



Regional IPPC Workshops 2015

Surveillance: Working together to strengthen implementation

The CPM agreed for an increased emphasis on surveillance in the next several years. This will take place through an Implementation Pilot Programme on Surveillance, which will be a coordinated effort with active participation from contracting parties and RPPOs. The Regional IPPC Workshops are an opportunity to share experiences with surveillance activities such as: current status, upcoming plans, and successes and challenges of surveillance activities within your country.

In 2015, Member Countries answered a questionnaire on surveillance circulated by the IPPC Secretariat, and presented a summary on surveillance activities undertaken during the regional workshop.

The data provided by Member Countries were extremely rich and useful to define activities to be set in the framework of the Implementation Pilot Programme on Surveillance. The content of the questionnaire for the regions in which an IPPC regional workshop was organized are provided below: Near East and North Africa, Pacific, Central Asia and Eastern Europe, Caribbean and Latin America (in Spanish).

Surveillance: An official process which collects and records data on pest presence or absence by survey, monitoring or other procedures (ISPM 5)

Question 1: What **general surveillance** activities take place in your country? (General surveillance is a process whereby information on particular pests which are of concern for an area is gathered from many sources, wherever it is available and provided for use by the NPPO – ISPM 6)

1. NEAR EAST AND NORTH AFRICA

Egypt: The general surveillance applied is the mainly through the weed institute which the institute apply on general basis based on the ISPM 6.

Jordan: ISPM 6, existing legislation on red palm weevil.

KSA: Generally, phytosanitary Surveillance is a routine activity of the NPPO in KSA.
It mainly concerns the hazardous pests related to a limited range of plant species
(such as Date Palm)

Lebanon: 2010 Potato quarantine pest 12
2011-2012 Pest survey on citrus and stone fruits
Pine pests

Libya: General surveys on fruits and vegetable, cereals pests and diseases in number of the country's agricultural areas.

Mauritania: Les grandes programme du surveillance au niveau du service de la protection des végétaux sont:

- la lutte contre les oiseaux granivores (quelea quelea) deux campagne de lutte chimiques et une campagne de dénicha gé, Filet de capture, Détonateur sonore

- la lutte contre *S. cretica* (protection du sorgho)
- la lutte contre les plantes envahissantes
- la lutte contre les sauteriaux
- La lutte contre les maladies et ravageurs du Palmier

la mise en place du contrôle phytosanitaire

Morocco: L'Office National de Sécurité Sanitaire des Produits Alimentaires (ONSSA) vise un objectif de préservation du patrimoine végétal contre l'introduction et la dissémination des organismes nuisibles. Les activités de surveillance générale au Maroc concernent le suivi de l'état sanitaire des cultures, les contrôles phytosanitaires à l'intérieur du pays et aux frontières, les plans de surveillance phytosanitaire spécifiques et la gestion des crises phytosanitaires.

Sudan: Ground and Aerial survey for monitoring Desert locust habitat.

Tunisia: La Direction général de la protection des Végétaux et de contrôle de la Qualité des Produits Agricoles est chargée de la veille sanitaire et de contrôle phytosanitaire contre les organismes nuisibles émergents existant dans les pays géographiquement proches et ce par la mise en place des réseaux de surveillance des ravageurs dont notamment le « *Bactrocera zonata* ; *Dacus* spp ; *Toxoptera citricidus* *Trioza erytreae* »

La mise en place des stratégies des lutte pour l'éradication des ravageurs nouvellement détectés :

Des programmes de luttés contre les différents fléaux et ravageurs dont les rongeurs ; La mise en place des programmes des lutte intégrée pour une utilisation des pesticides raisonnées

Elle est chargée de Contrôle et de la certification produits destinés à l'exportation

Elle est chargée des contrôles frontaliers des importations des végétaux et des produits végétaux et des analyses et de la détection d'organismes nuisibles et ce dans l'objectif de préservation du patrimoine végétal contre l'introduction et la dissémination des organismes nuisibles.

D'autres activités de surveillance générale concernent le suivi de l'état sanitaire des cultures (Tomate; Oliviers; palmier dattier; céréales; pomme de terre...), et la mise en place des plans de lutte avec des programmes prédéfinis.

UAE: The Plant Pest Survey collects data on insects and diseases during the growing season by inspectors distributed throughout the Emirates.

1. CENTRAL AND EASTERN EUROPE AND CENTRAL ASIA

Armenia

ISPM 6 has been implemented. Annual 40-hour trainings are conducted with emphasis on both theoretical and practical aspects of surveillance. For the last three years, monitoring activities were conducted based on the approved plan and the results served as a basis for the application of the phytosanitary measures. 6000 samples were sent to laboratories for testing during the last two years. All above listed activities were funded by the governmental budget.

Azerbaijan

Regional plant protection centres collect the most part of the plant pests' distribution information. Along that, information collected by the Scientific Research Institutes of the Agrarian Centre of Science of the Ministry of Agriculture and Institutes of the National Academy of Science is used.

Based on the collected information the phytosanitary-quarantine status of the country is defined. This information is used for forecasting and planning of phytosanitary measures.

Belarus

Every year the State Plant Quarantine Inspection conducts surveys to determine phytosanitary quarantine status of Belarus. Those survey activities are based on the legislation of Belarus and the decree of the Minister of Agriculture and Food. Based on the results of the surveys, the main Inspection on Seeds, Quarantine and Plant Protection issues an annual overview/review of the quarantine pests distribution in Belarus.

Montenegro

The **Department for Plant Health Protection** within the Phytosanitary Directorate is in charge of direct implementation of regulations and activities concerning plant health protection:

- organization and implementation of continuous surveillance over harmful organisms;
- evaluation of plant health conditions;
- risk assessment in cases of occurrence and determination of new harmful organisms;
- issuing of technical instructions;
- control and implementation of restrictions or prohibitions of imports into Montenegro and transit of certain plant species;
- notification on plant consignments detained as a result of failure to comply with the phytosanitary requirements;
- providing technical basis for setting the limits of areas where increased health supervision needs to be established;
- setting up and keeping of registers and records;
- preparation of the program of preventive and control measures in order to prevent the introduction and spread of harmful organisms and implementation of these measures;
- supervision of the work of authorized persons;
- notification on occurrence and spread of harmful organisms, provision of information related to plant health protection to the public;
- development of a technical basis for control plans, monitoring plans and crisis management plans;
- issuing of approvals;
- implementation of international conventions, contracts and exchange of information and participation in international bodies and organizations;
- setting up and maintenance (data collecting, processing and keeping) of the information system;
- development of reports, analyses, plans, briefing notes and other materials and
- other activities placed under its scope of authority.

Georgia

Art. XI of the joint decree of the Ministers of Agriculture and Finances of Georgia, N2-7-№ 33, 25.01. 2010, Establishing rules for Phytosanitary protection of the territory of Georgia from the entry and spread of quarantine and other dangerous pests states:

The National Food Agency of the Ministry of Agriculture of Georgia with the aim to protect the territory of Georgia from plant pests conducts:

- Phytosanitary surveillance – data collection and recording on the presence or absence of plant pest within the area through surveys, monitoring and other procedures. Visual and laboratory methods are employed. All phytosanitary procedures are recorded documentarily.
- Farmers and landowners are obliged: to cooperate with representatives of the Agency, provide the Agency with data on the occurrence of quarantine and unknown pests, seize movement, planting, growing and selling of the infected regulated articles until the official control procedures are completed and relevant decisions made.
- The above-mentioned obligations concern those physical and legal persons as well, who through their professional occupation or job position hold information on presence or possible presence of pests.
The following bodies are involved in the surveillance:
- Laboratory of the Ministry of Agriculture of Georgia
- Laboratory of the Ministry of Agriculture of Adjara
- Scientific centre for phytopathology and biodiversity

Serbia

Pest reports is in charge of direct implementation of regulations and activities concerning plant health protection.

Based on the authorization of the PPD, 29 regional Professional Agricultural Services (PAS) on the territory of the Republic of Serbia, Scientific Institutes and Faculties under the authority and supervision of the PPD perform the following activities:

- monitoring and examination of plant health status during its growth and development in fields, plantations, premises and other surfaces and keeping related records, including wild plants;
- conducting plant health (checks) examinations of crops and premises for the production of seed, seedling and plant propagation material for fruit trees, vine and hops for the presence of harmful organisms and issuing the Plant Health Certificate;
- conducting plant health examinations of consignments of plants, plant products and regulated objects
- conducting and implementation of the Program of measures plant health protection;
- reporting on the presence, occurrence and spreading of harmful organisms;
- education of the plant holders and others about the harmful organisms and prescribed phytosanitary measures.

Turkey

General survey is applied through the Phytosanitary Application Program. The Phytosanitary Application Program for regulated harmful organisms is conducted in 81 Provincial Directorate of Turkey.

Uzbekistan

Information on distribution of pests, first of all of quarantine pests, having importance for the certain areas, is collected through many sources. The following information sources are used: internet, EPPO reference literature, EPPO data base, information from Rosselkhoznadzor of the Russian Federation, regions of Russia and All Russian Plant Quarantine Centre.

Tajikistan

- Surveys are conducted for the detection of quarantine pests
- Detection surveys are conducted for quarantine pests
- Plant products export and import are controlled

1. PACIFIC

French Polynesia: Commodity and host surveys

Caledonia: Monitoring with biosecurity newsletters from Australia, New Zealand, CABI, UICN, sea port Auckland, research institute information (IRD, IAC)...

Guam: Cooperative Extension Service, University of Guam interacts with the public and stakeholders in agriculture and maintains lists of new pests found or brought in for identification. This data is distributed periodically to stakeholders and interested groups.

Tokelau:**i. Active ant Surveillance**

-undertaken periodically visual surveillance on high risk and high value areas as a cost effective mean of monitoring YCA. Areas of interest are usually an area of priority

ii. Passive ant Surveillance

- engaging the community as to increase surveillance. Posters, public talks and word of mouth been used to raise awareness of potential threat species. Posters placed in high risk areas as well as on our community gathering places.

-Public involvement in reporting any potential threats and notifying us of anything unusual

iii. Targeted Surveillance

-the whole community involved in looking out for a specific organisms like Giant African snails, little red fire ant and any sign of leave blight on Pulaka.

Vanuatu**1.1 - General quarantine surveillance at sea ports**

General quarantine surveillance is mostly conducted by Border Control Officers at the declared ports of entry. So on quarterly basis Border Control Officers conduct surveillance at the ports of entry. Nowadays, lots of cruising boats are visiting the islands of Vanuatu and every time a cruising ships visits islands, a Border Control Officers is onboard the vessels to ensure that none pests vector materials is left on the island where ships leave.

1.2 - General plant health surveillance in major islands

General plant health surveillance is conducted plant health officers. Every year, officers visit farmers' gardens and collect crops pests and diseases data and specimens. The specimens are diagnosed and identified through assistance from SPC and MPI, New Zealand. Last year (2014) a team of SPC Plant Health Officers jointly conducted pests and diseases surveillance on the island of Efate. All the pests data are entered into Vanuatu Pest List Database.

Samoa: The ministries involved in the surveillance of particular pests of animals and plants, are mainly the MAF. Hence the MAF surveillance activities are the ongoing inspections at the borders, inspection of imports; cargo and container inspections as well as passenger cargo. Inspection of exports is also carried out and any interception of any pests, we collect these specimens for our laboratory display and our pest diagnostic team id through the electronic microscope funded by NZMPI Plant and Health Laboratory Division.

In addition, crops and livestock carry out surveillance from time to time depending on available resources for animal and plant pests and diseases.

General Surveillance is conducted by the Crops division on the below Regulated Pests and Diseases:

1. Taro leaf blight (*Phytophthora colocasia*)
2. Pythium rot
3. Shot hole (*Phoma colocasia*)
4. Black leaf streak (banana) (*Mycosphaerella fijinensis*)
5. Bunchy top virus (banana) (*Pentalonia necronerosa*)
6. Cordana leaf spot (banana) (*Cordana musae*)
7. Phytophthora fruit rot (breadfruit & papaya) (*Phytophthora palmivora*)
8. Black pod (cocoa) (*Phytophthora palmivora*)
9. Pink disease (cocoa) (*Corticium salmonicdor*)
10. Die back (cocoa)
11. Bud rot (coconut) (*Phytophthora palmivora*)
12. Powdery mildew (cucurbits) *Sphaerotheca fuliginea*
13. Downy mildew (cucurbits) *Pseudoperonospora cubensis*)
14. Bacterial rot (cabbage) *Erwinia* spp
15. Leaf mold (cabbage) *Fulvia fulva*
16. Bacterial wilt (tomato & eggplant) *Pseudomonus solanacearum*
17. Fruit rot (eggplant) *Phomopsis* spp.
18. Anthracnose (mango) *Collectotrichum gleosporides*
19. Bacterial black spot (mango) *Xanthomonas campestris*
20. Coconut Rhinoceros Beetle

Surveys:

- Rapid,
- Details of hotspots
- Larvae – to determine virus level.

Control Measures:

- Use of coconut logs for charcoal,
- Virus (test for etiolation/attenuation)
- Fungus (*Metarrhizium*).

Education and Public Awareness:

- TV
- Radio.
- Leaflet.
- Consultation with pulenu'u.
- Presentation in schools.

Research:

- Traps re auto-release and infection of beetles with *Metarrhizium* and virus.
 - Charcoal uses. Use of charcoal in soil for organic growing.
 - Virus state.
 - Coconut export.
- *survey of pests and disease problems on green nuts.

21. Brontispa sp.

Survey:

- Parasite status.

Control measure with chemical.

Mass production of parasite or if died out, re-introduce etc, Fiji (WilcoLiebregts).

22. Giant African snail.

- Survey status of GAS.
- Predator/flatworm – rearing for introduction to outbreak areas.
- Awareness of damage to crops.
- Leaflets for farmers.

23. Fruit flies

- Quarantine surveillance at ports of entry and forest areas, orchards & commercial farmers.

- Awareness campaign of importance of fruit fly for Samoan trade & economy.
- Research needs.
 - a. Evaluation of treatment of cooked breadfruit (monitoring role).
 - b. Other crop affected by FF * trade embargo issues. These include export potential of:
 - * Rambutan.
 - * Organic banana.
 - * Pawpaw
 - * Fresh breadfruit
 - * Eggplants etc.

24. Fruit Piercing Moth

- a. Egg parasitization survey (level).
- b. Revise leaflet (in Samoan).
- c. Survey of infestation level of fruit damage (night survey).

25. Taro pests

- a. Survey of types of damage & infestation levels.
- b. Information leaflet on pests and diseases.
- c. Taro mite present situation. includes situation in NZ stores.

26. Termites

- a. Survey of types of timber affected & species of termites (with Forestry Dept.).

Treatments methods developed

Solomon: Solomon Islands currently conducted at least one general surveillance activity every year for the last 4 years. This is a joint surveillance activity conducted with the Department of Agriculture from Australia and the Biosecurity Staff surveillance unit of Solomon Islands.

Tuvalu: Coconut scales.

Nauru: There is no mechanism in place for surveillance and monitoring but with recent visit of SPC personnel technical officers, the ground work is steadily being put in place for known invasive species, crazy ant and fruit flies.

1. CARIBBEAN

Antigua and Barbuda:

- Antigua and Barbuda is currently engaged in surveillance activities for the Mango seed weevil (*Mangifera indica*), Tephritid Fruit flies and to a certain extent, the Giant African Snail (*Achatina fulica*). Generally, reports of pest situations received from the public are received and investigated as necessary and the results noted.

Barbados:

- General surveillance is carried out primarily at the ports of entry. Any pest seen are recorded or suspicious regulated articles are sent on for further diagnostic work.

Belize:

- Huanglongbing of citrus and Citrus Leprosis. Provided to the NPPO or the Citrus Research and Education Institute by citrus growers and technical officers.
- Spinki mite
- *Moniliophthora roreri*
- Papaya Meleira Virus

Grenada:

- Each of the seven Plant Quarantine Officers employed by the Ministry of Agriculture is allocated at least one day to work with staff in the assigned Extension District to conduct surveillance for pests of vegetables, field and tree crops and ornamentals. In the past, in addition, there was a two-man team hired and trained specifically to conduct surveillance for the three major Banana diseases (Moko, yellow and Black Sigatoka). This has been discontinued since Grenada ceased to export Bananas to the United Kingdom.

