

INCEPTION REPORT
Development of an ePhyto Platform for the Ministry of Agriculture

Submitted by

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I Introduction and Background

Digitization is an essential support tool for Government and its interactions with Citizens. Its adoption is vital in improving equitable access to services and a mechanism to enhance citizen engagement and participation and foster transparency and inclusiveness. Public services can be made efficient by transforming them into digital services and making them available for citizens through e-government portals, mobile portals, e-kiosks, e-services centers, and national contact centers.

In recognizing the power of current and emerging technologies, the Ministry of Agriculture is proactive in utilizing ICT in various sectors, regarding data as a strategic asset to improve decision-making and provide an enabling environment for its usage. A critical area that could benefit immensely from technology-based services is the E-Phyto platform which will enhance the processing of documentation of farmers, agro-dealers, and interested importers of seeds and other plant materials.

The Ministry of Agriculture, through the implementation of the NAT 2022 and the Ministry's policy shift, has supported farmers with inputs to over 50,000 farmers in the last two years. The inputs, many of which include seeds and other plant materials, are imported through identified agro-dealers. Apart from the importation of seeds for farmer subsidy supports, farmer harvest products are also exported for sales which are recorded by Phytosanitary officers deployed across the border crossing points in Sierra Leone. Currently, users travel to the Ministry of Agriculture to receive the Phytosanitary certificate before exporting. Those abroad use intermediaries to complete the paperwork required to validate approvals permitting them to import or export plants, seeds, and other plant products. The process is inefficient, manual, and time-consuming, thus providing the basis for developing a digital system to ease the current business workflow.

The process involves the public visiting the border crossing points or the Ministry of agriculture HQ office, where phytosanitary officers will manually record the importer or exporter details and details of the consignment. The phytosanitary officers deployed at the different border crossing points will compile and forward the public import and export certificate forms to the head of the phytosanitary unit for final approval. The approved documents will then be shared with the requester (phytosanitary officer) for issuance of the import and export phytosanitary certificate. The issued certificates will then be scanned and shared with the head of the phytosanitary officer for forwarding to the GENS platform, which the destination country can approve.

The process described above is manual and puts much burden on the importer and exporter hence straining the verification process, and many of the importers reside in rural parts of the

country. Contextualizing the desire to increase farmer sales and as well as to enable Sierra Leone to continue the importation of quality seed and other plant products to increase farmer production is the main reason for developing the digital phytosanitary platform.

Sierra Leone, a member country of the IPPC adopted in 1997, is working to promote inspection and other related activities leading to issuing Phytosanitary certificates. This activity is carried out under the authority of the official national plant protection organization.

The certificates will serve as an authentication report issued to import and export seeds and other plant products.

This Inception report is a document explaining the implementation plan for the successful completion of the project.

This Inception Report includes the following:

- The criteria against which the deliverables will be approved.
- Requirements in terms of documentation and training
- Management procedures for the deliverables.

This document will be subject to validation by the Ministry's authorized representatives to address all major concerns to achieve the assignment's objectives.

1.1 Project Goal

The Consultant will develop a digital platform to facilitate the processing Phytosanitary certificates to alleviate approach business and technology challenges. With the rollout of the platform, the Ministry would have a re-engineered business process to obtain and process documentation, issue out certificates and provide a means to verify certificates electronically.

1.2 Scope of the Project

This consultancy will cover the following:

- Development and deployment of an ePhyto platform and digitization of existing paper forms
- Conducting end-user training of trainers

1.3 Project Objectives

The primary objective of this consultancy is:

This project aims to minimize delays in issuing certificates to plant importers/exporters and as well as in receiving the replacement of old certificates via the use of the developed E-Phyto System.

1.4 Deliverables

1. Inception report
2. Demonstration of prototype and manual for selected users
3. Deployment and rollout of Software
4. Provision of training of selected staff (Training of Trainers) and user manuals

1.5 Key Stakeholders

Ministry of Agriculture

- National Plant Protection Office, MoA
- Information and Communications Technology Unit, MoA
- Sierra Leone Agro-processing Competitiveness Project
- Exporters and Importers
- Ministry of Trade and Industry

1.5.1 Stakeholder Engagement

The Consultant met on the 12th of September 2022 at 2:00 pm with the head of the phytosanitary unit of the Ministry of Agriculture for an inception stakeholder engagement meeting for proper understanding of the assignment under review.

