IPPC Guide to Implementing the Generic ePhyto National System

ePhyto

Improving Safe Trade in Plants and Plant Products

IPPC Secretariat

July 2019

Food and Agriculture Organization of the United Nations

International Plant Protection Convention

1. System overview
2. Preparation
3. Training
4. Testing
5. Implementation (inc change management)
6. Sustainability

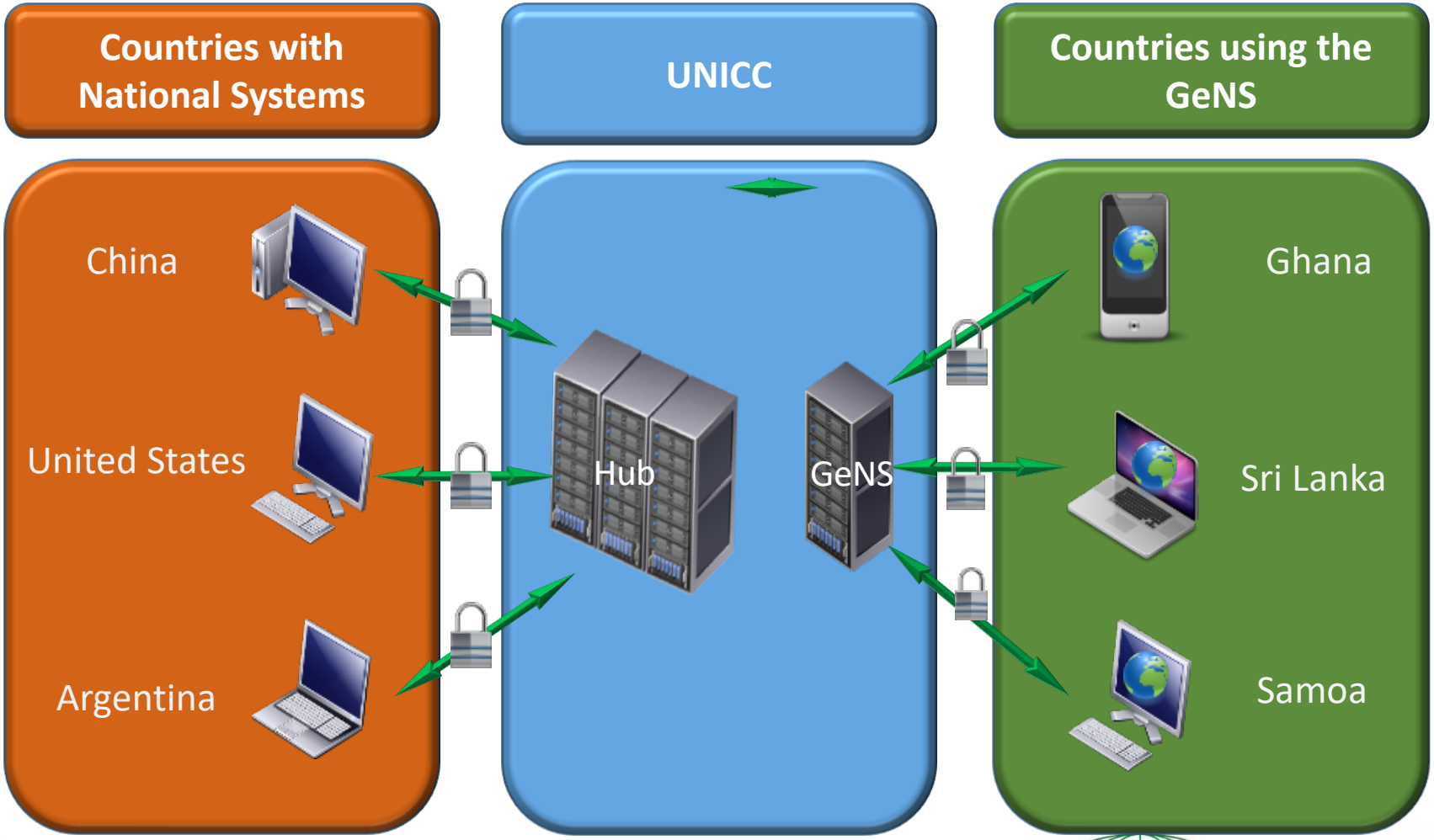
System Overview

Generic ePhyto National System

The GeNS

- is a basic, secure web based system to support countries that do not have a National System to produce and exchange ePhytos
- allows countries to connect to the Hub under prescribed rules for
  - an NPPO to obtain/view reports, conduct export inspections, issue certificates, etc.
  - An exporter to obtain/view information regarding certificates produced for their exports