Guyana:

- General surveillance are conducted by Quarantine located at all official ports of entry; and by Extension agents under the NAREI, Ministry of Agriculture. These include: Fruit fly (medfly and CFF), Giant African snail, pink hibiscus mealybug, and red palm mite

Haiti:

- Cottony cushion scale (*Crypticerya genistae*): identify since 2011 and currently under surveillance within 3 regions in the country (North East, South and South West)
- Fruit flies
 - Medfly (*Ceratitis capitata*): not identified yet in Haiti, but present in the Island (D.R). Measures have been taken to monitor and prevent its introduction on Haitian territory since 2007.
 - *Anastrepha obliqua* and *Anastrepha suspensa*: present in Haiti, under surveillance since 2007, monitoring and control program has been implemented.

Jamaica:

- General surveillance currently taking place in Jamaica is Mediterranean (medfly) surveillance.

St. Lucia:

- Surveillance and monitoring activities are conducted throughout the year for the presence of exotic pests:
- Moko & Fusarium TR4 for Musa Species
- Lethal Yellowing of coconut
- Tomato Leaf Miner

St. Vincent:

- A country wide general survey was done in 2007 in an effort to update the pest list for St. Vincent and the Grenadines. This was a component of an SFA Project by FAO. The results have been published.
- General surveys of plant nurseries are conducted at least once per year by the NPPO

St. Kitts:

- Fruit Fly Surveillance
- Giant African Snail
- Black Sigatoka
- Tomato Leaf Miner
- Red Palm Mite

Suriname:

- Mentioned activities take place:
 - When conducting PRA we use the process of general surveillance to gather information of the pest of concern.
 - When compiling commodity or host pest list

1. LATIN AMERICA**Argentina:**

- A través de actividades de vigilancia general, se obtienen datos que son generados por distintas instituciones, organizaciones y entidades que tienen intervención en el campo fitosanitario (Institutos de investigación, universidades, gobiernos locales, sociedades científicas, laboratorios, consultores, etc.). Para su obtención y actualización se cuenta con herramientas como la implementación de convenios de cooperación interinstitucional, la recepción de informes de intercepciones fitosanitarias, la recepción y procesamiento de denuncias, etc. Una vez verificada, la información es incorporada y publicada en el Sistema Nacional Argentino de Vigilancia y Monitoreo de Plagas (SINAVIMO), a través de su página web: www.sinavimo.gov.ar. Este Sistema, que se encuentra aprobado por una Resolución de la ONPF (N° 218/02), responde y es acorde a las necesidades establecidas en lo referente a la vigilancia

fitosanitaria en el orden nacional y a las pautas internacionales fijadas por las Organizaciones Internacionales que intervienen en este ámbito y toda la información fitosanitaria provista es oficialmente reconocida por la ONPF.

Bolivia:

- Dentro de las Estrategias de la Vigilancia General o Pasiva, se tiene que registrar información fitosanitaria de fuentes externas al SENASAG como:
 - Universidades.
 - Institutos de Investigación.
 - Publicaciones.
 - Investigadores.
 - Técnicos del agro.
 - Organizaciones No Gubernamentales - ONG's.
 - Programas de Transferencia de Tecnológica.
 - Asociaciones de productores, exportadores, comercio y agroindustria.
- Para este efecto, cada Jefatura Distrital del SENASAG debe realizar un catastro de las fuentes de información de su ámbito, efectuando los contactos necesarios para conseguir la información fitosanitaria disponible, a objeto de complementar y actualizar los registros de plagas a nivel nacional, cumpliendo con los objetivos del Sistema de Vigilancia Fitosanitaria.
- Así también, se considera la obtención de registro y análisis de información fitosanitaria generada principalmente por fuentes internacionales (publicaciones científicas, Bases de Datos, Organizaciones Nacionales y Regionales de Protección Fitosanitaria de otros países, organismos e instituciones internacionales relacionados con la sanidad vegetal.

Brasil:

- A instrução normativa nº 52, de 20 de novembro de 2007 estabelece a lista de pragas quarentenárias ausentes (A1) e de pragas quarentenárias presentes (A2) para o Brasil e aprova os procedimentos para as suas atualizações. Essa norma também exige a realização dos levantamentos para detecção, delimitação e monitoramento das pragas quarentenárias presentes, delimitando a área de ocorrência e a sua importância econômica.
- Adicionalmente, instituições de ensino e pesquisa realizam atividades de coleta e identificação de pragas que, frequentemente revelam a introdução ou disseminação de novas espécies.
- Produtores, órgãos de defesa agropecuária e extensão rural devem comunicar à ONPF os casos de detecção de pragas quarentenárias ausentes ou exóticas.

Chile:

- En el país se desarrollan las siguientes líneas de captura de información fitosanitarias.
- Vigilancia activa:
 - Prospecciones (encuestas) de detección, delimitación y monitoreo
 - Monitoreo de plagas insectiles a través de un sistema de trampeo.
 - Verificación de denuncias fitosanitarias.
- Vigilancia pasiva:

- Reporte de plagas en reuniones técnicas, congresos.
- Revisión de literatura con respaldo científico de reporte de plagas.

Ecuador:

- Dentro de la Coordinación General de Sanidad Vegetal de AGROCALIDAD se encuentra la Dirección de Vigilancia Fitosanitaria la cual tiene por misión Vigilar el estatus fitosanitario del país, analizar los riesgos, diseñar planes de contingencia para la aplicación de medidas de prevención, control y atención de problemas fitosanitarios.
- AGROCALIDAD con la finalidad de recopilar la mayor cantidad de información fitosanitaria del Ecuador, reconoce que dentro del país existen varias fuentes de información y mantiene una estrecha relación con Instituciones de investigación públicas y privadas tales como INIAP, CINCAE, Gobiernos locales (GAD), Universidades públicas y privadas, Sociedad científica Consultores, Productores, Técnicos, Museos, Herbarios y Público en general.
- Además obtiene información de fuentes internacionales sean estén publicaciones, bases de datos, artículos científicos, etc.
- Actualmente contamos con una biblioteca fitosanitaria con gran variedad de libros nacionales e internacionales que representan un apoyo de consulta.
- AGROCALIDAD cuenta con 23 Direcciones Distritales a Nivel Nacional y en las mismas se realizan acuerdos de cooperación técnica con Universidades y Centros de Investigación lo que facilita el intercambio de información fitosanitaria.
- Toda la información recolectada de las fuentes antes mencionadas es revisada, procesada y almacenada en bases de datos locales, con la finalidad de establecer y mantener canales de comunicación permanente para garantizar que toda la información fitosanitaria sea transferida a AGROCALIDAD.

El Salvador:

- Monitoreos de Plagas de Importancia Económicas y Cuarentenarias
- Red de trampeo de Moscas de la Fruta
- Red de Trampeo de Gorgojo Khapra
- Campañas fitosanitarias, Prospecciones Acridianas
- Vigilar la presencia de una plaga, el brote y la diseminación de estas
- La prevención, el manejo el control y posible erradicación de las plagas

Guatemala:

- Productores organizados de hortalizas FASAGUA, Productores de banano APIB, melón y sandía, Productores de cardamomo; Cardegua y Fedecovera; Asociación Nacional del Café; ANACAFE, Universidad del Valle, Universidad de San Carlos de Guatemala, Sistema de Extensión Agrícola. Tesis de grado de las Facultades de Agronomía y Bases de Datos Internacionales.

Honduras:

- El Servicio Nacional de Sanidad Agropecuaria (SENASA), a través del Departamento de Diagnostico, Vigilancia y Compañías Fitosanitarias implementara el Programa de Vigilancia Epidemiológica Fitosanitaria a partir del 2015; este programa será convertido en un elemento orientador para la toma de decisiones en materia fitosanitaria.

- Asimismo, la vigilancia epidemiológica es fundamental para constatar el registro de la transitoriedad, presencia o ausencia de riesgos fitosanitarios que podrían poner en riesgo la seguridad alimentaria de Honduras.
- Para la definición e implementación de las estrategias operativas se recopilara y analizara la información sobre las biología de las plagas bajo vigilancia, su dispersión, sintomatología, daños, condiciones climáticas favorables, y otros parámetros epidemiológicos, para tener mayor oportunidad de detección en caso de introducción o de dispersión de una zona a otra en donde esté ausente.
- Lo anterior, considerando lo establecido en la NIMF 6 sobre la “Directrices para la vigilancia fitosanitaria” y de la NIMF 8 sobre la “Directrices de la situación de una plaga en un área” para dar certeza y confiabilidad a los datos que se recaben en campo.
- Los objetivos que se han trazado para lo que resta del 2015 dentro del Programa de Vigilancia Epidemiológica Fitosanitaria son:
 - 1. Realizar acciones de delimitación y en su caso, coadyuvar en la implementación de acciones preventivas para mitigar el riesgo de introducción, dispersión y establecimiento de riesgos fitosanitarios de interés cuarentenario detectados mediante acciones de vigilancia activa y pasiva
 - 2. Realizar acciones de vigilancia activa y pasiva para la detección y seguimiento epidemiológico de riesgos fitosanitarios de interés cuarentenario para prevenir, la introducción y en su caso la dispersión o establecimiento
 - 3. Integrar registros de ausencia, ocurrencia y distribución de riesgos fitosanitarios de interés cuarentenario bajo vigilancia activa y pasiva como base de la referencia epidemiológica fitosanitaria regional
 - 4. Integrar, analizar y formular los reportes de riesgos fitosanitarios de interés cuarentenario bajo vigilancia activa y pasiva con la finalidad de informar la condición fitosanitaria del país para la toma de decisiones de alto impacto fitosanitario
- Para el cumplimiento de estos objetivos, se ejecutaran cinco acciones operativas que son: exploración, parcelas centinelas, rutas de vigilancia, rutas de trampeo y muestreo, a implementarse en las 8 oficinas regionales ubicadas en sitios de riesgo de áreas agrícolas.
- Exploración. Actividad de inspeccionar, con el uso de esquemas de muestreo, superficies de cultivos comerciales, traspatio y áreas marginales, con el fin de verificar la presencia o ausencia de plagas reglamentadas.
- Ruta de vigilancia. Son puntos estratégicos establecidos sobre vías de comunicación, traspatio, zonas urbanas, áreas silvestres, centros de acopio y distribución de productos agrícolas y fronteras donde existen hospedantes tanto cultivables como silvestres en los cuales se realiza la inspección visual periódicamente en busca de alguna plaga.
- Parcela centinela. Superficie definida, establecida dentro de áreas comerciales, ubicadas en zonas de riesgo potencial a la entrada de alguna plaga y con condiciones de temperatura, humedad, luz, hospedante, etc. Donde se realizan inspecciones visuales periódicas para verificar la presencia o ausencia de una plaga.
- Ruta de trampeo. Conjunto de trampas que pueden ser de algún color específico, con feromonas, atrayentes específicos y/o con pegamentos ubicados en transectos para la detección de plagas en zonas urbanas o agrícolas de alto riesgo.
- Diagnostico. En caso de detectar síntomas o ejemplares sospechosos a las plagas bajo vigilancia epidemiológica se realiza la toma de muestras y se envían al laboratorio de diagnóstico respectivo.

México:

- Se realizan actividades de detección de 31 plagas de importancia cuarentenaria para México, a través de cinco metodologías Ruta de Trampeo, Parcelas centinela, Rutas de Vigilancia, Exploración y Plantas centinela.
- Actualmente se cuenta con una red de trampeo de 14, 750 trampas, 1,148 parcelas centinela, 4,665 puntos de vigilancia y 29 puntos con plantas centinela.

- Se cuenta con una red de trapeo de 13,809 trampas para la detección de moscas exóticas de la fruta.
- Se realiza la vigilancia pasiva de otras plagas de importancia cuarentenaria, en diferentes cultivos como caña de azúcar, maíz, piña, frutillas, leguminosas entre otros).

Nicaragua:

- Vigilancia General: Actividades para recopilar información fitosanitaria desde sectores externos a la ONPF.

Panamá:

- En Panamá, revisamos las bases de datos como Crop Protection, PPQ y otras, coordinamos con universidades, centros de investigación estatal y privados, solicitamos información de plagas a las ONPFs y ORPFs, consultas a expertos nacionales e internacionales.

Paraguay:

- La vigilancia general se encuentra dirigido a plagas de rubros de importancia económicas como ser:
 - Banano: Sigatoka Negra (*Mycosphaerella fijiensis*), *Opogona sacchari*, *Ralstonia solanacearum* Raza 2 y *Radopholus similis*
 - Eucalipto: *Leptocybe invasa*, *Lobesia botrana*, *Glycaspis brimblecombei*
 - Cítricos: HLB
 - Soja: *Helicoverpa armigera*

Perú:

- Inspección fitosanitaria de predios seleccionados. A nivel nacional, las 25 Direcciones Ejecutivas que tiene el SENASA inspeccionan predios de los principales cultivos y durante toda la campaña productiva.
- Notificación de ocurrencia de plagas. Es la vigilancia pasiva en, mediante la cual cualquier persona puede notificar la supuesta ocurrencia de una plaga no común.
- Agentes de vigilancia fitosanitaria. Está referido a la integración en el sistema de Instituciones u Organizaciones informan sobre la posible ocurrencia de nuevas plagas o publicaciones, las cuales se formalizan mediante convenios.

República Dominicana:

- *Mycosphaerella fijiensis*: Monitoreo mediante pre aviso biológico.
- Mosca exóticas: Monitoreo mediante trapeo (usos de trampas).
- *Anastrepha obliqua* y *suspensa*: Monitorio mediante trampas
- HLB: Muestreo de plantas en viveros y análisis de laboratorio para identificar la bacteria en platas para producción y plantas establecidas.
- *Cylas formicarius*: Monitoreo mediante uso de feromonas.

Uruguay:

- La vigilancia general es realizada por la ONPF de Uruguay (DGSA), basada en la información proveniente de los Institutos de Investigación (INIA), Universidad de la República (Facultad de Agronomía, Facultad de Ciencias, etc.), asesores técnicos, productores y análisis del laboratorio oficial de la DGSA de muestras enviadas por productores y asesores técnicos.

1. ASIA

Australia

- Development of the Australian Plant Pest Status Database that captures specific and general surveillance information to provide the status of plant pests in Australia.
- Public awareness programs and mechanisms for public reporting.
- Inspection of commodities for import and export.

Bangladesh

The following general surveillance activities were conducted: In each Upazilla 5 Blocks were selected for conducting the surveillance activities. Twenty hectares of crop land has been selected as Unit. From the unit 50 decimal of crop land has been selected as surveillance Plot. Then the surveillance activities were conducted in the selected plot. Collection of pest infestation information was recorded in weekly basis.

China

During the period of 2013-2014, the quarantine pest surveillance were conducted regularly, especially in high risk areas such as coastal areas, border regions, airports, sea ports, and distribution centers of imported agricultural products. The national investigation and monitoring on forest major pests was conducted according to the general requirements “timely monitoring, accurate forecast, active warning”.

Indonesia

- Update information resources (references) such as CABI, etc.
- Subscribe international journals on plant pest and disease
- Use local government data of plant pest and diseases based on recent surveillance
- Confirm recent research report on plant and diseases issued by researches agencies or universities.

Japan

The NPPO (Plant Protection Division(PPD) and Plant Protection Stations(PPS) under Ministry of Agriculture, Forestry and Fisheries (MAFF)), research institutes (e.g. National Agriculture and Food Research Organization), Plant Pest Control Stations of local governments (PPCSs), universities and academic societies (The Japanese society for virology, the Japanese Society of Applied Entomology and Zoology etc.) conduct

general surveillance through collecting and sharing collected pest information through various medias (e.g. scientific journals and pest databases). The NPPO and local governments utilize these information for pest forecast, pest controls.

Laos

- Surveillance on rubber one a year in north, middle and southern part of the country.
- Surveillance on crash crops namely rice, maize, water melon, cassava, banana.

Malaysia

- (i) All crops which have technical documents (e.g. durian, rambutan, pineapple, starfruit, mangosteen etc)
- (ii) Industrial crops (oil palm, rubber, coconut and cocoa)
- (iii) Food crops (rice and vegetables)
- (iv) Ornamentals (flowers and aquatic plants)

Ref: Ahmad Yunos and Ho, KG Singh

Mongolia

In Mongolia, 3 methods are taken into consideration when determining abundance and distribution of insect pests. Surveillance study is being done monthly, seasonally and annually on insects and grasshoppers belong to *Acrididae* family and *Orthoptera* order as well as *Loxostege sticticalis* belonging to *Lepidoptera*. Distribution study on agricultural crop pest conducted in interval of 4-5 years in regional zone. NPPO-ISPM 6 can be adapted and applied to Mongolian regional zones including steppe, desert and semi desert, alpine and pasture even in crops. Surveillance study has been conducted in 2014 covering 30 percent of the total land. Based on the outcomes of the study not particular pests have been observed besides harmful locusts were not densely distributed to reach the level to ruin the livestock grazing areas. However, in alpine zones such as Hovd, Gobi-Altai and Bayan-Ulgii provinces *Eclipophleps Serg.Tarb* were abundant.