The Head of Crop Protection at the Ministry of Agriculture briefed the meeting that the lack of an e-Phyto platform has limited Sierra Leone from exporting certain types of crops and other plant materials. The project delivery specialist of the SLAPCP informed the meeting about the need to consider international best practices. The Consultant explained two approaches to developing an e-phyto platform.

- The first option is to use GENS, a ready-to-use platform that connects to the IPPC Hub. Accounts can be created within GENS for countries that do not have a national ephyto platform.
- The second option is to develop a custom national platform and connect to the hub through API integrations. This approach would be costlier.
- The Head of ICT at the Ministry of Agriculture elaborated on the points mentioned and the need for clarity on the expactions for the key features, considering the limited funds available.

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A call was made to an ephyto specialist based in Kenya to understand their implementation better and further clarify this system's functional requirements. The specialist explained the process to access the GENS platforms and highlighted the above implementation options.

At the meeting's conclusion, it was resolved that a hybrid approach would be used with the platform developed in line with the TOR, which describes a limited version of a National system that can be upgraded as needed. It would include provide a means to submit and approve phytosanitary applications online.

1.6 Communication Plan

The Consultant will schedule a weekly meeting to touch base with the project lead and the ICT Unit of the Ministry of Agriculture to review and assess the project status and clarify any emerging issues or changes. This meeting will provide regular updates, seek feedback, and review actions.

1.7 Project Management Plan

A Kanban board will be used to manage the work plan and track project status. The deliverables will be broken down into manageable activities, and key responsibilities assigned and also shared with selected stakeholders.

1.8 Methodology

1. The Platform will need to be designed around a fully custom development built upon a robust enterprise web framework such as Laravel, Spring Boot, ASP.NET, or a content management system like WordPress. For this project, I propose using a mix of WordPress and Kobotools to develop entity designs drawn from the use cases and provide a secure, user-friendly platform within the limited time and funds. It is a secure and scalable framework and will speed up the development of building the core business logic required for the ePhyto platform. It will serve as the application access layer and provide user, role, and data management features. I will develop the application to meet these key features:

- Provide forms and processes to allow users to register and, upon confirmation and use their accounts to update their profiles.
- Allow users to fill forms, upload documents and provide information for approval
- provide APIs to support integration with third-party systems for certificate verification if necessary.

2. An agile development process will be adopted to ensure key user feedback is captured and included after every iteration of the platforms. A digital Kanban board will be used to track

progress and give an overview of the status of various tasks. GitHub will be used for version control.

3. The application will be hosted at Inter_server with a dedicated hosting package, SSL Encryption, and support for various database engines. This provider meets all the hosting requirements for security and scalability.

4. Provide both high-level user manuals and technical documentation.

In addition, the design will be flexible enough to incorporate future changes without the need for a radical redesign. All these will be carried out to fulfill all other requirements. Text, media, and other relevant data needed to populate the Website and application must be provided promptly. If there is a requirement to integrate with existing systems, user manuals, details database platform, and corresponding documentation for integration with third-party systems should also be made available. The approximate project timeline to complete development and testing is 4 to 6 weeks.

1.8.1 Proposed Key Features

The development of a web-based application with the proposed sections for various users is listed below:

Public

- [Access to information on part of the platform](#)

Exporters/Importers-

- Access relevant information
- Complete online forms
- [Receive email notification](#)
- [Receive feedbacks for the NPPO](#)
- [Able to send comments](#)

Border Crossing Points

- Review [exporter/importers applications relating to their border post](#)
- [Complete necessary approval form online](#)
- [Send comments](#)
- [Receive feedbacks](#)
- [Upload documents](#)

MOA Staff –

- [Receive all form submissions and download the necessary information.](#)
- [Able to send comments](#)

- [Receive feedbacks](#)
- [Upload documents](#)
- [Access to the entire system](#)

I.9 Program of Work / Action Work Plan

The assignment shall be split to cover the work schedules as given in the Gantt Chart below

Tasks	Weeks			
	1st	2nd	3rd	4th
Requirement Analysis Phase	█			
System architecture Design	█			
Database Design	█	█	█	
Installation, configurations, and deployment	█	█	█	█
Integration of WP premium forms and Elementor			█	
Security & functionality testing				█
Provision of user manual and system configuration documentation				█
Conduct training of trainers				█
Go Live				█

I.10 Risks and Mitigation Strategy

The risks are not receiving the necessary materials promptly and the limited time set for delivery.

These risks will be addressed by:

- Having clear and open lines of communication for feedback to initiate
- Hold regular meetings to keep up with expectations
- Be flexible and transparent in the project management process. We will use the Kanban board to ensure high-level visibility of progress as the project unfolds.