Hub and GeNS


Countries with National Systems
UNICC
Countries using the GeNS
China
United States
Argentina
Hub
GeNS
Ghana
Sri Lanka
Samoa

Overview

- Centralized system to facilitate the creation of ePhytos
- Multi-tenanted web-based system
- Developed for countries without their own national systems
- Integrated with the Hub for Receiving and Sending ePhyto
- Has built in workflows around export/import ePhytos

Client

Administration of application

Request change to certificate

Access completed certificates

NPPO

Application for certification

Validation of requirements

Issuance of certificate

Receive foreign certificate

GeNS – main features

- Facilitate data entry
- Use standardized codes/lists
- Translations for export certification
- Produces ePhyto with data compliant the ePhyto message format structure, codes and lists in keeping with ISPM12 Appendix 1
- Designed to be used in low-bandwidth environment and work with most of the desktop/device & browser

Functionality

- Issuance/authorisation of ePhyto by NPPO (exporter)
- Sending ePhytos to the Hub
- Cancelling of ePhyto
- Printing of issued ePhyto

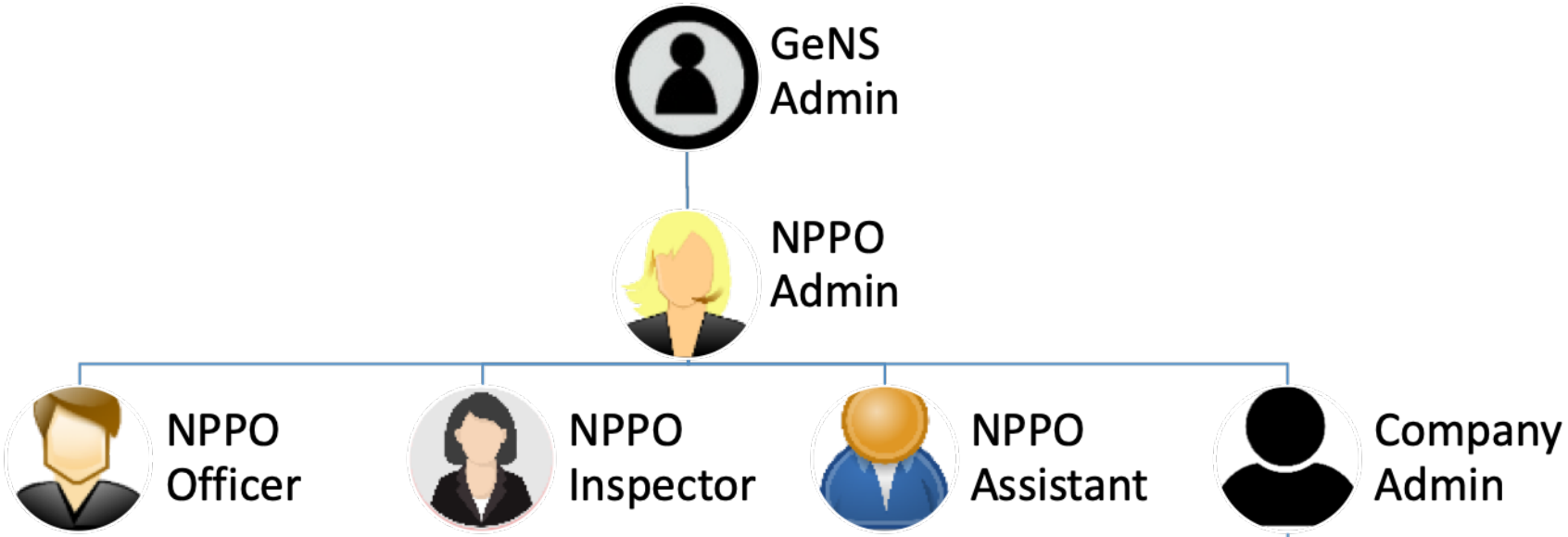
Functionality

- Receipt of ePhytos from the Hub (imports)
- Validating the authenticity of ePhyto received
- Extraction of data from ePhyto
- Printing of a received ePhyto
- Storage of ePhyto data for future retrieval
- Reporting