Furthermore in Ulaangom soum of Uvs province, flies were causing problem in sea buck-thorn field, which we have implemented control methods against them for the last two years.

Myanmar

For current pest list

- Recording occurrence on crops in accordance with the requirement for record keeping from ISPM-6.
- Collecting the infested samples.
- Examining and identifying the samples in the laboratories.
- Identifying the pathogens, insects and weeds in the laboratories.

-Recording the data for pest list.

For formerly pest records

-Records from the Crop Protection Compendium (2007) from CABI.

Nepal

Target : Quarantine Pests About 300 Quarantine pests of 19 commodities are identified, and regulated with pursuant to Plant Protection Act of Nepal (<http://www.npqpnepal.gov.np/downloads.php>) .

Inspections and Surveillance for the interception of these pests are being carried out in all 16 customs points (Plant Quarantine Offices) throughout the country. Interceptions, if any, are informed to NPPO via the formal channel, we annually allocate regular fund in emergency plant protection service.

We have developed NSPM on Pest risk analysis (Notified) and use it to identify the quarantine pests. NPPO/NPQP is responsible for undertaking PRA. (<http://www.npqpnepal.gov.np/downloads.php>)

Target: non regulated Pests Nepal has developed National pest list of 35 important agro-forest commodities (<http://www.npqpnepal.gov.np/downloads.php>).

Compilation of information in the pest list is done by using the pest data sheet format developed by FAO on the basis of ISPM 6 and ISPM 8

We have our technical guidelines for surveillance of plant pests in natural ecosystem and in agricultural ecosystem (NSPMs) (<http://www.npqpnepal.gov.np/downloads.php>).

Pakistan

The Department of Plant Protection, the NPPO - Pakistan in collaboration with the Federal and Provincial level agricultural research & extension departments coordinates the general surveillance on the major crops of economic importance like cotton, rice, wheat, sugarcane, vegetables, mango, citrus, guava, apple and other deciduous fruits. The provincial agricultural departments have crop reporting and pest warning & quality control wings which conduct general surveillance and provide a broader view of the pest situation to the policy makers and regulators.

Philippines

Under the Crop Pest Management Division

1. Regular Field Monitoring on rice, corn and other crops of economic importance
2. Collection of pest reports from Regional Field Office
3. Collection of information on pest of rice, corn, lanzones, mango and other crop of economic importance.

Singapore

Plant pests in ornamental plants

Sri Lanka

Coconut: Coconut mite (*Aceria guerreronis*); Red palm weevil (*Rhynchophorus ferrugineus*); Black beetle (*Oryctes rhinoceros*) Plesispa (*Plesispa reichei*); Coconut leaf wilt (causal agent phytoplasma), Red ring Nematode (*Bursaphelenchus cocophyllus*), Weligama Coconut wilt (Phytoplasma)

Tea: Tea shot hole borer: Tea nematodes (*Platylenchus loosi*, *Meloidogyne bradicoda*); Low country live wood termites (*Glyptotermes*);

Rubber: White root disease

Cinnamon: Clear wing moth

Sugarcane: Sugarcane woolly aphid (*Ceratovacuna lanigera*)

Rice: Rice sheath mite (*Stenotarsonemus spinki*)

Fruits: Fruit fly (*Bactocera dorsalis*), Citrus Greening (*Candidatus liberibacter*)

Cucurbits: Melon fly (*Bactocera cucurbitae*)

Vegetables: whitefly (*Bemisia* spp); root knot nematodes (*Meloidogyne* spp)

Potato: Leaf miner (*Liriomyza heudobrensis*); **Cinnamon:** Clear wing moth

General pest: Yellow spotted locust

Weeds: Parthenium, Alligator weed, Salvinia, Giant mimosa, Water hyacinth, *Clusia rosea*, *Annona glabra*, *Prosopis juliflora*, *Opuntia dillenii*, *Dillenia suffruticosa*

Thailand

1. Use of information to support pest list and specific survey
2. Sources of information: plant pest record, museum, plant disease herbarium, weed herbarium and culture collection

Vietnam

1. Plant Protection Research Institute (PPRI), 1975. Survey results for plant diseases in the Northern provinces from 1967 to 1968. Minister of Agriculture and Rural Development. Agriculture Publishing House Hanoi
2. Plant Protection Research Institute (PPRI), 1976. The survey of insects in the Northern provinces from 1967 to 1968. Minister of Agriculture and Rural Development. Agriculture Publishing House Hanoi
3. Plant Protection Research Institute (PPRI), 1999a. The survey of insects and plant diseases in the South provinces from 1977 to 1978. Minister of Agriculture and Rural Development. Agriculture Publishing House Hanoi
4. Plant Protection Research Institute (PPRI), 1999b. The survey of insects and diseases on fruit trees in Vietnam from 1997 to 1998. Minister of Agriculture and Rural Development. Agriculture Publishing House Hanoi. 1999

5. Plant Protection Department (PPD), 2010. National Pests and stored pests survey programme for harvesting of plant products in Vietnam from 2006 to 2009. Ministry of Agriculture and Rural Development. Agriculture Publishing House Hanoi. 2010
6. National Center for Science and Technology of Vietnam, 2000. Fauna of Vietnam, No 7, Orthoptera, Acrididae and Heteroptera, Coreidae. Luu Tham Muu, Dang Duc Khuong (authors) and et all. Science and Techniques Publishing House (329 pages)
7. National Center for Science and Technology of Vietnam, 2000. Fauna of Vietnam, No 3, Egg-Parasites of family Scelionidae (Hymenoptera). Le Xuan Hue (author) and et all. Science and Techniques Publishing House (385 pages)
8. National Center for Science and Technology of Vietnam, 2000. Fauna of Vietnam, No 6, Diptera, Museidae and Diptera, Calliphoridae. Ta Huy Thinh (author) and et all. Science and Techniques Publishing House (334 pages)
9. Ministry of Science and Technology and Vietnamese Academy of Science and Technology, 2007. Fauna of Vietnam, No 24, Coccinellidae - Coleoptera. Hoang Duc Nhuan (author) and et all. Science and Techniques Publishing House (419 pages)
10. Ministry of Science and Technology and Vietnamese Academy of Science and Technology, 2007. Fauna of Vietnam, No 15, Isoptera. Nguyen Duc Kham, Nguyen Tan Vuong, Trinh Van Hanh, Nguyen Van Quang, Le Van Trien, Nguyen Thuy Hien, Vu Van Nghien, Ngo Truong Son, Vo Thu Hien (authors) and et all. Science and Techniques Publishing House (303 pages).

Question 2: What **specific surveillance programmes** (detection, delimiting or monitoring surveys for specific pests) take place in your country? (Specific surveys are procedures by which NPPOs obtain information on pests of concern on specific sites in an area over a defined period of time. – ISPM 6)

2. NEAR EAST AND NORTH AFRICA

Egypt: Yes Fruits Flies s, potato brown rot and Red Palm Weevil

Jordan: *Tuta absoluta*: The first record of the adult moth in pheromone traps were in the region of Ghour AlSafi in November, 2009 without showing symptoms of the injury in tomato leaves and fruits.

Fusarium Oxysporum f.sp.albedinis

KSA: Currently, Specific Surveillance Programmes are done for:

-Red Palm Weevil (*Rhynchophorus ferrugineus*)

-Tomato leaf miner (*Tuta absoluta*)

Given their presence and economic importance in KSA.

Lebanon: Brown rot on potato

Fruit fly all over Lebanon

Libya: Peach fruit fly (*Bactrocera zonata*) , Red palm weevil (*Rhynchophorus ferrugineus*) and Tomato leaf miner (*Tuta absoluta*) surveillance conducted in number of crop cultivation areas and areas close to the country's entry points. During these surveillances the peach fruit fly, red palm weevil and tomato leaf miner were recorded for the first time in the country.

Mauritania: Les programmes spécifiques de surveillances qui sont suivi pendant toute l'année ceux cités en haut en particulier la lutte contre les oiseaux granivores.

Morocco: Les programmes de surveillance phytosanitaire spécifiques, conformément à la NIMP 6 :

- 1) Surveillance phytosanitaire du nématode de pin (Plan de surveillance par zone) par :
 - Alertes et notes de service,
 - Programme Marocain de conformité des emballages en bois,
 - Fiches techniques sur *Bursaphelenchus xylophilus* renfermant les points suivants : éléments de biologie et de reconnaissance de symptômes, Comment prévenir toute infestation, Protocole de prospection et de surveillance, Mesures phytosanitaires et Que faire en cas de suspicion d'infestation
- 2) Surveillance de la mouche du pêcher (*Bactrocera zonata*) par :
 - Réseau de piégeage de surveillance;
 - Renforcement du contrôle phytosanitaire à l'importation et traitement obligatoire des végétaux (fruits) hôtes de cette mouche;
 - Renforcement des prospections phytosanitaires aux vergers;
 - Installation des postes de contrôle phytosanitaire au niveau des aéroports à grand flux de voyageurs;
 - Coordination des opérations de contrôle au PIF avec la Douane
 - Fiche de suivi
- 3) Surveillance du virus de la Sharka et du virus de Tristeza par :
 - Prospections au niveau des vergers agrumicoles
 - Prélèvements des échantillons pour analyses
 - Mesures phytosanitaires
- 4) Surveillance du charançon rouge du palmier :
 - Prospections phytosanitaires et observation des symptômes ;
 - Réseau de piégeage
 - Exigences phytosanitaires à l'importation des plants de palmier et renforcement du contrôle à l'importation ;
 - Contrôle à la circulation des plants ;
 - Fiche de suivi

Palestine: 1) Surveillance on (*Bactrocera zonata*):

- Distribution of Traps: steiner trap and Multilure trap (Pheromone (Methel eganol)
- the general objective: Pest Detection

- 68 traps on most pest host production area

2) Surveillance on Red Palm Weevil (*Rhynchophorus ferrugineus*):

- Distribution of Traps: RPW traps (Pheromone + attractive food)
- the general objective: Pest Detection
- 350 - 400 traps on most pest host production area

3) Surveillance on Mediterranean fruit fly (*Ceratitis capitata*):

SIT Project, yellow traps, Jackson traps, McPhail traps, toxic baits (Bominal + Roger 40 (dimethoate) insecticide).

4) Surveillance on Olive fruit fly (*Bactrocera oleae*): mass trapping, yellow traps, food traps (yeast + Tephri), Mcphail traps, cultural practices.

Qatar: We have some activities related to collect information on some pests such as:

Red Palm Weevil *Rhynchophorus ferrugineus* (Olivier),

Tomato leaf miner *Tuta absoluta*,

Those activities aim to provide right information to control the pests

Sudan: Migratory pests survey and monitoring such as locusts, harmful birds and fruit flies.

Tunisia: Les programmes de surveillance phytosanitaire spécifiques, conformément à la NIMP 6 :

- Prospection phytosanitaire
- Localisation des infestations par GIS
- Délimitations des zones infestées
- Mises en place d'un programme de lutte selon l'organisme nuisible
- Application des Mesure de Quarantaine interne (Application de la réglementation

Concernent les nouveaux ravageurs notamment :

Red palm weevil.

Fire blight disease (*Erwinia amylovora*)

ToLCNDV

Le programme de surveillance dans le cadre de Veille : (*Bactrocera zonata et Dacus spp* ; *Toxoptera citricidus*; *Trioza erytrae*)

Surveillance par :

- Réseau de piégeage de surveillance;
- Renforcement du contrôle phytosanitaire à l'importation
- Renforcement des prospections phytosanitaires aux vergers;

- Prélèvement des échantillons pour analyses
- Renforcement des capacités
- Formation et vulgarisation de l'information

UAE: Date palm pest surveillance; targeted pests are:

1. Drawing epidemiological map of the red palm weevil
2. Drawing a map of the epidemiological Dobbas
3. Drawing epidemiological map of the palm stalk borers
4. Al Humira

2. CENTRAL AND EASTERN EUROPE AND CENTRAL ASIA

Armenia

Different FAO projects supported theoretical and hands-on seminars. Detection surveys for *Phthorimaea operculella* Zell, *Tuta absoluta* and *Phylloxera* were conducted with the help of FAO experts.

Azerbaijan

In 2014, detection and monitoring surveys were conducted on *Ambrosia artemisiifolia* L., *Phthorimaea operculella* Zell.), *Solanum rostratum* Dun. and *Hyphantria cunea* Drury. National pest management programmes for those pests are implemented according to the ISPM 9.

Belarus

1. Since 2009, monitoring surveys are conducted and pheromones are used in Minsk, Gomelsky, Brest and Grodnensky oblasts (regions), bordering regions with Ukraine and Poland, for detection of *Diabrotica virgifera virgifera*. In current year, lures were used for detection of females.
2. To prevent spread of potato ring rot, samples of all varieties and reproductions of potatoes were collected and tested from seed production sector and potato exporting organizations.
3. Inspectors in greenhouses conduct monthly surveys for *Tuta absoluta* with the use of pheromone traps. The pest was detected in Belarus in 2011. Monitoring with the use of pheromones is conducted in the places with the potential of the detection of *Tuta Absoluta*.

Montenegro

The Law on Plant Health Protection (OGM 28/06, 26/11) establishes a legal framework for the plant health protection system, harmonized with the EU acquis, which adopts the EU plant health protection concept (in accordance with the Directive 2000/29).

The Law governs the protection of plants, measures for prevention of introduction and spread, as well as measures for control of harmful organisms, health supervision over plants and plant consignments in trade, ensuring the carrying out of activities of public interest as well as other issues of relevance for this field.

Within the Programme of Phytosanitary Measures for each year conduct Programme of Plant health protection includes the following activities:

- Systematic surveys on specific harmful organisms in accordance with the prescribed statutory obligations and the relevant regulations of the European Union, the procedures of EPPO and the standards of the IPPC;
- Continuous surveillance on harmful organisms in the crops of national interest that contribute to the production of healthy food;
- Emergency phytosanitary measures and compensation claims are being implemented in order to reduce the scope of damage to agricultural crops and maintenance of potential yield of the crops.

Georgia

The State Control Plant Protection Programme 2015 (approved by the order №2-25 of the Minister of Agriculture) implies surveillance on the following quarantine and especially dangerous pests (including laboratory testing of samples collected during the monitoring, in total 365 samples) :

- *Ralstonia solanacearum* (Smith) Jabuuchi et al.;
- *Clavibacter michiganensis* subsp. *Sepedonicum*;
- *Synchytrium endobioticum* (Schilb) Perc.;
- *Erwinia amylovora* (Burrill) Winslow et al.;
- *Globodera pallida* (Stone, 1973) Behrens, 1975;
- *Globodera rostochiensis* (Wollenweber) Behrens;
- *Carposina sasakii* Mat; *Ceratitidis capitata* (Wied.);
- *Rhagoletis pomonella*. *Bactrocera dorsalis*.

Laboratory diagnostics confirmed occurrence of the new infected areas of potato wart disease in three villages of Adjara region. New invasive pests, *Cydalima perspectalis* (box tree moth) and box tree blight disease causal agent have been registered on Colchis box (*Buxus colchica* Pojark.) and negatively affected the phytosanitary status of Georgia since recent three years.

Serbia

Within the Program of Measures for Plant Health Protection, for the purposes of preventing the occurrence, early detection, monitoring, suppression and eradication of harmful organisms on the plants, the following activities are conducted:

- permanent supervision (surveillance) over plants by the official process of recording, collecting and processing the data on the presence and absence of harmful organism on the basis of phytosanitary inspections, monitoring, forecasts, check of health status or other procedures and on the basis of all other available resources;
- specific survey over harmful organisms prescribed by this program, conducted within a determined period of time for the purpose of detecting harmful organisms or determining the characteristics of their population or determining the border of the area in which they are present or absent.
- Emergency phytosanitary measures and compensation claims are being implemented in order to reduce the scope of damage to agricultural crops and maintenance of potential yield of the crops.

Turkey

Specific survey is carried for 28 harmful organisms. Survey has continued for at least 20 harmful organisms during 5 years .

