analytics and reports, and handling user registration and authentication with appropriate security protocols.

2. IT Architecture

- i. Front-end: a web-based application that accesses application services and data to the back-end; Design and create user-friendly interfaces (UI) and ensure a positive user experience (UX) for all user types.
Back-end : Protected Server-side to access application data and services.
- ii. Data-layer: a database storing all application data.
- iii. The system back-end must provide protected import/export APIs for data exchange with other applications and support incremental import/export based on timestamp and/or a progressive counter. Easy data export-import of different formats (.xls(x), .csv) needs to be included.
- iv. Web application/portal must support HTTPS protocol.
- v. The back end must be deployable as “single fat jar” with no external dependencies and no need of external http application server or similar technologies.
- vi. Ability to recover deleted data and no data should be purged from the system by end-users.
- vii. The system should be scalable with issues tracking, bug reporting and change management.
- viii. Consider the potential for future integration with other systems.



- ix. The system should be fully functional in implemented remote areas where Internet connectivity is limited/not stable with frequent auto-saving capability to tackle electricity failures.
- x. A system-wide search function that is not restricted to specific modules but operates across the system.
- xi. Changes and recovery of own end-user password should be possible without manual approval from an administrator by ensuring security measures such as rate limiting & CAPTCHA.
- xii. All fields should be numeric where applicable and have select options to limit free text input to reduce data entry errors.
- xiii. Develop communication features (e.g., contact forms, basic forum).
- xiv. Ensure the platform supports both Bangla and English languages.

3. User Interface

- i. Online documentation for reference by both end-users and technical support teams/system administrators.
- ii. Include a role-based user registration and login system such as login for nurseries, buyers, admin and role-based- access such as nursery owner, buyers, admin, extension staff etc.
- iii. Ensure a data drilling down method of exploring multidimensional data by moving from one level of detail to the next
- iv. Data entry forms need to be expandable and collapsible according to user requirement and with visible data entry status along with a proper data validation mechanism at the time of data submission.
- v. Executable icons should be on the view window at all times to avoid scrolling far right to search for these icons.
- vi. Ensure the platform is responsive and accessible across all device types, automatically adapting to various screen sizes, including desktops, laptops, tablets, and smartphones.
- vii. Reports need to be customizable with regard to their content, contain filtering options for specific scenarios, contain easy to use pivot, graphing and mapping features and output format options should be xls(x), text, csv, charts, pdf and print.
- viii. Where selection and or entry of more than one option in a form field is possible, these should be stored in separate fields/columns rather than a single field with comma separation.
- ix. Customizable notifications should be built-in to alert users about relevant events such as National Tree Plantation Day/Campaign, World Environment Day, World Forestry Day Earth Day, and World Soil Day etc.

4. Deployment and integration:

- i. Deploy the web portal in a suitable hosting environment (to be determined in consultation with CNRS,DAE, and FAO within budget).
- ii. Ensure smooth integration with relevant website(s) or infrastructure, as agreed upon.
- iii. Provide necessary technical documentation for deployment and maintenance.

5. Develop a software manual and provide training, technical support, and ongoing maintenance for the web portal:

a. Training Materials



- i. Develop training materials for end-users on nursery web Portal - bilingual (Bangla and English) usage including basic data analysis features using easy to follow training modules, video tutorials etc.
- ii. Develop Software technical manual for system administrators on software development methodologies, code structure, database structure, user access privileges, data backup and recovery and migration, develop new modules , and detail software documentations.

b. Training of Trainers (ToT)

- i. Organize & deliver Training of Trainer (ToT) sessions for end-users on nursery web portal usage on FAO's implementing partners technical officers, nursery association members, youth, DAE personnel etc.
- ii. Organize & deliver Training of Trainer (ToT) sessions to provide administrative & system maintenance training to selected personnel on platform administration and user support.

C. Technical support and maintenance:

- i. Technology design, implementation, maintenance and support processes must be aligned with industry standards.
- ii. Provide technical support(e.g., bug fixes, updates, configuration help, performance issues, database, application layer for a defined period (approximately two years) after launch and handed over to the relevant stakeholder(s).
- iii. Support Hours – Helpdesk support, official support hours (e.g., Sunday to Thursday, 9:00 AM to 6:00 PM, local time) and 24/7 emergency support if server shutdown or portal crashed.
- iv. Uptime guarantees (e.g., 99.5% system availability).
- v. Maintenance activities such as patching, system upgrades, backup and recovery, and database optimization schedule should be (e.g., Friday/Saturday, 12:00 AM – 6:00 AM).
- vi. Incident Reporting and Tracking through email, ticketing system and responsible personnel for monitoring and resolving tickets.
- vii. Termination of Support -Conditions under which support can be suspended or terminated are Breach of contract or End of support life (EOSL) for the software.

4. Methodology

The selected firm is expected to employ a participatory and user-centered approach, which may include the following stages:

- **Inception phase:** Review project documents, conduct initial consultations with CNRS and with relevant stakeholders to understand specific requirements, and submit an inception report with a detailed work plan and timeline.
- **Design phase:** Develop wireframes, mockups, and prototypes of the web portal based on user needs and feedback.
- **Development phase:** Develop the web portal including all agreed-upon features and functionalities.
- **Testing phase:** Conduct thorough testing of the platform to identify and fix bugs and ensure usability.
- **Deployment and training phase:** Deploy the platform on the agreed-upon hosting environment and provide training to CNRS technical officers, and other relevant stakeholders.
- **Documentation and handover phase:** Finalize the user manual and technical documentation and hand over all deliverables to CNRS.



- **Support and maintenance phase:** Provide post-launch technical support as agreed upon.