System based on five workflows

- Client commence Certificate Request
- NPPO verification of information/commodity compliance with export requirements
- NPPO issues certificate
- NPPO withdraws certificate
- NPPO receives import certificate

User Roles



(*) Within their organization, all users of a particular role have same rights
(*) One email address (identifying an individual) can be assigned multiple roles within their organization

Administration Roles

- **GeNS Administrator (UNICC/IPPC- 'read-only' account**

  - Creates & Manages NPPO Admin
  - Manages technical information within the system
  - Account password for NPPO Admin given over phone/SMS
  - NPPO ⇆ HUB configuration
  - Maintain certain lookup lists

***** Once assigned, the admin roles can only be revoked by the next higher role.***

Administration Roles

NPPO Administrator (in-country)

- Creates NPPO account
- Authorizes or de-authorizes additional users or amends the status of users
- Creates and Manages Company Admin and Records
- *Can assign NPPO Admin role to another user from same NPPO***
- Creates and Manages NPPO user accounts *& assign them NPPO Office(s)*
- Maintain certain lookup lists

***** Once assigned, the admin roles can only be revoked by the next higher role.***

NPPO Roles

<u>NPPO Assistant</u>: Administrative role to initiate different workflows and <u>view</u> all phytos under their NPPO.

- List and search for previously issued ePhytos
- List and search for ePhytos for imported consignments
- Prints paper versions of ePhytos issued
- Runs reports on certificates issued and received
- View information on certificates (e.g. reports, views treatment certificates issued or received, etc.)
- Input data or other information supporting the issuance of certificates

NPPO Roles

NPPO Inspector: In-field inspectors.

- Update the certificate requests and initiate other workflows.
- Submits request for issuance of phytos.
- Can view all phytos under his/her NPPO

NPPO Officer: Only role authorized to issue, withdraw or replace phytos.

- Issue (transmit the certificate to the hub) & cancel an ePhyto
- Approve/Reject an application for an ePhyto
- Create/Delete an application

Industry Roles

Industry access GeNS to register and apply for ePhytos.

Company administrator

- Registers the company with the NPPO
- Create and Manage Company User
- *Can assign 'Admin' role to another user from the same company***
- Create and Manage 'partner' company list and company users

Company user

- Applies for, cancels application or requests cancellation of ePhytos to initiate different workflows
- Can view phyto related information held under the company's account (previous phytos, pending applications etc.)
- Adds, views, edits, removes information related to certificate issuance (e.g. importers, commodities, etc.)
- Add/remove data supporting the issuance of a certificate

Options for Future Modules

- Determination of export commodity records
- International cost recovery (charging) function
- Compilation of historical volume and cost data associated with ePhytos for statistical assessments
- Training modules

User Management

Request for Account by Company

- Any company (exporter agent or the primary exporter) can request for an account from their NPPO.
- The company can visit the NPPO's GeNS website and fill in an online request form & provide the necessary details (company address, registration number etc.) and submit the request for an account with an email address.
- The NPPO does 'off-line' verifications and then NPPO Officer approves the application for account.
- This enables the company to access the GeNS.
- The account that is created (for the given email address) will have company administration rights.

Phyto Workflow Management

The system will support 5 primary workflows:

1. **Create a Phyto (from certificate request to issuance):**
   - ePhyto for destination countries that are members of the HUB
   - PDF for printing paper Phytosanitary certificates
2. **Certificate Withdrawal**
3. **Certificate Replacement:**
   - The original is sent with replace status code
   - A new certificate is issued following the 'create an Phyto' workflow
4. **Re-export Certificate:** Same as 'create an Phyto' workflow except that:
   - Original Phyto is embedded as a PDF file
   - Some fields in the XML/Paper certificate are different from the 'original' certificate
5. **Hub Delivery Failure Actions**