Uzbekistan

The state regional inspectors conduct annual surveys of farms, research institutes, postquarantine stations and storage facilities. Collected samples, according to the established procedures, are sent to the Central Laboratory of the Inspection of 'UZGLAVGOSQUARANTINE' for identification and confirmation of the quarantine species. Based on the test results, quarantine procedures are applied.

Tajikistan

The State Phytosanitary and Quarantine Inspection conducts detection surveys for quarantine pests according to the annual work plan. The plan indicates place, time and species of quarantine pests to be surveyed (*Globodera rostochiensis*, *Leptinotarsa decemlineata*)

2. PACIFIC

French Polynesia: We have a specific surveillance programmes for *Bactrocera xanthodes*, *Wasmannia auropunctata* and *Brontispa longissima*.

Caledonia: Monitoring network for fruit fly (Tephritidae), surveillance activities at the entry point for invasive ants (rifa).

Guam: Fruit fly surveys

Coconut rhinoceros beetle detection surveys on perimeters of ports of exit and throughout Guam.

Surveillance for harmful and invasive ants.

Surveillance for citrus pests and citrus greening disease (HLB)

Surveillance for insect pests in ornamental and landscape plant nurseries.

Tokelau: Yellow Crazy Ant

When the case first reported, delimiting survey was done first for baseline (density and what management activity to be involved). A card count was used in doing this. Then few months of monitoring followed as to keep check on its population and distribution (if any new areas invaded). When targeted pest had moved above threshold in population, another survey was done (both the targeted and non-targeted species present on the area) before insecticide was applied. The Non-targeted species were recorded based on their visual presence and number seen.

(Others that are under monitoring at the moment are **Mealy bug** and **Rhinoceros beetle** in Fakaofo atoll, Tokelau)

Vanuatu

- Fruit Fly surveillance at the main ports

Fruit Fly surveillance is essential for the trade purposes. At the main islands, fruit fly surveillance is conducted on the urban and rural areas. Every fortnight, Plant health Officers conduct fruit fly surveillance to ensure no new species is introduced into the country.

- Invasive weeds surveillance

For the past year, Biosecurity Vanuatu has embarked into the management of invasive weeds through bio-control means. Through an Ausaid funding, a weed management project has been funded and implemented. As part of the project activity, weed infestation survey was one of the tasks to carry out. The Biosecurity Officers survey the weed infestation in the island and mapped the weeds distribution. As a result, the spread sheet database was developed for major invasive weed.

- Little Fire ant surveillance

Little Fire ant (*Wasmannia auropunctata*) is one of the most invasive species. So in Vanuatu the pests are found mainly in the northern part of Vanuatu. However, in the recent years, the ant has spread further south and is now present in Santo and Efate. So as part of the Invasive Species Project, little fire ant surveillance has been conducted on Santo and Efate to determine the distribution of the pests.

Samoa: There is the continual fruit fly traps for the surveillance of fruit flies, at ports of entry, forests areas, orchard and commercial farmers. We have also an awareness display on the citrus greening disease at our domestic port which operates flights to and from American Samoa, thus monitoring closely any fruit imports. Surveillance of GAS using pellets and bio-control worms is carried out by the Crops division. Others include brucellosis, rhino beetle, American foulbrood but only done with the availability of resources and donor assistance.

Solomon: Current specific surveillance work targeting, Citrus Canker, Giant African Snail, Coconut rhinoceros beetle, Cocoa pod borer and the (PNG Bogia coconut syndrome)

There was a specific survey done to determine the health status of Honey Bees

There is also plan to do survey by crops to determine pest.

Tuvalu: Detection & Monitoring survey.

Nauru: 06/2015: delimiting survey of yellow crazy ant took place.

06/2015: setup of fruit fly traps around the island

2. CARIBBEAN

Antigua and Barbuda:

- During the general mango season (June to August annually), a detection survey is conducted for the mango Seed Weevil. Five mangoes per tree from locations at which the fruit is available are collected, cut through and inspected for the presence of the pest. The results are noted and documented. In addition, mangoes intercepted at the ports of entry are also checked for the presence of the pest prior to destruction.

- In conjunction with the USDA and guided by the work of the Caribbean Plant Health Directors (CPHD) Forum Technical Working Group on Fruit flies, Antigua and Barbuda has recently resumed a fruit fly trapping programme in a limited area of the country (due to the availability of human resource to conduct a more comprehensive survey). The detection/monitoring survey is primarily for Tephritid fruit flies.
- Reports received from the general public of suspicious snail sightings are responded to in order to determine any new areas that have been infested by the Giant African Snail (GAS). Generally, known infested areas are monitored and snails collected and killed from select priority areas given the resources available. A database of GAS population information of the priority locations is collected and documented.

Barbados:

- West Indian fruit fly

Belize:

- *Ceratitis capitata*
- *Tuta absoluta*
- *Megacopta cribraria*
- *Candidatus Liberibacter solanacearum/ Paratrioza cockerelli*

Grenada:

- Currently the NPPO, the Pest Management Unit is conducting the following surveys:
 - (a) Detection: Red Palm Weevil (*Rhynchophorus ferrugineus*)
 - Asian Citrus Psyllid / Greening Disease Complex *Diaphorina citri*
 - (b) Monitoring
 - (i) Fruit fly survey (aimed specifically at monitoring distribution and infestation levels (FTD) of the West Indian Fruit fly *Anastrepha obliqua*.
 - (ii) American Palm Weevil Survey (aimed at monitoring distribution and infestation levels of *Rhynchophorus palmarum*)

Guyana:

- These programmes are directly conducted by the NPPO. At Present, there are specific surveillance programmes for carambola fruit fly, Mediterranean fruit fly, red palm mite and pink hibiscus mealybug

Haiti:

- *Crypticerya genistae*:
 - Plant Protection Direction has inspector in each region of the country to monitor the presence of the pest with the farmers
 - Infested regions are under surveillance, and actions are taken to confine the infestation within small area (quarantine), through integrated management measures (farmers training, good cultural practices, pesticides application, crop residues management, biological control assay).
- Tephritid Fruit fly:

- A national program for detection and control of fruit flies (PNDCMF) is being implemented since 2007 another to detect and survey fruit flies throughout the areas of mango production. Through this program a trapping network with 3 types of traps (Multilure trap, Mc Phail trap, Jackson trap) was set another to monitor *Anastrepha obliqua*, *Anastrepha suspensa* and to survey the introduction of medfly.
- A buffer zone (1km², 2 Mp + 2 Jc + 1Ml per square kilometer) is established along the border separating Haiti and Dominican Republic after the medfly was detected in DR. another to survey its introduction on Haitian territory.

Jamaica:

- Specific surveillance activities include:
 - *Anthonomous eugenii* (pepper weevil)
 - *Anastrepha* sp. (fruit fly)
- RADA (Rural Agricultural Development Agency) - extension arm of the ministry
- Beet army worm (*Spodoptera exigua*) in high risk areas (St. Elizabeth and Manchester)

St. Lucia:

- Surveillance and monitoring activities for Black Sigatoka Disease, Black Streak Virus (BSV) of *Musa* Species
- Tephritid fruitflies of fruit crop species
- Red Palm Mite of Coconut
- Giant African Snail

St. Vincent:

- A fruit fly detection and monitoring survey has been ongoing since 1985
- Monitoring for banana leafspot diseases
- Detection and monitoring survey for Moko (*Ralstonia solanacearum*)

St. Kitts:

- Fruit fly surveillance
- Giant African Snail
- *Icerya seychellarum* (Iceplant scale)
- Carambola Fruit fly

Suriname:

- I can mention some specific pest surveys that has been taken place in Suriname:
 - There is the Carambola fruit fly monitoring surveys. This program is also used as detection surveys for the Medfly.
 - Detection survey on the Giant African Snail

- Detection survey on the cotton seed bug, *Oxycarenus hyalinipennis*.
- Reconnaissance survey on the *Thrips palmi*, *Frankliniella occidentalis*, and *Scirtothrips dorsalis*.
- Reconnaissance survey on *Planococcus minor* and the *Crypticerya genisteae*

2. LATIN AMERICA

Argentina:

- Actividades de vigilancia en el marco del Programa Nacional de Prevención de HLB: Se desarrollo el sistema preventivo de vigilancia específica de HLB y *Diaphorina citri*.
- Actividades de vigilancia en el marco del Programa Nacional de Control y Erradicación de Mosca de los Frutos: actividades de trampeo y muestreo de frutos en distintos hospederos.
- Actividades de vigilancia en el marco del Programa Nacional de Prevención y Erradicación de *Lobesia botrana*: actividades de trampeo en vid.
- Actividades de vigilancia en el marco del Programa Nacional de Acridios: monitoreo para detección temprana de focos y posterior control.
- Actividades de vigilancia en el marco del Programa Nacional de Prevención y Erradicación del Picudo del Algodonero (*Anthonomus grandis*): trampas utilizadas en una red de monitoreo
- Actividades de vigilancia en el marco del Programa Nacional de Supresión de *Cydia pomonella* (fruta de pepita): monitoreo para la determinación de los momentos oportunos de control
- Actividades de vigilancia en el marco del Programa Nacional de Sanidad Forestal: actividades de vigilancia principalmente para *Sirex noctilio* (pino). También monitoreo de *Tremex fuscicornis* (salicáceas); *Leptocybe invasa* y *Thaumastocoris peregrinus* (eucaliptos); Trampeo de escolítidos y *Lymantria dispar*.
- Dípteros cuarentenarios (cucurbitáceas): sistema preventivo de vigilancia específica
- Virus y viroides en Vid: análisis de muestras sintomáticas o sospechosas de *Xylella* y phitoplasmas.
- Otros sistemas de vigilancia específica:
 - *Pseudomonas syringae* pv. actinidiae (PSA) en kiwi.
 - *Helicoverpa armigera* (cultivos varios)
 - *Monilinia* sp. y *Erwinia amylovora* (en fruta de pepita)
 - Nemátodos y *Phytonemus* sp. (en frutilla) *Aphelenchoides besseyi* (en frutilla y arroz)
 - *Argyrotaenia* sp. (en vid)
- Protocolos varios de exportación.

Bolivia:

- Se tiene implementado rutas de vigilancia para la detección oportuna de plagas cuarentenarias como: HLB, Picudo mexicano del algodón, moscas de la fruta (*Bactrocera* spp.) y polilla de la vid.

- Por otra parte se tiene implementada un sistema de vigilancia para moscas de la fruta de importancia económica para la exportación de limón.

Brasil:

- IN 2/2014 (*Xanthomonas campestris* pv. *Viticola*),
- IN 3/2008 (*Guignardia citricarpa* Kiely (*Phyllosticta citricarpa* Van der Aa)),
- IN 3/2012 (*Peronospora tabacina*),
- IN 5/2008 (*Ceratitis capitata* e *Anastrepha fraterculus*),
- IN 8/2012, (*Schizotetranychus hindustanicus*)
- IN 13/2006, (*Anastrepha grandis* Macquart)
- IN 13/2012, (*Moniliophthora roreri*)
- IN 14/2010, (*Raoiella indica*)
- IN 16/2006, (*Anastrepha grandis* Macquart)
- IN 17/2005, (*Mycosphaerella fijiensis*)
- IN 17/2009, (*Ralstonia solanacearum* raça 2)
- IN 17/2010, (*Papaya meleira* vírus –PmeV e Papaya ringspot vírus - type P- PRSV-P)
- IN 19/2014, (*Anthonomus tomentosus*)
- IN 20/2010, (Moscas da frutas)
- IN 20/2013, (*Neonectria galligena*)
- IN 23/2007, (*Dactylopius opuntiae*)
- IN 28/2009, (*Opogona sacchari*)
- IN 31/2010, (*Peronospora tabacina*)
- IN 47/2013, (Coconut Lethal Yellowing)
- IN 53/2008. (Huanglongbing (HLB))
- Decreto 2226/97 (*Bactrocera carambolae*)

Chile:

- La vigilancia específica comprende la ejecución de un programa anual, priorizado, destinado a la verificación de la situación fitosanitaria de los cultivos de importancia económica del país y de las plagas, tales como:
 - 1.- Vigilancia de las plagas cuarentenarias ausentes, descritas en la Resolución N° 3080 del 2003, como por ejemplo: Huanglongbing y sus vectores, *Zeuzera pyrina*, *Erwinia amylovora*, Complejo de moscas de la fruta, *Achatina fulica*, Avocado sunblotch, Brassic entre muchas otras.
 - 2.- Programas de Vigilancia y Control de plagas cuarentenarias presentes (sujetas a control oficial), como por ejemplo: *Lobesia botrana*, Plum pox virus, *Pseudomonas syringae* pv *actinidiae* (Psa), *Parlatoria oleae*, *Homalodisca vitripenni*, *Sirex noctilio*, *Leptocybe invasa*, *Fusarium circinatum*.

Ecuador:

- AGROCALIDAD dentro de su Sistema de Vigilancia Fitosanitaria y como un eje fundamental del mismo se encuentra trabajando fuertemente en Vigilancia Activa a nivel nacional, la Vigilancia Activa en el país se encuentra diseñada para obtener información sobre plagas de interés en sitios específicos de un área, durante un período de tiempo definido, de acuerdo a los siguientes procedimientos específicos:
 - Monitoreo de plagas específicas
 - Prospección de cultivos y productos agrícolas
 - Verificación de denuncias y reportes de plagas
- El Sistema de Vigilancia Fitosanitaria tiene técnicos a nivel nacional en las 23 provincias, los mismos que se encuentran capacitados en protección vegetal, manejo de datos, métodos de muestreo, toma y envío de muestras a los laboratorios de Diagnóstico.
- Planta Central estructura las directrices a través del “Plan Anual de Política Pública (PAPP)” con el que se trabaja durante todo el año en Vigilancia Activa, el mismo que es enviado a cada una de las provincias para la planificación de sus actividades.
- El levantamiento de información fitosanitaria en campo se realiza a través del muestreo y trampeo.
- Para el monitoreo por muestreo se utiliza una ficha de campo la misma que contiene información general del cultivo, ubicación geográfica, síntomas del cultivos, diagnósticos visuales y datos para el envío a los laboratorios de diagnóstico.
- En el caso del monitoreo por trampeo se utilizan dos fichas de campo: la primera de instalación de trampas que contiene datos generales del sitio donde fue instalada la trampa, datos generales y la firma de responsabilidad del cuidado de la trampa del dueño del predio y la segunda de servicio de trampas en donde constan hora y fecha que se realizó el servicio de la trampa y las condiciones en las cuáles se encontró la trampa.
- Las muestras recolectadas son identificadas con sus respectivas etiquetas y enviadas a los Laboratorios de AGROCALIDAD a nivel nacional, actualmente contamos con tres Laboratorios de Referencia en la ciudad de Quito, Guayaquil y Loja y siete Laboratorios de Diagnósticos rápido.
- Los resultados de Diagnóstico de Laboratorio son enviados a cada una de las provincias a nivel nacional.
- Mensualmente los técnicos a nivel nacional consolidan la información fitosanitaria en una base de datos la misma que es revisada, procesada y analizada a nivel nacional por parte de Planta Central, la información obtenida entre otras cosas es utilizada para la elaboración de mapas, aclaraciones de plagas, alertas fitosanitarias tempranas.
- Actualmente para el monitoreo en campo se han incorporado sensores fitosanitarios, los mismos que son personas externas a AGROCALIDAD que están apoyando en la realización de monitoreo y prospecciones en campo y generando información fitosanitaria para AGROCALIDAD.