5. Deliverables

The individual consultant will be responsible for delivering the following outputs between August 20, 2025 and December 10, 2025. Each payment installment is tied to the successful submission and acceptance of specific deliverables:

No.	Outputs / Deliverables	Description	Timeline	Linked Payment
1	1 st Deliverables	i) Inception report including detailed work plan and timeline ii) Wireframes, mockups, and prototypes of the web portal	End of Week 2	1st Payment – 25%
2	2 nd Deliverables	i) Fully functional web-based portal for nursery businesses	End of Week 9	2nd Payment – 25%
3	3 rd Deliverables	i) Multi-lingual user manual (Bangla and English) – digital and print-ready versions ii) Training materials and training sessions for CNRS technical officers, nursery owners, and youth iii) Technical documentation for platform deployment and maintenance	End of Week 12	3rd Payment – 25%
4	4 th Deliverables	i) Complete source code of the web portal ii) Deployment of the platform on the agreed hosting environment iii) Final project report summarizing development process, outputs, and recommendations	End of Week 14	Final Payment – 25%

Note: All deliverables must be submitted in editable digital formats and are subject to review and approval by CNRS/FAO prior to the release of each payment installment

6. Timeline

The assignment is expected to commence on August 20, 2025, and be completed by December 10, 2025

7. Budget

The Maximum budget limit is BDT 500,000. The budget for this assignment should be inclusive of all costs, fees, taxes, and expenses. The financial proposal should provide a detailed breakdown of costs for each phase and deliverable.

8. Mode of payment

The mode of payment will be linked to the successful completion and acceptance of key deliverables, as outlined below (negotiable):

- **1st payment (25%):** Upon submission and acceptance of the inception report and detailed work plan.
- **2nd payment (25%):** Upon successful development and initial testing of the web.
- **3rd payment (25%):** Upon completion of the user manual and training of CNRS technical officers, DAE staff, nursery owners and selected youth.
- **Final payment (25%):** Upon successful deployment of the platform, handover of all deliverables (including source code and documentation), and initial post-launch support.



9. Qualification of the consulting firm/Individual

The consulting firm/individual should possess the following qualifications:

- Proven experience (minimum 5 years) in designing and developing web-based platforms. Experience in developing similar platforms for agricultural or community-based projects will be an advantage.
- Demonstrated expertise in user-centered design principles and creating user-friendly interfaces.
- Strong technical team with expertise in front and back-end developer, UI/UX designer, database expert, QA engineer, and security.
- Experience in developing multilingual applications (Bangla and English).
- Experience in deploying and managing web applications.
- Strong project management skills and the ability to deliver high-quality results within the agreed timeline and budget.
- Fluency in English and Bengali.
- Valid trade license and other relevant legal documents.

10. Team requirements

The firm/individual consultant must have proven experience in the design and development of interactive web portals, preferably in the agriculture, environment, or community development sectors. The consultant should possess strong technical expertise along with the ability to manage the assignment independently and deliver quality outputs within the agreed timeline and budget.

The individual must demonstrate proficiency in the following areas:

- **Project Management:** Ability to independently manage project implementation, coordinate with stakeholders, and ensure timely delivery.
- **Web Development:** Skilled in developing and deploying secure, responsive, and user-friendly web platforms.
- **UI/UX Design:** Competent in creating accessible and intuitive interfaces suitable for diverse users.
- **Content Development and Documentation:** Capable of preparing multi-lingual (Bangla and English) user manuals, training guides, and technical documentation.

The consultant should also be familiar with inclusive digital design, data security protocols, and user-centered approaches suitable for rural and low-literacy settings.

11. Institutional arrangements

The selected firm/individual will work closely with the designated focal person(s) at CNRS and FAO. Regular progress meetings will be held to discuss progress, challenges, and feedback. All deliverables will be submitted to CNRS for review and the payment will be disbursed upon FAO's NRM/DRR team approval.

12. Evaluation criteria

Proposals will be evaluated based on the following criteria:

- Understanding of the ToR (10%)
- Proposed methodology and approach (30%)
- Technical expertise and experience of the firm/individual/team (40%)
- Financial proposal (20%)

13. Intellectual property rights

All intellectual property rights related to the developed platform, including the source code, design, and content, will belong to FAO and Government department.



14. Confidentiality

All information shared by CNRS/FAO with the consulting firm will be kept confidential and will not be disclosed to any third party without prior written consent.

15. Deadline for Submission of Application

CNRS is expecting a detailed proposal against this EOI which will be evaluated as a final submission from the participating individuals. The proposal can be submitted in a hard copy or soft copy by 16 August 2025 and should be addressed as follows:

Executive Director

Center for Natural Resource Studies (CNRS)

House-13 (4th-6th Floor), Road-17, Block-D,

Banani, Dhaka-1213, Bangladesh

Telephone: +88-02-9820127-8

Fax: +88-02-9820129

Electronic submissions should be sent by e-mail to: procurement@cnrs.org.bd

16. Proposal should include the as follows:

1. Technical Proposal (Maximum 10 pages): Understanding of the ToR , Proposed methodology and approach, and timeline.
2. Technical expertise and experience of the firm/individual/team -Profile/CV of Firm/Team Leader/Lead Consultants and key experts (Maximum 5 pages)
3. Financial Proposal with breakdown
4. Sample of previous similar work with contact details of client
5. Provide name and contact details of at least 2 referees who can vouch for the consultant's previous similar work
6. Tax Identification number and other legal documents (i.e.NID/license/registration/work-permit etc.)

17. Selection and evaluation process

This will follow Quality-and Cost-Based Selection (QCBS) procurement procedure. An independent Evaluation committee will be formed and assigned by the CNRS to carry on the selection process. This committee will review the technical proposal and the evaluation process will follow the requirements as outlined above.