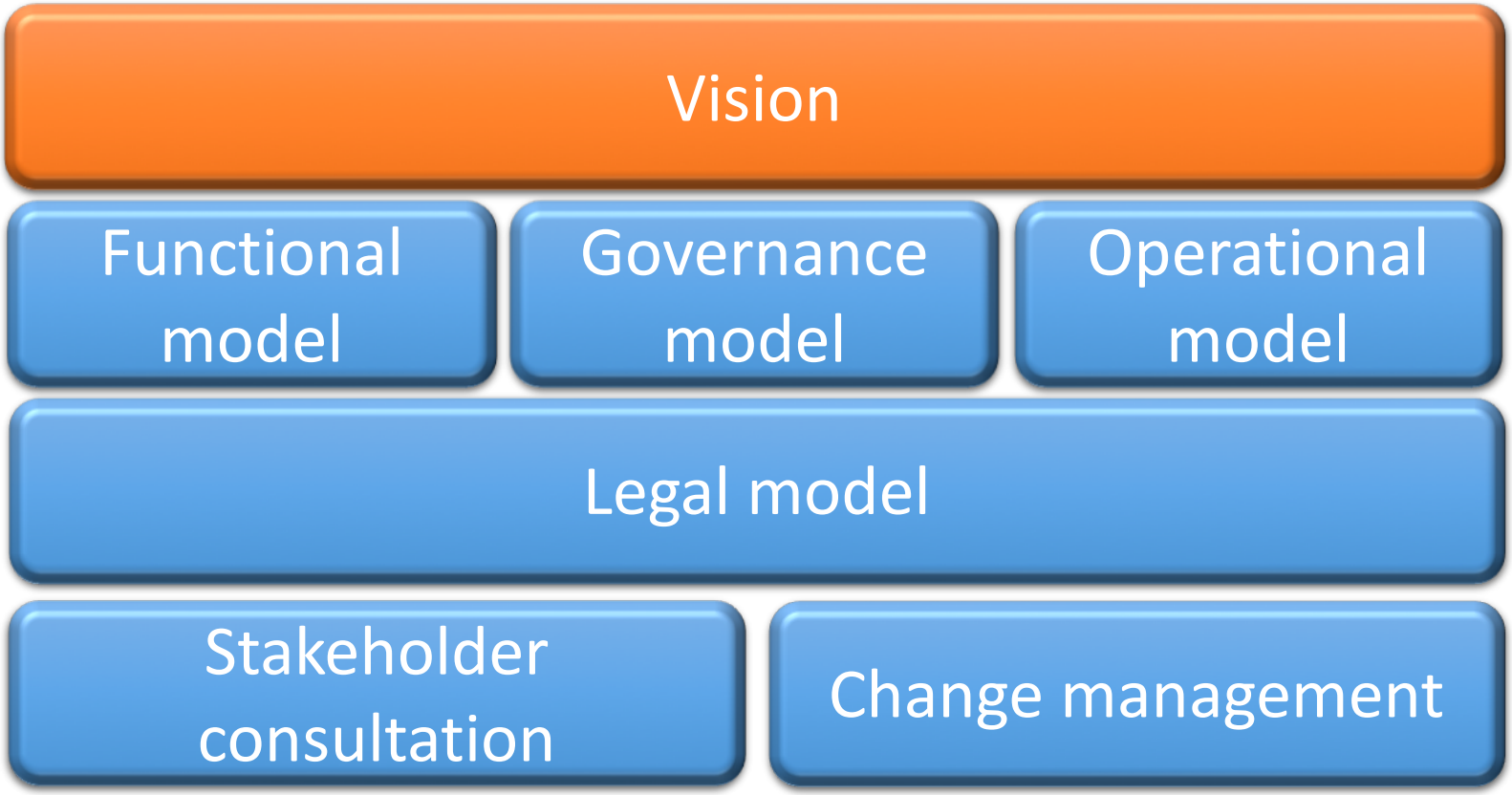
Phyto Workflow Management

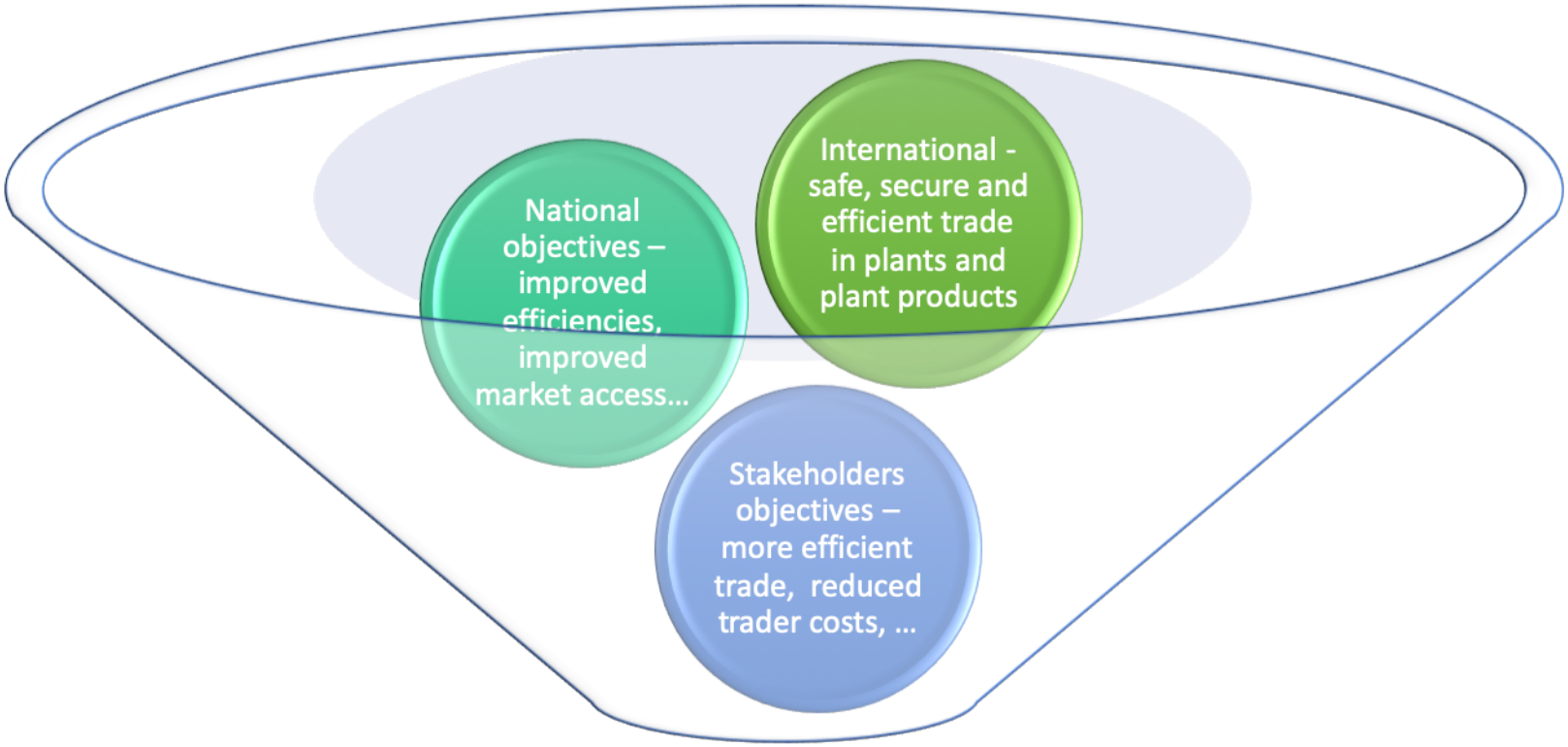
- Company User or NPPO Assistant can create a certificate request (CR)
- Each new CR has to be 'addressed' to a particular office of the NPPO
- Any Inspectors of a NPPO can view/edit all CRs for their NPPO irrespective of their location but ability to limit CR to specific locations is part of the roadmap**
- Company users will be able to import and export ePhyto in XML format
- Company users will be able to upload 10 document file types *(PDF, JPEG, TIFF, BMP images)* of maximum 3 MB each in support of the Phyto application per certificate.