El Salvador:

- Se contaba con un programa de Manejo Integrado de Moscas de la Fruta, que en la actualidad se está implementado de nuevo.
- Se realizan Monitoreos periódicos de Plagas específicas tales como: Gorgojo Khapra (*Trogoderma granarium*) (Red de trampeo a nivel Nacional), Acaro Rojo de las Palmas (*Raoiella indica*), Cochinilla Rosada (CRH) (Trampeo a Nivel de Zonas), Amarillamiento Letal del Cocotero (ALC), Leprosis de los Cítricos, Cancro de los cítricos, *Tilletia barclayana* del Arroz, Palomilla del Tomate (*Tuta absoluta*) Red de trampeo, *Megacopta cribraria* “Kudzu Bug”, Red de trampeo en varias zonas del país, Prospecciones Acridianas en El Oriente del País
- Todas estas acciones se realizan por medios de captura de información de campo a nivel nacional.
- Medios empleados.
 - Encuesta

- Monitoreo
- Muestreos
- Diagnósticos de Laboratorio

Guatemala:

- Programa Mosca de mediterráneo:
- Programa Moscas de las frutas:
- PRONAFICIT: Plagas de los cítricos: HLB y a partir del 2016 Exoxortir (CEVd), Psorosis (CPsV), Cachexia xyloporosis (CCaV-XYV), Citrus leprosis (CiLV), Tristeza (VTC), Clorosis Variegada, Chancro.
- PRONAFISOL: *Tuta absoluta* y otras plagas de tomate y papa.
- *Ditylenchus dipsaci*, *Ditylenchus destructor*, *Aphelenchoides besseyi*, *Opogona sacchari*, *Burkholderi aglumae*, *Maconellicoccus hirsutus*, *Anastrepha grandis*, *Clavibacter michiganensis*, *Globodera rostochiensis*, *Globodera pallida*, *Thrips palmi*, *Anastrepha fraterculus*, *Bactericera cockerelli*, Amarillamiento Letal del Cocotero, Leprosis de los Citricos, *Aleurodicus dispersus*, *Erwinia Chrysanthemis*, *Pratylenchus brachyurus*, *Murgantia histrionica*, *Evergestis rimosalis*, *Lygus lineolaris*, *Tilletia barclayana*, Cucumber mosaic virus, *Frankliniella occidentales*, Manca de Asfalto, Roya del Café, Thrips de Cardamomo, Fusariosis de la piña, *Fusarium oxysporum* FOC4, *Xylella Fastidiosa*, *Drosophila suzukii*
- Aguacate: 1. *Heilipus lauri* (the large avocado seed weevil), 2. *Conotrachelus aguacatae*, 3. *C. perseae* (the small avocado seed weevils), 4. *Copturus aguacatae* (the avocado stem weevil), 5. *Stenomoma catenifer*, 6. *Amorbia* sp, 7. *Cryptaspasma* sp. nr *lugubris*, 8. *Euxoasorella*, 9. *Histuran* .sp., 10. *Holcocera* sp., 11. *Netechma pyrrhodelta*, 12. *Nicrathetis triples*, 13. Mosca del Meditárreneo

Honduras:

- Mosca del Mediterraneo para Mantenimiento de Area libre en el Valle del Rio Aguan.
- Mosca del Mediterraneo en Fincas Montelibano y Santa Rosa para Mantener Lugares de Produccion Libres y Sitios de Produccion Libres de Plagas.
- Deteccion de *Tuta absoluta*.

México:

- Se operan 3 programas a través de los 32 Comités Estatales de Sanidad Vegetal:
 - Programa de Vigilancia Epidemiológica Fitosanitaria
 - Trampeo preventivo de moscas exóticas de la fruta
 - Se opera el programa de Vigilancia epidemiológica de la Roya del Café (*Hemileia vastatrix*) en 6 estados productores de café.

Nicaragua:

- Vigilancia Fitosanitaria Especifica:
 - Prospecciones y trampeo de plagas específicas
 - Prospecciones de cultivos y productos agrícolas
 - Verificación de denuncias y reportes de plagas

Panamá:

- En Panamá se realiza vigilancia de las principales plagas de carácter cuarentenario y no cuarentenarias reglamentadas a través de Programas fitosanitarios como. Moscas de la Frutas (*Ceratitis capitata*, *Anastrepha grandis*, moscas *Bactrocera*, entre otras), cítricos (HLB, Cancrosis, CVC), Programa fitosanitario de solanaces: (*Bactrocera cokelleri*, *Candidatus liberibacter solanacearum*, *Tuta absoluta*), Programa fitosanitario de cucurbitáceas (*Thrips palmi* entre otros), Programa fitosanitario de palmáceas (Amarillamiento letal del cocotero, *Raoelia indica*, Picudo Rojo del cocotero), Programa fitosanitario de Musaceas (Mal de Panama Foc R4T, BBTv), programa fitosanitario de granos almacenados (Gorgojo Kapra), Programa fitosanitario de Flores y Follaje (*Frankliniella occidentalis*, Cochinilla rosada), Programa fitosanitario de café y cacao (Roya, Broca, ojo de gallo y escoba de bruja del cacao), Programa fitosanitario de raíces y tubérculos (virus cuero de sapo de la yuca, nematodo *Scutellonema bradys*), Programa fitosanitario de piña Fusariosis (*Fusarium guttiforme*) de la piña)

Paraguay:

- Programa de alerta y vigilancia fitosanitaria para la plaga *Drosophila suzukii* Matsumura (Diptera, Drosophilidae) en *Citrus* spp. *Fragaria* sp., *Vitis vinifera*, Mangifera indica y otros hospedantes en las principales zonas de producción.
- Programa de alerta fitosanitaria y vigilancia de *Helicoverpa armigera* (Gusano del algodón).
- Plan de contención huanglongbing de los cítricos (HLB).
- Programa de alerta y vigilancia fitosanitaria en el cultivo del banano (*Musa paradisíaca* L.).

Perú:

- Atención de Alertas Fitosanitarias, donde se realiza la vigilancia preventiva del Huanglongbing de los cítricos (HLB) y su vector *Diaphorina citri*
- Vigilancia preventiva de plagas cuarentenarias de los cítricos (mantenimiento de estatus de país libre de *Elsinoe australis* “Sarna del naranjo dulce”, *Xanthomonas axonopodis* pv. citri “Cancro de los cítricos” y *Guignardia citricarpa* “Mancha negra de los cítricos”).
- Monitoreo preventivo de la “Polilla guatemalteca de la papa” *Tecia solanivora*
- Monitoreo preventivo del “Picudo mexicano del algodón” *Anthonomus grandis*
- Monitoreo preventivo del “Gorgojo kaphra” *Trogoderma granarium*
- Monitoreo preventivo de la “Polilla del racimo de la uva” *Lobesia botrana*

República Dominicana:

- Programa para el manejo y control de la sigatoka negra.
- Programa para la erradicación del brote la mosca del mediterráneo
- Programa nacional mosca de la fruta

Uruguay:

- Cítricos:

- Plagas presentes: mancha negra (*Guignardia citricarpa*), cancro cítrico (*Xanthomonas citri* subsp. *citri*), sarna de los cítricos (*Elsinoe australis* y *Sphaceloma fawcettii*), Moscas de la fruta (*Ceratitis capitata* y *Anastrepha fraterculus*), psilido asiático de los cítricos (*Diaphorina citri*).
- Plagas cuarentenarias ausentes: HLB, CVC y moscas de la fruta cuarentenarias para Uruguay
- Arándanos
 - Plagas presentes: Moscas de la fruta (*Ceratitis capitata* y *Anastrepha fraterculus*) y drosófila de alas manchadas (*Drosophila susukii*)
 - Plagas cuarentenarias ausentes: Moscas de la fruta cuarentenarias para Uruguay
- Arroz
 - Plagas cuarentenarias ausentes: gorgojo kaphra (*Trogoderma granarium*) en todos los lugares de acopio y almacenamiento de arroz
- Forestales: Plagas cuarentenarias ausentes: cancro resinoso de los pinos (*Fusarium circinatum*)
- Cebada: Plagas presentes: *Listronotus bonariensis*
- Frutilla, nativos, y viña: Plagas presentes: *Drosophila susukii*

2. ASIA

Australia

- National plant health surveillance program targeting high priority exotic pests.
- Each state and territory has its own surveillance program targeting regional high priority pests.
- Government accredited crop monitors do surveillance for a variety of pests as a basis for phytosanitary certification.
- Industry conducts their own surveillance programs based on their own priorities.
- Border surveillance at high risk locations to help maintain our quarantine status.
- Northern Australia Quarantine Strategy surveillance system.
- Torres Strait fruit fly strategy.
- Delimiting surveys during emergency responses.

Bangladesh

- (i) To detect the Fruit fly species detection surveys were conducted to determine the status of pests' infestation situation in the fruit growing zones.
- (ii) The delimiting surveys were practiced to establish boundaries of infestation or non-infestation areas for the presence of Mango stone weevil.
- (iii) Monitoring surveys were conducted for infestation incited by Thrips in vegetable crops to verify the characteristics of pest population with a view to manage the pest.

China

Once a new pest invaded or an important pest infested seriously, the report should be sent to high level immediately. The data of the most important pests was reported monthly and annually to follow up the pest trends.

A special survey of *Opisina arenosella* Walker was conducted in country widely.in 2013 to clarify the pest present.

Indonesia

- Specific survey is carried out once a year routinely
- Survey is focused on plant that have economic value or plant as source of major food.

Japan

PPSs conduct specific survey (detection survey) at sea/air ports, international post stations for early detection of the introduction of important quarantine pests (e.g. fruit flies, codling moths) with imports of plants and plant products.

In order to control domestic pests which may cause severe damage on domestic agricultural productions, PPCSs conduct monitoring surveys. These information are also used for pest forecast by the NPPO.

In addition, the NPPO regularly provides trainings for technical officers of PPCSs who are engaged in pest surveillance and control to improve their skills of pest identification. Research division of PPS plays important role in this training through providing know-how and materials (e.g. identification keys).

Laos

A specific surveillance is now designed for bamboo locust, which still continue extend into other province in the country. While recently Rice Leaf-folder outbreak occurred in Northern province Lao PDR cover more than 60 ha.

Malaysia

- (i) Mango seed weevil
- (ii) Khapra beetle
- (iii) Parthenium weed
- (iv) Bactrocera correcta
- (v) Rice pests and diseases
- (vi) Red palm weevil
- (vii) Papaya dieback
- (viii) Banana bacterial wilt
- (ix) Bagworm of oil palm

Monitoring survey:

- (i) Rubber pests and diseases (MRB)

(ii) Oil palm pests and diseases (MPOB)

Mongolia

-Possibility of population rise on 4 species of Endemic *Eclipophleps Serg.Tarb*, distributed throughout Altai mountain region, occurs in a year when the Aridity Index become little less than 0.05 or an even years /2010,2012,2014/ including 2016 based on the prognosis over years.

-Specific surveillance program on forest pest is in need

-Surveillance studies being conducted on fruit flies belonging to *Rhagoletis* genus on every ten days and on monthly and seasonally basis. Occurrence and prevalence of Hemiptera such as *Loxostedestretiealis* belonging to *Puralididae* family and *Lepidoptera* order, *Aporia crataegi* belonging to *Pieridae* family, *Dendrolimus sibiricus* belonging to *Lasiocampidae* and *Ocneria dispar* belonging to *Lymantridae* are recorded in 5-7 years.

We are also facing a challenge to modify specific surveillance study on rodents.

-We are currently not on the ISPM-6 agenda issued by NPPO. There is ISPM-6 agenda started since 2010 at one zone but with limited extension. So we think it's necessary to expand this agenda to regional zones and involve more fruit and vegetable farmers who require extensive trainings. Based on the study conducted in 1980, particular insect pests whose prevalence increases in particular regions and in which months.

Myanmar

Two survey programs were taken place as specific surveillance.

(1) Mango pest list survey

(2) Pulses pest list survey

(1) Mango pest list survey-Surveillance activities were taken place by official staffs from Plant Pathology and Entomology Laboratories on four varieties of mango (Sein Ta Lone, Yin Gwe, Shwe Hinthia and Mya Kyauk) for four growth stages (Flushing, Flowering, Fruit-Setting and Harvesting) in different locations with different climatic conditions.

(2) Pulses pest list survey- Surveillance activities were taken place by official staffs from Plant Protection Division on four different varieties of pulses (Mung Bean, Pigeon Pea, Black Gram and Chickpea) for five growth stages (Seedling Stage, Vegetative Stage, Flowering Stage, Pod Setting and Harvesting Stage) in different locations with different climatic conditions.

Nepal

Currently field based host specific detection and monitoring surveys of the pests of Citrus are going on across the major citrus production pockets of two different districts.

Pakistan

Specific surveillance is conducted in those crops which are prone to the serious economic damage by complex of pests viz. cotton, citrus, mango, potato and vegetables.

Philippines

Under the Crop Pest Management Division

1. Detection Survey of cassava witches broom disease nationwide
2. Random sampling survey in corn, rice, lanzones and cassava

Under the National Plant Quarantine Services Division

Nationwide Monitoring of Mango Pulp and Seed Weevil on Mango Production Regions/Provinces of the Philippines.

Singapore

Detection surveys for:

- Candidatus Phytoplasma Palmae in palms
- Potyvirus in palms
- Coconut Cadang Cadang Viroid in palms
- *Bursephelellus cocophilus* (Red Ring Nematode) in palms
- *Tomato Spotted Wilt Virus* in ornamental plants
- *Impatiens Necrotic Spot Virus* in ornamental plants

Pest free status surveys for:

- *Microcyclus ulei* (South American Leaf Blight)
- *Trogoderma granarium* (Khapra Beetle)
- *Prostephanus truncatus* (Larger Grain Borer)
- *Bactrocera tryoni* (Queensland Fruit Fly)
- *Ceratitis capitata* (Mediterranean Fruit Fly)
- *Globodera rostochiensis* (Golden Nematode) in imported potatoes
- *Globodera pallida* (White Potato Cyst Nematode) in imported potatoes

Monitoring surveys for:

- *Ralstonia solanacearum* (Bacterial Wilt) in ornamentals and vegetables
- *Ganoderma* species (Basal Rot) in palms

- *Bemisia tabaci* (Silverleaf Whitefly) in local aquatic plant farm
- Plant parasitic nematodes in aquatic plants
- *Tomato Yellow Leaf Curl Virus* in aquatic plants
- *Thrips palmi* (Melon Thrips) in orchid farms
- *Plutella xylostella* (Diamondback Moth) in vegetable farms

Sri Lanka

- Island wide Pest surveillance of fruit fly (*Bactocera dorsalis*) and melon fly (*Bactocera Cucurbitae*) population
- Surveillance on *Radopholus similis* .
- Pest surveillance for rice pest population in major rice growing areas in Sri Lanka and circulate the summary of the information of the pest in rice cultivation every fortnight.
- Surveillance on *Trogoderma granarium* in Sri Lanka
- Surveillance on *Echinodorus* species introduced to the natural waters in Sri Lanka through the ornamental plant industry
- Vegetables: whiteflies, Viruses such as geminivirus
- Potato: Potato cyst nematode (*Globodera rostochinensis*)

Thailand

Department of Agriculture (DOA), as NPPO of Thailand has conducted the specific surveys to obtain information on diseases in crops to determine their status on specific sites of each crops over a defined period of time. Since 2007 until now, there have been many specific surveillance; detection survey such as,

1. Survey on pest every two years to develop pest lists.
2. Survey on **Stewart's bacterial wilt of corn** (*Pantoea stewartii* subsp. *stewartii*) during 2007 – 2009 to support declaration that corn seed production area for exportation are free from this disease.
3. Survey on ***Sternochetus mangiferae* of mango** during 2007 – 2009 to support declaration that mango production areas for exportation are free from this *Sternochetus mangiferae*.
4. Survey on **smut fungi, disease of shallot** (*Urocystis cepulae*) during 2011 – 2013 to support declaration that shallot production areas for exportation are free from this disease.
5. Survey on **disease caused by *Pseudomonas syringae* pv. *syringae*** during 2011 – 2013 to support declaration that Thailand free from this disease, particularly it has never been detected on shallot.
6. Survey on **leaf blight and vascular wilt disease of maize** (*Pantoea agglomerans*) during 2011 – 2013 to support declaration that corn seed production area for exportation are free from this disease.

7. Survey on **corn downy mildew** to support declaration that the cause of disease is *Peronosclerospora sorghi* not *Peronosclerospora philippinensis*..

delimiting survey: to establish of pest free areas for plant production site

Survey on **canker disease of pummelo** (*Xanthomonas axonopodis* pv. *citri*) during 2007 – 2009 to establish of pest free areas for production site in WiangKaen district, Chiang Rai province to support of pummelo exportation to Europe.

Vietnam

- Surveillance programme of Nematodes infect new red striped rice on rice in Vietnam
- Surveillance programme of mango seed weevil (*Sternochetus mangiferae* Fab.) on mango in Vietnam (2006-2009)
- Surveillance programme of cassava mealybug (*Phenacoccus manihoti* Matile-Ferrero) on cassava in Vietnam
- NZAID Project, 2009. Surveillance programme of harmful organisms on litchi and longan in Vietnam

Question 3: What **current or upcoming** surveillance projects, workshops or improvements are planned in your country for the next five years? Please include surveillance projects of any kind (for example funded domestically, through regional or international programmes, etc).

Plan to present this information at the workshop in 5 minutes or less so we can exchange ideas and updates in the region.