**** The decision is not due to technical constraints; but to ease application management as the system is rolled out in countries without any prior experience in managing complex applications.**

Preparation

Components of a strategy for Implementing ePhyto




National objectives – improved efficiencies, improved market access…
International - safe, secure and efficient trade in plants and plant products
Stakeholders objectives – more efficient trade, reduced trader costs, …

Vision

Considerations for the vision

Benefits to trade
- Cost reduction
- Improved predictability
- Reduced border times

Benefits to government
- Increased efficiency
- Reduced costs
- Increased focus on key business objectives

Simplification of procedures

Time reduction

Transparency

Consistency/predictability

Security

Alignment with other government/private sector initiatives

International harmonization

Vision

What do the /government/ business owner/users/beneficiaries want?

What is the scope or objective in implementing electronic certification/ePhyto?

- Are there government initiatives that support modernization of government, efficiency improvements in government processes, etc.? How do these influence the vision?
- Are there problems in paper certification that support moving to electronic certification?
- Are there major trade barriers that encourage implementation of ePhyto
- Is national competitiveness at stake due to trade-related barriers?
- Does your country have regional-level commitment to paperless trade initiatives?
- Do other trade-related government agencies aware of and support the benefits of ePhyto?

What are the expected key features?

What issues would the ePhyto implementing country respond to?

Vision

Are the trading community and stakeholders in phytosanitary certification aware of the benefits ePhyto?

Trade facilitation is often a key national initiative

- Is there a government mandate for trade facilitation?
- Is there a public commitment to trade facilitation from senior government officials?
- Are there initiatives or commitments from the private sector on trade facilitation?
- Has your government identified trade facilitation and in particular paperless trade as a policy objective?
- Is there a national trade (and transport) facilitation strategy such as Trade Facilitation Action Plan and/or a National Trade Facilitation Committee?
  - Do you participate in the Committee?
  - Does the committee support the establishment of ePhyto in the country?

Examples

Implement the International Standard for Phytosanitary Measures 12 in a manner that facilitates the trade of plants and plant products and improves the service delivery for traders through government automation, harmonization, transparency and access to and simplification of procedures

Exchanging electronic phytosanitary certificates will reduce fraudulent certificates, expedite the clearance of perishable commodities, and enhance compliance with SPS measures

Governance

Describes who oversees the overall implementation/operation. How oversight is undertaken

Describes the who's involved in the project

Who will be the business owner of the ePhyto?

Who are the stakeholders?

What is the project team?

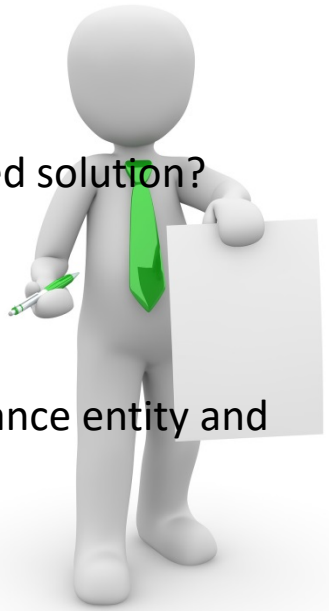
What do the business owner and stakeholders expect from the developed solution?

What is the timeline for implementation?

Does the governance entity change from development to operation?

How often will the ePhyto Operator be required to report to the governance entity and what must be reported?

What is required in terms of benefit realisation?



Operational

Describes the overall operation of the service

What expertise / capacity is expected of the operator?

Who will operate the technical components of the ePhyto system?

Does the proposed operator have the legal status (according to national legislation), expertise and capacity to operate the ePhyto system?

How does the operator address any deficiencies in capacity /expertise?

What are the services and service standards expected?

Operational

Are there any major IT gaps?

Is internet connectivity especially broadband, available for both public and private sector users at an affordable price ?

If legal requirements, require that data must be stored in-country, is data storage available and at a reasonable cost?

Are computers (PCs) available to the trading community?

- What is the penetration ratio?

Are sufficient Internet Service Providers in place to provide accessibility of the internet to government and the trading community?

Functional

When do you intend to implement the GeNS?

Have you reviewed the use policy for the ePhyto Solution?

How will you store and archive data?

Functional

If you are using the GeNS will you store data locally/how?

Who will be the business/technical administrator? (access permissions, registration of users, address issues of users etc.)

Who will provide helpdesk support to your staff/clients?

Who will define and maintain the currency of users, workflow roles, workflow users and workflow tasks?

What reports will you obtain and how will these be used?

If you use other systems to store data on biosecurity activities will these require interoperability? How will this be achieved?

Will you allow clients to export data to your system? Under what conditions? What are the requirements to allow clients to export data to you?

Functional - Business Process Analysis

Document your current operations for the issuance of a paper phytosanitary certificate?

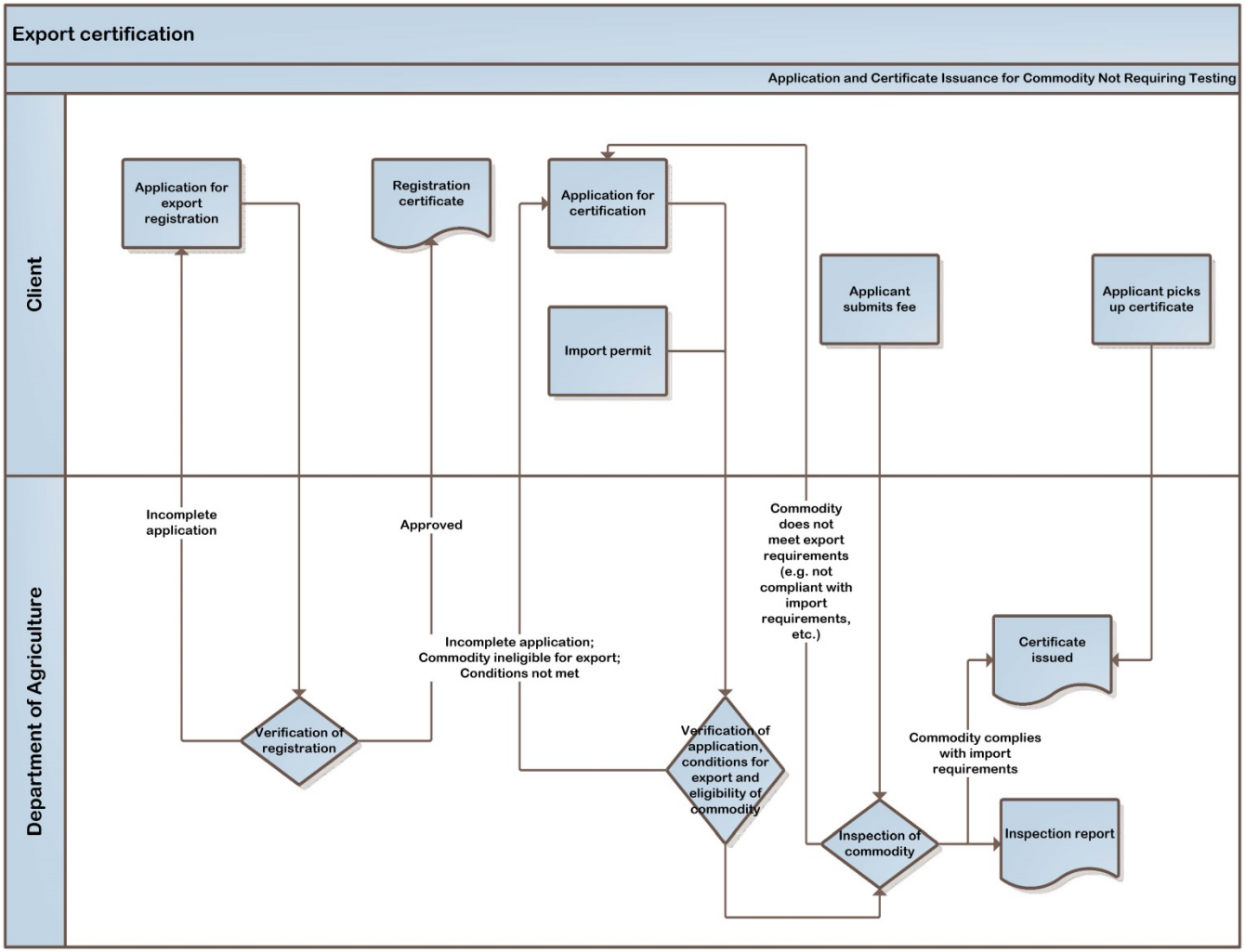
Document your current operation for the receipt of a paper phytosanitary certificate?