3. NEAR EAST AND NORTH AFRICA

Egypt: There is currently a draft national project to develop the NPPO as stated by the IPPC and there is a draft strategic plan stating the surveillance that should be planned by the country. The planed strategy is targeting to Establish national data base for surveillance including general surveillance, by collecting the data form all relevant bodies for all pests recorded on all crops, and specific surveillance for the most important exported crops including citrus, potatoes, grapes and others, by specific implemental plan shall applied incorporation with CAPQ, relevant research institutes and CAPC. Currently, the draft national project is suspended because of the lake of fundamental resources.

Jordan: Management of Tuta Borer: *Tuta absoluta* in Near East Region

Project: FAO/Jordan - TCP/RAB/3402

The project activities :

- trained (30(8 female and 22 male)) agriculture engineers' on the IPM program to monitor *T. Absoluta*

- educate in nine field days (445 (134 female 30% and 311 male 70%) farmers , agriculture engineers and technician to work to reduce the economic impact of the pest and the emphasis on the application of IPM programs focus on reducing the use of chemical pesticides especially in the nurseries and open field.
- print 500 copies of poster about the *T. Absoluta* biology and management and distribute all over Jordan
- Distribution of 7000 pheromone capsule , 500 liter pesticide and 400 KG microbial pesticide during the period of the project
- Monthly field visit was done from the plant protection and phytosanitary department staff which around 2-3 visit per month with total 78 visit during the life of the project (26 month) to follow up the percentage of the distribution of the *T.absoluta* in the open field and green houses.

KSA: A surveillance programme will shortly be conducted, to inventory the main pests in the country and identify their host range and geographical distribution.

Lebanon: Plan for general survey for grapes crops and pome crops
Pine pest

Libya: This depends on the next three years plant protection plan which will be finalized by the end of the year.

Mauritania: Un TCP sur la lutte contre les plantes aquatiques financé par la BAD 2009/2014
UN TCP FAO sur la lutte contre le Tiphia 2009 /2011
Un TCP FAO le charançon rouge du palmier 2012/2013.

Morocco: Les projets de surveillance prévus pour les 5 prochaines années sont :
Plan de surveillance des nématodes à kystes de pomme de terre (*Globodera pallida* et *Globodera rostochiensis*) ;
Plan de surveillance de la pourriture grise de pomme de terre (*Ralstonia solanacearum*) ;
Plan de surveillance de *Xylella fastidiosa* ;
Plan de surveillance de la maladie de Greening des agrumes.

Palestine: - Exotic Fruit Flies with International Atomic Energy Agency (IAEA) (Will start soon)

- We finished Phytosanitary Capacity Evaluation (PCE) in March, 2015, and one of the outputs of PCE is to establish Effective Pest Surveillance Program by 2 Interventions:

1. Formulate pest surveillance strategic plan (we need Donor)
2. Establish computerized and documented database (Phytosanitary Information System)

(current project: “Capacity building program in support of the Palestinian National Authority – Sanitary and Phyto-Sanitary (SPS) measures” with FAO / Dutch government Funding).

Qatar: Now there is no, may be in near future we will plan to do some activities related to economic pests (for example : *Dacus ciliatus* Loew).

Tunisia: Les projets de surveillance prévus pour les 5 prochaines années sont :

Plan de surveillance de *Xyllela fastidiosa* ;

Plan de surveillance de la maladie de tristezza des agrumes.

Plan de surveillance de *Dacus* spp sur cucurbitacea

UAE : Mapping the distribution of plant insect and pest diseases in UAE:

The department aims to produce an official GIS database for the geographic distribution of farm and quarantine pests in UAE.

- The focus is on the pests of risks on the agriculture economy; these include:

- ☐ Insect
- ☐ Bacteria
- ☐ Nematode
- ☐ Virus
- ☐ Fungi
- ☐ Weed

- Main attributes for each best should include:

- ☐ Its name (known and scientific)
- ☐ Its distribution (both in UAE and the World).
- ☐ Crops it impact.

- The department is also in need to build a comprehensive database for agriculture quarantines and border-crossings (المنافذ). The database should cover in minimal the following:

- ☐ border crossings
- ☐ number and location
- ☐ geographical distribution
- ☐ border port type (Road Sea the air)
- ☐ border crossing competence in terms of types of missionary receptor (vegetarian, animal)
- ☐ working hours (the number of rotations)
 - Infrastructure/Capacity
- ☐ number of workers centers border (engineers, workers, inspectors, or any other names)
- ☐ area
- ☐ systems in place (for example what e-services they use, whether or not MOEW LIMS solution is used).
 - Agricultural consignments
- ☐ Type imported agricultural consignment (vegetarian (all kinds and their own identity), animal)
- ☐ Agricultural consignment type (and exported and re-export)

- ☐ The origin of the consignment
- ☐ Exporting Countries
- ☐ Re-export through border ports states
- ☐ Quantities of agricultural consignments
- ☐ Companies and / or individuals, addresses and contact places geographical presence
 - Sanitary and phytosanitary measures
- ☐ scrutiny of documents copied and loaded through the system of health certificate plant
- ☐ screening and recording symptoms and checks on agricultural products; record images for virtual symptoms
- ☐ number of samples taken for laboratory testing
- ☐ sample types
- ☐ laboratory test results
- ☐ photos from the symptoms and lesions
- ☐ releases (consignment type, quantity,)
 - Objection reports of imported consignments
- ☐ rejected consignments originating
- ☐ types and quantities of rejected consignments
- ☐ reasons for rejection
- ☐ measures taken (destruction of re-export)
 - Plant / re-export health certificates
- ☐ consignment type
- ☐ quantity
- ☐ origin
- ☐ plant health measures taken
- ☐ destination

3. CENTRAL AND EASTERN EUROPE AND CENTRAL ASIA

Armenia

Surveillance and monitoring activities are continued within the framework of the regional and international programmes.

Azerbaijan

Structure, technical and phytosanitary diagnostic capacities of the State Agency has being improved. The State Agency moved to a new building, the central diagnostic lab has been under reconstruction and three new regional labs are being built. The training of personal was conducted under TCP/SEC/3403. The establishment of the training centre of the State agency is under the way. The centre will allow to train staff on different phytosanitary issues including

surveillance. Negotiations being conducted with the Agricultural University to establish trainings on plant quarantine for the staff of the Agency and to review study programmes according to the needs of the Agency.

Belarus

Plans for 2016:

1. 'Develop monitoring and identification methods and a system of efficient and ecologically safe pest management methods against Khapra beetle, *Trogoderma granarium Everts* in Belarus' to be included in the state programme 'Prevention of the entry of invasive alien species of organisms and pathogens, minimization of negative effects for biodiversity, economics and human health'.
2. 'Justify and develop a system of the pest management measures against a quarantine pest *Diabrotica virgifera virgifera LeConte* in Belarus » within the state programme «Prevention of the entry of invasive alien species of organisms and pathogens, minimization of negative effects for biodiversity, economics and human health.»

Montenegro forestry

1.2 Surveillance of harmful organisms (national)	24.000,00
1.2.1 Survey - <i>Bactrocera oleae</i> (olive fly)	5.000,00
1.2.2 Survey - <i>Ceratitis capitata</i> (voćna muva)	4.000,00
1.2.3 Survey - cicadidae - grapevine phytoplasma vectors	4.000,00
1.2.4 Survey in order to prevent the spread of invasive pests	3.000,00
1.2.5 Survey - <i>Tuta absoluta</i>	1.500,00
1.2.6 Survey - invasive insect species in greenhouses	3.000,00
1.2.7 Survey - <i>Ambrosia artemisifolia</i> L. (spp)	2.500,00
1.2.8 Laboratory analyses of different plant species	1.000,00
1.3 Emergency phytosanitary measures and compensation claims	8.000,00

Component	Amount €
1.1 Official surveys of harmful organisms	59.985,00
1.1.1 Official survey - <i>Globodera pallida</i> and <i>Globodera rostochiensis</i> (potato cyst nematodes)	4.212,00
1.1.2 Official survey - <i>Bursaphelenchus xylophilus</i>	5.265,00
1.1.3 Official survey - <i>Meloidogyne chitwoodi</i> Golden et all. (all population) and <i>Meloidogyne fallax</i> Karssen	2.000,00
1.1.4 Official survey - <i>Pepino mosaic virus</i>	2.720,00
1.1.5 Official survey - <i>Potato spindle tuber viroid</i>	4.788,00
1.1.6 Official survey - <i>Synchytrium endobioticum</i> (Potato Wart Disease)	4.500,00
1.1.7 Official survey - <i>Phytophthora ramorum</i>	3.500,00
1.1.8 Official survey - <i>Gibberella circinata</i>	2.500,00
1.1.9 Official survey - <i>Ralstonia solanacearum</i> and <i>Clavibacter michiganensis</i> subsp. <i>sepedonicus</i>	13.500,00
1.1.10 Official survey - <i>Cacoecimorpha pronubana</i> and <i>Epichoristodes acerbella</i> (carnation leaf rollers)	2.500,00
1.1.11 Official survey - <i>Quadraspidiotus perniciosus</i>	2.000,00
1.1.12 Official survey - <i>Diabrotica virgifera</i>	2.500,00
1.1.13 Official survey - <i>Dryocosmus kuriphilus</i>	2.000,00
1.1.14 Official survey - <i>Rhynchophorus ferrugineus</i>	1.500,00
1.1.15 Official survey - <i>Anoplophora chinensis</i>	2.000,00
1.1.16 Official survey - <i>Bemisia tabaci</i>	4.500,00

Georgia

It is planned to conduct monitoring of all quarantine pests listed in the quarantine list of Georgia within upcoming five-year period.

That will mainly financially supported by the state budget. However it would be good to involve regional and international programmes. Since 2012, the NFA has been receiving support of the EU programme Comprehensive Institutional Building. The programme procured entomological bags, microscopes, meteorostations for pest forecasting for the regional offices of the NFA. The plan is to procure planshets to be used for the implementation and wide use of the GIS for surveillance purposes.

Serbia

Rulebook on establishment of Program of Measures for Plant Health Protection for 2015. ("Official gazette RS" 45/2015) which present *Annual Plan of survey and monitoring* and include 1. Survey in potato on:

- bacteria: *Ralstonia solanacearum*; *Clavibacter michiganensis* ssp. *sepedonicus*; *Erwinia chrysanthemi* (*Dickeya* spp.); *Candidatus Liberibacter solanacearum*;
 - nematodes: *Globodera pallida*, *Globodera rostochiensis*, *Meloidogyne chitwoodi*, *Meloidogyne falax*;
 - viruses: *Tomato Spotted Wilt Virus*, *Potato spindle tuber viroid*;
 - phytoplasmas: *Candidatus Phytoplasma solani* (Stolbur phytoplasma);
 - funghi: *Synchytrium endobioticum*
 - insects: [*Epitrix cucumeris*](#), [*Epitrix similis*](#), [*Epitrix subcrinita*](#), [*Epitrix tuberis*](#).
2. Survey in pomefruit on:
- bacteria: *Erwinia amylovora*;
 - phytoplasmas: *Apple proliferation phytoplasma* (apple), *Pear Decline phytoplasma* (pear)
 - funghi: *Alternaria mali*
3. Survey in stone fruits on:
- bacteria: *Pseudomonas syringae* pv. *persicae*, *Xanthomonas arboricola* pv. *pruni*
 - viruses: *Plum pox virus*
 - phytoplasmas: *European stone fruit yellows*
 - funghi: *Monilinia fructicola*
4. Survey in vine (*Vitis*) on:
- phytoplasmas: *Candidatus Phytoplasma vitis* (*Flavescence doree*);
 - bacteria: *Xylophilus ampelinus*, *Xyllela fastidiosa* (**vine and other host plants**), *Agrobacterium vitis*
5. Survey in raspberry on:
- funghi: *Phytophthora fragariae* var. *rubi*;
 - viruses: *Raspberry leaf blotch virus* (RLBV)
6. Survey in blueberry on:
- viruses: *Blueberry leaf mottle virus*, *Blueberry scorch virus*, *Tobacco ringspot virus* и *Tomato ringspot virus*.
7. Survey in tomato on:
- viruses: *Pepino mosaic virus*, *Tomato yellow leaf curl virus* and *Potato spindle tuber viroid*
8. Survey in walnut (*Juglans*) on:
- fungi: ***Geosmithia morbida* and vector *Pityophthorus juglandis***
9. Survey in protected crop production and ornamental plants on:
- *Phytophthora ramorum*
 - *Phytophthora kernoviae*
 - *Iris yellow spot virus* (IYSV)
 - *Potato spindle tuber viroid*
10. Survey over insects:
- *Ceratitis capitata*

- *Tuta absoluta*
- *Drosophila suzuki*
- *Bemisia tabaci*
- *Scaphoideus titanus*.

11. Survey in forestry on:

- nematodes: *Bursaphelenchus xylophilus*
- fungi: *Gibberella circinata*
- insects: *Dryocosmus kuriphilus*; *Cydalima perspectalis*; *Anoplophora chinensis* and *Anoplophora malasiaca*

Turkey

Survey program is issued annual in our country.

Uzbekistan

It is believed that continued delivery of workshops on surveillance for upcoming five years will be very useful. FAO programmes and financial support is used for organization of those regional and international workshops.

Tajikistan

Trainings and workshops on surveillance and surveys of quarantine pests are conducted within the FAO project 'Strengthening Phytosanitary potential of Phytosanitary Services in Central Asia'.

3. PACIFIC

French Polynesia: Upcoming surveillance project for *Oryctes rhinoceros* : trapping network, since many coconut trees have been planted at the seafront side of the harbour in town.

Caledonia: Up coming :

Local (2015) :

- Workshop with New Caledonian Research Institute for quarantine officers in order to better identify problematic insects.
- Workshop for fruit fly identification for new quarantine officers

Other (2016) :

Plant Health Systems Analysis Course organized by USDA APHIS (to be confirmed)

Need for training :

- Pest identification (entomology, plant pathology)

Guam: Fruit fly surveys

Coconut rhinoceros beetle detection surveys on perimeters of ports of exit and throughout Guam.

Surveillance for harmful and invasive ants.

Surveillance for *Solenopsis invicta*

Surveillance for citrus pests and citrus greening disease (HLB)

Surveillance for insect pests in ornamental and landscape plant nurseries Surveillance for *Fusarium oxysporum* f sp. *cubense*, tropical race 4.

Tokelau: Yellow Crazy ant (*Anaplolepis gracilipes*)

Funded by MFAT NZ for the duration of 5 years (timeline June 2015 to Dec 2019) total of \$1.4m

Timeline activity

Date	Activity
June 2015	Treatment
November 2015	Monitoring
March 2016	Monitoring
June 2016	Treatment
October 2016	Monitoring
2017 – 2019	3 monitoring events on each year

*First management treatment in June this year will be preceded by a delimiting survey. If the YCA incursion had increased or decreased in size within the village islet, the management plan will be again revised.

Vanuatu: Biosecurity Vanuatu resources

The following are the main resources that Biosecurity Vanuatu has to carry out its' surveillance and awareness.

- Projects funding
- Surveillance operational procedures
- Limited plant health scientists
- Diagnostic laboratories (entomology and plant pathology)
- Vanuatu Pest List Database
- Vanuatu weed infestation database
- Awareness material (Cocoa pod borer poster produced by SPC)

- Future publication of a scientific paper on weed bio-control programs in Vanuatu

Samoa: Current surveillance projects undertaken by the MAF are for the Fruit Piercing Moth, Giant African Snail, and there is a preliminary Coconut Beetle control program, which is undertaken at the hotspots. There is also a rapid damage survey, done for the pests affecting crops and the SPC funded for the weevil of sweet potatoes, and introducing the citrus psyllid. There is a proposal in the pipeline to conduct a Samoa annual pest survey, which is the surveillance of general pests affecting crops. We also have the Post Entry Quarantine, which is our PHAMA funded project for the detection of pests upon arrival of an approved import. There is also a surveillance of our bee population, to monitor honey bee disease the American foulbrood. This survey is conducted every 2 years, and funded by New Zealand. Interception reports are carried out every month for the containers and imports and exports that are done.

Solomon: There is joint general surveillance activity planned for first the week of August 2015. The survey team consist of scientist from the Department of Agriculture in Australia and Biosecurity team from Solomon Islands.

Current projects- CRB TCP programme funded by FAO-(USD85,000)

We do have a Biosecurity activity frame work that features surveillance activities-for 2016 to 2019.

Tuvalu: Fruit fly & Ant surveillance

Eradication of Yellow crazy ant & *B. xanthode*

Pests & diseases survey on all the islands.

Nauru: discussion with SPC biosecurity officer are underway for the development of a yearly plan for surveillance and monitoring. There is possibility to explore a collaborative work with invasive species project under environment.

3. CARIBBEAN

Antigua and Barbuda:

- In addition to the specific surveillance programmes mentioned in 2 above, several activities are planned for implementation over the next five years.
- A project geared towards the eradication of the Giant African Snail from Antigua has been planned and is expected to be fully rolled out in January 2016. A Public Sector Investment Project (PSIP) is currently being finalized for this activity.
- Plant Protection legislation was recently updated in 2012. In keeping with the implementation of the Plant Protection Act No. 18 of 2012, the recently established Plant Protection Board is currently reviewing draft regulations for passage into law. Among these is a schedule of quarantine pests for the country. Once passed into law, the work programme will revolve around the development of a surveillance programme for each of the pests along with the attendant training for and provision of visual aids for frontline staff.
- The issue of palm pests and the Huanglongbing disease of citrus are issues currently being addressed at the regional level through efforts of the CPHD Forum and the Food and Agriculture Organisation, respectively.

Barbados:

- The surveillance programmes being proposed are:
 - *Tuta absoluta*
 - *Cylas formicarius*
 - Red palm weevil
 - *F. oxysporum* pv cubensis
- Development of a sampling plan/protocol/SOP

Belize:

- Surveillance for *Fusarium oxysporum* f.s. cubense, Tropical Race 4 in collaboration with the banana industry.
- Extension of the fruit fly trapping programme to incorporate national routes for *Bactrocera* spp. other than only *Ceratitis capitata*.
- Two national workshops (first quarters of 2016 and 2017) to be conducted on surveillance with the objective of establishing a comprehensive programme for general and specific surveillance programmes. This will be geared at NPPO Officers, Extension Personnel of the Ministry of Agriculture as well as those of the relevant industries. Key industry personnel will be represented. A national system to capture surveillance information will be proposed.
- No regional projects (OIRSA) is currently planned but this may be possible given any eminent threat.

Grenada:

- The Pest Management Unit, because of resource limitations will tailor its future surveillance to focus primarily on pests of Plant Quarantine Significance and especially those pests that are present in the region but not in Grenada. Examples include the Giant African Snail, the Carambola fruit fly and Lethal Yellowing to name a few.
 - There is a fruit fly monitoring system
 - Using online fruit fly data entry
 - Surveillance workshop just completed (attended by members of staff)
 - Plant health clinic data (CABI) goes into database

Guyana:

- It is intended, that within the next 5 years, the specific programmes mentioned will be intensified to cover all regions of Guyana, with each Quarantine/Protection Officer under the responsibility of independent units. All units/Teams will report to the Senior Plant Protection Officer. GAS and Red palm weevil are expected to be included to the list of specific surveillance programmes with their own unit. Guyana will fully implement the CFF regional database. Guyana's NPPO should be equipped with a completely functional laboratory, with skilled personnel in pest identification and complete fruit fly laboratory responsible for FF rearing and identification.

Haiti:

- *Crypticeria genistae*: a control program is being implemented in all infested areas using (farmers training, good cultural practices, pesticides application, and crop residues management).

- Implementation of integrated control program, with emphasis on biological control method (introduction of biological control agent, assay etc.)
- Tephritid fruit flies: National program for detection and control of fruit flies (PNDCMF). Emphasis will be put on the control phase for *Anastrepha* species, and surveillance activities will be done along Haiti-Dominican Rep. border to prevent introduction of the Medfly.

Jamaica:

- Jamaica has plans to do an island wide survey for (*Anthonomous eugenii*) pepper weevil
- *Rynchophorus ferrugineus* (Red palm weevil)
- There are plans to have refresher training as it relates to medfly surveillance as the last official training was done in 2001.

St. Lucia:

- Fusarium TR4, Moko, BSV FOR *Musa* species
- Red Palm Weevil of palm species
- Lethal Yellowing of coconut

St. Vincent:

- Red Palm Weevil Survey currently being undertaken by the Ministry of Agriculture with support from the USDA/APHIS

St. Kitts:

- Surveillance
 - National pest list
 - Regulated Pest List
 - The 10th EDF Project
- Improvements
 - Regional training on Pest and Diseases surveillance by the USDA & APHIS on the 21st to the 25th of September 2015
 - Fruit fly database Reporting workshop by the USDA & APHIS on the 28th-2nd of September 2015
 - DOA Staff training workshop

Suriname:

- In the planning is a national surveillance project for the update of the current pest list.

3. LATIN AMERICA

Argentina:

- Las siguientes actividades son preliminares no estado aún confirmada su realización:

- Talleres de vigilancia específicos por cultivo, a nivel nacional
- Talleres de vigilancia regionales sobre plagas emergentes
- Proyectos de cooperación con otros países

Bolivia:

- Son líneas de acción dirigidas a generar, recopilar y registrar información fitosanitaria, fundamentalmente a través de la implementación de las siguientes estrategias de vigilancia fitosanitaria:
 - Áreas de Exploración: Inspeccionar superficies de cultivos comerciales, áreas de traspatio y marginales, con el propósito de verificar la presencia o ausencia de plagas reglamentadas.
 - Rutas de Vigilancia: Son puntos estratégicos de vigilancia ubicados en vías de comunicación, traspacios, zonas urbanas, áreas silvestres, centros de acopio y distribución de productos agrícolas, fronteras con hospedantes cultivables y silvestres, en los cuales se realiza la inspección visual periódicamente en la búsqueda de alguna plaga.
 - Parcela Centinela: Superficie definida, establecidas dentro de áreas comerciales estratégicas, ubicadas en zonas de riesgo potencial a la entrada de una plaga y con condiciones de climáticas, donde se realizan inspecciones visuales periódicas para verificar la presencia o ausencia de una plaga.

Brasil:

- Está sendo implementado um programa nacional de controle de moscas das frutas, que deverá estabelecer atividades de monitoramento a serem executadas de forma integrada entre diversas instituições.
- Normatização do plano de contingência para *Cydia Pomonella*.
- Revisão da IN 52/07, para obter maior eficiência.
- Estabelecimento de um protocolo de resposta rápida no caso de ocorrência de pragas quarentenárias.

Chile:

- 1.- Red de Pronóstico Fitosanitario (RPF). La RPF forma parte del Programa de Innovación y Competitividad UE-Chile, programa de cooperación ejecutado por diversas instituciones públicas para promover la innovación y el emprendimiento en beneficio del desarrollo económico del país. En su primera fase, cuenta con un financiamiento de 18,6 millones de euros, aportados en partes iguales por la Unión Europea y el Gobierno de Chile, bajo la coordinación de la Agencia de Cooperación Internacional de Chile (AGCI).
- Plan Propuesto RPF 2015: Desarrollos y actividades proyectadas:
 - Integrar Modelo de HR desarrollado el 2014
 - Desarrollo de capacidad de análisis del RPF en IX región
 - Integración de datos meteorológicos de la Dirección General de Aeronáutica (DGA) en los modelos de temperatura y GDA.
 - Integrar modelo de humedad relativa al modelo fenológico de *Lobesia botrana* (Lb)
 - Desarrollo y mantención de Interfaz de Información espacial del Programa Nacional *Lobesia botrana* (PNLb)
 - Desarrollo, validación y ajuste de modelo fenológico para *Lobesia botrana*
 - Contraparte de Proyecto de Modelamiento para Lb de INIA-FIA

- Establecimiento de las áreas de alerta para las regiones RM, VI y VII.
- Documentación del proyecto en formatos de informática o Hito 0.
- Análisis de requerimientos y especificación de un servidor dedicado para RPF-*Lobesia*
- Actualización del mapa de cobertura meteorológica entre La Serena y Coihaique
- Establecimiento de zonas propuestas para localización de estaciones de monitoreo
- Actividades adicionales proyectadas para el PNLb:
 - Solicitud de servidor físico para el RPF y pasó a producción Sistema RPF.
 - Trabajo Intraministerial (RAN, UNEA, INIA, CONAF & SAG) para priorizar zonas para aumentar la cobertura meteorológica regional.
 - Contraparte de Proyecto INIA-FIA: “Estudio preliminar de la biología de *Lobesia botrana* para el desarrollo de modelos de alerta para el control de la plaga en vides para Chile.”
 - Contraparte de Proyecto U de Chile: “Estudio de la Micro-meteorología de la vid en la zona central y su relación con los factores meteorológicos de la meso escala agroclimática”.
 - Piloto de monitoreo remoto con trampas con cámaras en estaciones de monitoreo en regiones de contención del PNLb.
- Proyecciones 2016-2017:
 - Marcha blanca Sistema de Alerta para el PNLb: Las alertas serán determinadas no por zonas agroclimáticas sino directamente en cada predio dentro del área de control. Para su funcionamiento requiere de un servidor de características específicas.
 - Portal Productor RPF: Esta etapa contemplará la generación de alertas fitosanitarias automáticas que serán recibidas por los productores. Los productores deberán estar inscritos en el Portal y programar sus Alertas Fitosanitarias. Esto requerirá un gran esfuerzo en difusión, capacitación y un web master que pueda responder a las preguntas on-line para usar el sistema.
- 2.- Sistema informático de gestión y trazabilidad de la información técnica: Captura información técnica de terreno en dispositivos móviles, almacenamiento virtual, reportabilidad en tiempo real.
- 3.- Establecimiento de un Procedimiento de Inteligencia Fitosanitaria, tendiente a levantar información internacional de plagas relevantes de reciente aparición, y establecer procedimientos preventivos para evitar su introducción al país.
- 4.- Reforzar las técnicas de diagnóstico de alta sensibilidad y especificidad.

Ecuador:

- A partir del 2013 AGROCALIDAD cuenta con el Proyecto Nacional de Manejo de Moscas de la Fruta, para el manejo de estas plagas, considerando que es el principal limitante para las exportaciones de frutas el cual permite establecer acciones para el manejo de las especies de importancia económica y mantener un sistema de alarma para evitar la introducción de las especies de importancia cuarentenaria, definir zonas de alta infestación, así como zonas libres y de baja prevalencia de moscas de la fruta. Este programa persigue facilitar la producción y comercio nacional e internacional de productos hortofrutícolas ecuatorianos mediante el manejo de las moscas de la fruta.
- De igual forma, se está trabajando en los modelamientos de plagas de acuerdo a las condiciones climáticas, ya que de esta manera se emiten alertas tempranas oportunas de una manera rápida y eficiente.
- AGROCALIDAD con la finalidad de prestar un mejor servicio a sus usuarios y público en general realizó la automatización de varios módulos dentro de la Coordinación General de Sanidad Vegetal, uno de ellos es el Módulo de Registros de usuarios externos, así como también el Módulo de Trazabilidad,

actualmente nos encontramos en la trabajando a nivel nacional en el Módulo de Vigilancia Fitosanitaria. El programa se encargará de sistematizar la información fitosanitaria y extraer de forma inmediata variables como datos climáticos, listado de plagas, incidencia, severidad, % poblacional, etc., lo que permitirá luego de su análisis, entre otras actividades, emitir alertas tempranas de manera oportuna y rápida.

El Salvador:

- Proyecto “Fortalecimiento de la región del OIRSA en el control del Huanglongbing (HLB) y la implementación del manejo integrado de plagas (MIP) en cítricos” GOES de El Salvador, OIRSA, ICDF-Taiwán, Actual
- Proyecto de la Cochinilla Rosada del Hibiscus, GOES, OIRSA, Actual.
- Proyecto de Moscas de la Fruta Regional, OIRSA, USDA 2016-2017.
- Proyecto Regional de control y prevención de la mosca de las cucurbitáceas (*Anastrepha grandis*), 2016-2017.
- Proyecto Regional de control de roya del café (*Hemileia vastatrix*), 2016-2017.
- Proyecto Regional de control y prevención de la polilla del tomate (*Tuta absoluta*), 2016-2017.

Guatemala:

- Sistema de Alerta temprana en café SIATMA-CAFÉ, Sistema de Alerta Temprana OIRSA el cual pretende ampliarse a otras plagas., incorporar al información climatológica.
- Base de Datos Interna del Sistema de Vigilancia Epidemiológico, tener la base en el servidor de la Institución.

Honduras:

- Vigilancia para Detección de FocR4T
- Vigilancia para Detección de *Xylella fastidiosa*
- Vigilancia para detección de Moscas exóticas de la fruta

México:

- Continuidad y fortalecimiento a los programas de vigilancia establecidos (Vigilancia Epidemiológica Fitosanitaria, Trampeo preventivo de moscas de la fruta y vigilancia de roya del café).
- Fortalecimiento de simulacros ante la detección de plagas cuarentenarias (*Tuta absoluta*, *Helicoverpa armigera*, Complejo de escarabajos ambrosiales, Mal de panamá raza 4 tropical).
- Simposio Internacional de Vigilancia Epidemiológica Fitosanitaria.
- Realizar la vigilancia de plagas de importancia cuarentenaria a través de cuadrantes.

Nicaragua:

- Actualmente se está aplicando un sistema de alerta temprana en roya del cafeto, este sistema consiste en la recopilación de información en tiempo real, ésta a través de una plataforma web, la captura de datos se realiza con teléfonos o tablets con sistema Androi. Los datos se plasman en un mapa con google

earth. Para completar el sistema falta la captura de variables climáticas que serán correlacionadas con los datos de incidencia y con ello se obtendrá un boletín de alerta para los productores y que realicen los respectivos manejos y controles en sus cafetales. Esto ha sido realizado con fondos FAO y de la ONPF.

- Se tiene proyectado el registro de todas las plagas y cultivos monitoreados bajo éste sistema se espera que para inicios del 2016 se ingrese el monitoreo de PAC y HLB de los cítricos, *Tuta absoluta* y Paratrioza.

Panamá:

- En Panamá se ejecutan actualmente los siguientes proyectos de vigilancia fitosanitaria financiados por fondos de inversión pública:
 - Proyecto Fortalecimiento de la Vigilancia fitosanitaria que es un proyecto madre que abarca otros sub proyectos como prevención de HLB, Manejo y Contención de *Thrips palmi*, Vigilancia y contención de *Tuta absoluta*. Vigilancia de Fusariosis de la piña.
 - Proyecto Panamá libre de Moscas de la fruta que contiene el sub proyecto Azuero Libre de Mosca del Mediterráneo.
- Proyecto financiado por OIRSA:
 - Vigilancia de HLB.
 - Contención de *Anastrepha grandis* en los sitios de detección.

Paraguay:

- Actualmente el Departamento de Vigilancia Fitosanitaria se encuentra trabajando en mejoras en el Sistema de reporte oficial de plagas, en cooperación con Docentes Investigadores de la Facultad de Ciencias Agrarias de la Universidad Nacional de Asunción, promoviendo de esta manera un vínculo con Instituciones encargadas de generar nuevas actualizaciones en materia de dinámica poblacional de plagas tanto las de emergencia como las presentes en el territorio nacional.

Perú:

- A nivel nacional
 - Pilotos en modelamiento de plagas en base a información climatológica y de presencia de plagas, para la identificación de áreas de riesgo.
 - Pilotos para la utilización de dispositivos móviles para recopilar información de las acciones del sistema.
 - Pilotos en percepción remota y capacitaciones con Airbus Francia.- Aprovechando la información disponible de los Satélites MODIS, LANDSAT y el proyecto de satélite PERUSAT que será lanzado el próximo año, el cual se realiza mediante un convenio con la Comisión Nacional de Investigación y Desarrollo Aeroespacial (CONIDA) de Perú, para mejorar la sensibilidad del sistema.
 - Consolidación del Sistema de Gestión de Sanidad Vegetal (SIGSVE).- Desarrollo de una plataforma integral de productores, lugares de producción e inspecciones fito y zoosanitarias.
- A nivel regional
 - Compartimos procedimientos e información de vigilancia y análisis de riesgo entre los países miembros del Comité de Sanidad Vegetal del Cono Sur (COSAVE) y la Comunidad Andina (CAN) para plagas de creciente riesgo en la región.

República Dominicana:

- Ver detalles en anexo:
- Se cuenta con un proyecto del BID, componente de sanidad vegetal, donde se fortalecerá el sistema de vigilancia, implementando en primera mano el levantamiento intensivo de plagas presente en República Dominicana. Además de fortalecimiento de los laboratorio de diagnóstico.