- the process; documents, actors and their actions (people participating in the process private sector and public sector), places of operation; hours of operation; volumes of paper phytosanitary certificates

Document the new process for the issuance and receipt of an ePhyto

How do work roles change?

Business Process Example



Financing

- Is there budget available for computers (if needed) and their maintenance?
- Is there budget available for training personnel?
- Is there budget available for hiring new personnel (if needed), such as a system administrator
- Ensure sufficient local resources are in place to use GeNS after implementation

Legal

Provides the basis for operation and enables the vision

Considers B2B and B2G

Does your current legislation support the issuance and receipt of electronic documents?

Does your current legislation allow for receiving electronic information from your clients?

Do you have an electronic transaction law and does your legislation align with it?

Does your legislation address:

- Misuse of the ePhyto system;
- Illegal access to the ePhyto system;
- Security (e.g does it require encryption of documents, two-factor authentication of users, …);
- Sharing information with other government agencies and international stakeholders;
- Electronic transactions for evidence, information accuracy and timeframes

Legal

Is electronic submission going to be mandatory under the law?

Is electronic payment covered within your legislation?

If you require changes to your legislation who will undertake the legal changes?

How long will it take to make any changes?

Does your legislation ensure you own the data?

Does your legislation allow for the ePhyto data to be stored offshore if you are using the GeNS?

Under your legislation how long must information/data be stored?

How long do you want data to be stored and accessible?

Stakeholder Consultation

Who are the stakeholders?

- Internally within the organization; within government; clients; other stakeholders (e.g. banks, transport and logistics, etc.)

What are the legal obligations for stakeholder consultations?

- May impact timelines and finances

Is there competence in the organization to engage with stakeholders?

How are stakeholder views incorporated into changes in the processes, operations, technical design?

How are stakeholders kept informed of the decisions in regard to their views and suggestions?

Change Management

Based upon the changes to workflows, who will be:

The ePhyto Administrator

The ePhyto Contact Person (for maintaining the links with IPPC and the Hub Operator e.g. re maintaining the SLA/SLO with IPPC)

Leading Project Manager for development and implementation of ePhyto

Are there any staff roles that will no longer be needed with implementation of electronic certification?

What changes need to be made to job descriptions?

Will the job changes mean a change in remuneration for affected staff?

Change Management

Who will develop the new standard operating procedures for work under ePhyto?

How long will development of the procedures take?

With paper certification are there areas where inconsistencies between individual staff procedures?

How will these be handled with the standardization required for electronic certification?

Change Management

Who will monitor benefits?

Has communication strategy been established for ePhyto implementation?

Has an overall change management strategy been set for ePhyto implementation?

Do you need capacity building-support to assist with establishing coordination?

Do you need capacity building support in designing the best business model?

Training

Training

How will staff be trained?

How will clients be trained?

Who will provide the training?

How long will training take?

Testing

- identity staff members for each NPPO user role

- ensure staff cover different locations (eg. Seaports and airports) of the NPPO

- identify potential industry members to test after NPPO

- assess GeNS against existing export/import procedures to see if anything needs to change

- contact trading partners (ie. other countries connected to the hub) to prepare them for testing

- identify common commodities to test

- use actual, issued phytos and Enter into GeNS

- check the issued ePhyto through the hub tracking

- Provide feedback to unicc on issues

Implementation

The implementation process is dependent on the answers obtained from the preparation section above:

- readiness assessment
- communications to industry
- are all staff trained?
- communication of "go live" to IPPC
- paper and electronic in parallel
- can you remove paper for imports?
- what processes with industry need to change?

Sustainability

- Conduct benefits analysis of GeNS after implementation

- conduct fee review, to ensure adequate resources (eg, hardware, admin staff, training etc)

- post implementation review and recommendations

- incorporate GeNS training into NPPO staff training plan

- ensure NPPO training officer able to train all new staff

- maintain liaison with exporters for their use of GeNS

- on-board new exporters