Uruguay:

- En la actualidad no hay previstos talleres.
- En cuanto a lo regional se participa en el seguimiento de los planes regionales aprobados por COSAVE.
 - Plan regional de contención de HLB: con el objetivo general de evitar la diseminación de la plaga en la región a través del fortalecimiento de las acciones fitosanitarias nacionales coordinadas regionalmente. Los objetivos específicos son evitar el ingreso del HLB a los países que actualmente se encuentran libres de la plaga y contener su diseminación en donde se encuentra presente, evitar el ingreso y diseminación de *Diaphorina citri* (psílido asiático de los cítricos) a los países o zonas que hasta la fecha no se ha constatado su presencia y evitar el ingreso a la región del COSAVE de *Trioza erytreae*, (psílido africano de los cítricos)
- En el marco de este plan regional los países comunican los resultados de sus actividades de vigilancia en cuanto a la enfermedad y su vector. Para estos fines COSAVE cuenta con un sitio web propio en el cual puede incorporarse información de cada uno de sus países integrantes.

3. ASIA

Australia

- Workshops for improving compliance with the minimum data standards.
- Ongoing development of surveillance protocols.
- Development of databases to improve the collection and presentation of surveillance data.
- Development and implementation of area freedom certification framework
- National coordination of fruit fly surveillance standards
- Identification of high risk areas for targeted surveillance

Bangladesh

Current surveillance related projects includes:

- (i) Safe crop production through IPM project funded domestically.
- (ii) Increased Crop Production Programs through Surveillance, Early warning and Forecasting.

China

According to ISPM 6, a national monitoring system for quarantine pest was established. 3000 monitoring sites, which normally located at high risk place like ports and marketplaces, were taken regulative surveillance.

A wide survey for *Leptinotarsa decemlineata* (Say) was taken along the border with Russia and a special survey of *Opisina arenosella* Walker was conducted in country widely in 2013 to clarify the pest present.

Indonesia

- Development of survey methodology by combined with information technology
- Competency improvement by training and increase cooperation with other agencies
- Involved in regional training workshop on plant pest surveillance

Japan

In 2012, MAFF developed Guideline for early detection of serious pests and launch control programs against the targeted pests. The purpose of the Guideline is to clarify the role of the concerned authorities and bodies and to provide standard procedure for surveillance both in normal and emergency situations and necessary actions in case of detection of serious pests in the fields .

As usual activity, MAFF and Prefectural governments collect and share information from various resources. Also, prefectural governments are requested to collect information on products, production site and production volume in their prefectures. When information of targeted pests occurrence are reported, emergency surveys will be performed and, depending on the situation determined by conducting pest risk analysis for domestic agricultural products, initial control measures and emergency actions will be launched, if necessary.

Laos

NPPO of Lao PDR keep continue to conduct surveillance targeting to rubber focus on SALB, Bamboo locust swarms (currently outbreak), and also cash crops (rice, maize, water melon, banana and cassava).

Plant Protection Center, DOA has a plan for surveillance workshop, but need technical advise and donor support.

Malaysia

- (i) White fly on basil and aquatic plants
- (ii) Parthenium weed – contain, control and eradication
- (iii) Pests and diseases of pineapple
- (iv) Pests and diseases of jackfruit

Pests and diseases of papaya.

Mongolia

Currently and for the next 2-3 years, surveillance projects need be implemented regarding insect pests in the forest and pasture land based on their occurrence and prevalence and insects distributed through fruit and vegetable field on monthly and seasonal basis with support from international organization. This type surveillance studies need to be conducted in Mongolia immediately which requires financial and technological support.

Myanmar

Crop priority for surveillance project is relied on export and import status.

Currently, there is no project for surveillance in Plant Protection Division. If Plant Protection Division may have project, priority will be

- (1) Rice
- (2) Maize
- (3) Vegetables and Fruits (Musk Melon, Water Melon and Banana) and
- (4) Oil Seed Crops.

Nepal

The targeted pests for specific surveillance are: *Bactrocera correcta* (Bezzi), *Bactrocera cucurbitae* (Coquillett), *Bactrocera dorsalis* (Hendel), *Bactrocera tsuneonis* (Miyake), *Bactrocera zonata* (Saunders), *Citrus huanglongbing* (greening) disease, *Xanthomonos campestris pv.citri* (Hasse), Gentian (*Neopicrorhiza scrophulariflora*), Chireeta (*Swertia chiraytia*), Prickly Ash (*Zanthoxylumarmatum*), Soapnut (*Sapindus mukorossi*) and Asparagus (*Asparagus racemosus*) some of the prioritized MAPS on which field based pest survey is going on with the help of GIZ/German Government

Updating pest information required to fulfill the national PRA formats along with field based specific surveys on the pests of lentil, apple, cabbage, tea, tomato, citrus, ginger, cardamom, coffee and finger millet are just started.

Betle nut, Rudraksha *Elaeocarpus ganitrus*, pumpkin, Hot chillies, Cucumber, Cauliflower, bittergourd, bottle gourd, pointed gourd, snake gourd, sponge gourd, Carnation and gerbera are prioritized for preparation of updated pest list.

We are planning to prepare a national standard on phytosanitary audit, verification of methodology and results of the surveys.

Pakistan

The Government of Pakistan has recently approved a 03 years project on title of Pak-GAP to apply the principles of Good Agricultural Practices (GAP) on four major crops of export potential i-e rice, potato, citrus and mango. The aim of the project is to make a considerable area under these crop pest free. This project a provisions for intensive specific surveillance.

Philippines

1. Capability Training of DA Regional Field Office and BPI Crop Protection Technical personnel in Pest Surveillance for Tropical Fruits (Mango) – EU-Trade Related Technical Assistance 3

2. Philippine Rice Information System (PRISM)

A project developed by the International Rice Research Institute (IRRI) in collaboration with the Department of Agriculture (DA). PRISM is a rice information system with nationwide coverage to improve decision making and activity planning relative to food security and it is also a platform to develop consistent and regular assessments of rice production, health and losses due to national calamities.

Singapore

- Delimiting survey for *Chrysomphalus aonidum* (Circular Scale) in Singapore (in response to recent incursions) (Funded nationally)
- To put together a handbook for recommended procedures in the event of a quarantine pest incursion (Funded nationally)
- To develop a list of high priority plant pests for Singapore to better focus our surveillance activities and efforts (Funded nationally)
- Continuation of above surveys (Funded nationally)

Sri Lanka

- Identification of incursion of new fruitfly spp into Sri Lanka.
- Surveillance on *Trogoderma granarium* in Sri Lanka
- Surveillance on the species complex of *Cuscuta* present in Sri Lanka
- Surveillance of *Striga* species present in Sri Lanka
- Surveillance on the potential hosts for *Dendrophloe* species in Sri Lanka
- Surveillance on *Bemisia tabaci* in export oriented nurseries

FAO /TCP Coconut leaf wilt

CABI /Plant wise / crop clinic program

AFACI / TCP: Agreement on AFACI technical cooperation project on *Construction of Epidemiology Information Interchange System for *Migratory Disease and Insect Pests in Asia Region (IPM)*

Thailand

1. DOA has six years of surveillance plan (2015- 2020), to detect the presence or absence of 16 pests (fungi, bacteria, nematode, virus insect, mite and weed) namely, *Fusarium oxysporum* f.sp. *elaedis*, *Sporisorium reilianum* , *Bipolaris zeicola*, *Clavibacter michiganensis* subsp. *Nebraskensis*, *Clavibacter michiganensis* subsp. *sepedonicus*, *Burkholderia glumae*, *Pseudomonas syringae* pv. *tomato*, *Tomato black ring virus*)TBRV(and *Tomato ringspot virus*)TRSV(, *Maize dwarf mosaic virus*, *Pepper Mild Mottle Virus*, *African cassava mosaic virus* (ACMV), *Mexican papita*

viroid, Tomato apical stunt viroid, Tomato planta macho viroid, Pepper chat fruit viroid , *Meloidogyne chitwoodi* and *Meloidogyne fallax* , *Polygonum aviculare* L. and *Polygonum convolvulus* L., *Aceria guerreronis* Keifer » *Bactrocera carambolae*

Total budget for this project is approximately 206,000 USD.

2. Internal surveillance workshops would be organized for DOA researchers (20 persons) 4 days Including field trip. Total budget for this project is approximately 2,500 USD.

Vietnam

- Project: Support to capacity development in implementation of plant pest surveillance and information management in South East Asian countries.
- Trainings to identify pests, information management, PRA

Question 4: What **resources** do you have to share related to surveillance (manuals, standard operating procedures, public outreach materials, etc)? Please list and identify if you are willing to share them.

4. NEAR EAST AND NORTH AFRICA

Egypt:

- Local publication for un regular surveillance applied by the universities and plant research institutes
- Internal publications by the central administration of pest control (CAPC) ministry of agriculture.
- Internal correspondence between CAPQ , research institutes , universities and (CAPC)

Lebanon: Guideline for production and export of ware potato to the EU

Libya: Brochures, manuals

Mauritania: La mauritanie dispose d'un manuel de lute inergrée contre les ennemis de cultures.

Morocco: Les ressources à partager :

Protocoles de surveillance phytosanitaire et fiches techniques de : virus de la sharka, virus de tristeza, Nématode de pin, mouche du pêcher et charançon rouge du palmier.

Qatar: We have some publications for some pests (soft copies are available)

Tunisia: Protocoles de surveillance phytosanitaire et fiches techniques de :, virus de tristeza,

4. CENTRAL AND EASTERN EUROPE AND CENTRAL ASIA

Armenia

No list

Azerbaijan

1. Programme on prevention of the distribution and containment of *Ambrosia artemisiifolia*
2. Programme on prevention of the distribution and containment *Phthorimaea operculella* Zell
3. Програма по предотвращению распространения и локализации *Solanum rostratum* and etc (all in Azeri language)

Belarus

-

Montenegro

Reports

<http://www.fito.gov.me/biblioteka/izvjestaji>

web site

<http://www.fito.gov.me/uprava>

Georgia

The phytosanitary laboratory of the Ministry of Agriculture was reconstructed and equipped in 2015. The scientific centre of the Ministry of Agriculture was established. The NFA plan in close collaboration with these and other institutions establish a surveillance system.

Serbia

- Contingency Plan for prevention of spreading and suppression with the aim of eradication of potato ring rot disease;
- Contingency Plan for prevention of spreading and suppression with the aim of eradication of potato brown rot disease and bacterial wilt of potato and tomato.
- Technical guidelines for the identification of harmful organisms published in 2011. Twinning Project SR2005/IB/AG/02
- web site <http://www.uzv.minpolj.gov.rs>
- It is envisaged to publish brochures on harmful organisms that are monitored by the Program of measures for 2015.

Turkey

- Annual of Phytosanitary Application Programme,

- Leaflet,
- Training

Uzbekistan

Materials on surveillance are collected by Inspection of 'UZGLAVGOSQUARANTINE' and Scientific Centre on Plant Quarantine of Republic of Uzbekistan. Materials, after review according to the established procedures, will be send to FAO. Public awareness is raised through mass media activities, news are published in newspapers, scientific articles in Republican journals.

Tajikistan

1. Law of Republic of Tajikistan on 'Plant Quarantine'
2. Regulation on State Phytosanitary and Quarantine Inspection
3. Rules for internal and external quarantine of Republic of Tajikistan
4. Rules and Norms for ensuring plant quarantine
5. List of regulated articles

4. PACIFIC

French Polynesia: Not any

Caledonia: Entomologist from research institute in New Caledonia (IAC – IRD) are aware to share their expertise.

Guam: See USDA Cooperative Agricultural Pest Survey (CAPS) web site.

Tokelau: Reports

- Pamphlets
- Documentary (movie)

Vanuatu: Challenges

Similarly to many other Pacific Island countries, Vanuatu has many challenges to better implement Vanuatu obligations such as surveillance under IPPC mandates.

1.3 - Increasing volume of imports and incoming passengers

With the current increasing import of goods and arrival of international passengers, the risk of incursions of new pests is a great threat. Two to three times a week, cruising vessels berth at Port-Vila harbor with hundreds of tourists. Most of time, Border control officers confiscates plant materials from these tourists. The volume of imported cargo is also increasing and Border Control Officers have to ensure that all high risks goods are inspected. So these increase is challenging for Biosecurity Vanuatu.

1.4 - Capacity building (technical staff for plant health)

The lack of technical staff of plant health is on the main constraint of Biosecurity Vanuatu. With the very limited staff, only few island are surveyed and the remote island towards Solomon island and New Caledonia are not being surveyed. So, since both countries have some of the most harmful pests and diseases, it is challenging for Vanuatu to better provide border security and monitor these islands groups for possible incursions of new pests.

1.5 - Internal movement of pests within the countries

Lots of pests are already present in the islands of Vanuatu and with no internal quarantine operations within the provinces and islands, the pests are just spreading onto new locations. Invasive weeds are spreading onto the islands through movement of heavy machineries. These machineries are constructing new road and also spreading invasive weeds in the islands where new roads of constructed.

1.6 - Constant change of government

Constant change of government is costing government coffers lots of money which could be spent on development. So when, the government changes politician payments is prioritized, leading to no funding allocation for activities such as surveillance.

Samoa: We have procedure forms used for surveillance of both imports and exports. These vary from inspection forms for the imported containers and loose cargo as well as inspection forms for the containers going out, which mainly are done for those containers that require certification. We have operations manuals in place and dissemination of such information can be done pending authorization by MAF CEO or Quarantine Assistant CEO.

Solomon: We do have a very vibrant surveillance and information and awareness team. Biosecurity also has good mapping systems using GIS, P tracker, remote microscopy connected to the internet for pest ID. We produce posters, do awareness campaign in Schools, festivals and village gathering.

Tuvalu: Raise Awareness
Community outreach
Information from internet
Emergency response plans

Nauru: none.

4. CARIBBEAN

Antigua and Barbuda:

- Antigua and Barbuda has prepared an information brochure and flyers on the Eradication of the Giant African Snail. Although plans are afoot to produce updated materials, the current versions are still useful and can be shared.

Barbados:

- Fruit fly literature and manual

Belize:

- Procedures for *Ceratitidis capitata*, *Megacocta cribraria*, *Tuta absoluta* and *Candidatus Liberibacter solanacearum/ Paratrioza cockerelli*.
- Some informational material also available.

Grenada:

- Presentation on the Coconut Weevil Surveillance Programme.

Guyana:

- The NPPO of Guyana has created information sheets and pamphlets notifying the general public of the economic importance of various quarantine pests. The Plant Protection Unit currently uses the CFF manual that was produced during the CFF control programme among Guyana, Suriname and Brazil.

Haiti:

- No response

Jamaica:

- Medfly surveillance manual was developed in 2001.

St. Lucia:

- Surveillance protocols were provided by USDA and FAO
- FAO Foc TR4 manuals
- In Saint Lucia the Plant Quarantine Unit have posters, simple factsheets, Brochures (Black Sigatoka Disease)

St. Vincent:

- A manual is available for the Fruit fly Surveillance programme and can be shared.
- There is a protocol for conducting banana leafspot disease monitoring which can be shared

St. Kitts:

- ISPM 4 (International standards for Phytosanitary measures)
- ISPM 6 (Guidelines for Surveillance)
- ISPM 8 (Determination of Pest Status in an area)
- www.CPHDFORUM.ORG (The medfly, Caribbean Fruit Fly and Carambola Fruit Fly Brochures)

Suriname:

- It is on this point namely resources of the Carambola fruit fly monitoring program.

4. LATIN AMERICA**Argentina:**

- Los siguientes recursos están relacionados con las acciones de vigilancia aunque no necesariamente con la supervisión:
 - Manuales y protocolos de vigilancia específica.
 - Material de difusión.
 - Bases de Datos de plagas disponible de forma online (www.sinavimo.gov.ar)
 - Registro y Bases de Datos de Especialista de distintas áreas de la Sanidad Vegetal
 - Sistema de denuncias Online: Comunicación de Nuevas detecciones

Bolivia:

- Con estrategias de vigilancia para su implementación y manuales.

Brasil:

- Contamos com um manual de procedimentos operativos, e normas regulamentadoras da atividade de vigilância.

Chile:

- Para el desarrollo de la actividad se cuenta con procedimientos estandarizados compendiados en el Documento “Norma Técnica” que incluye diferentes documentos, a saber:
- I-VYC-VIS-PA-001 (Prospecciones Agrícolas), I-VYC-VIS-PA-002 (Trampeo Agrícola), D-VYC-VIS-PA-006 (Criterios de selección de plagas, cultivos y áreas), D-VYC-VIS-PA-008 (Aspectos técnicos del trapeo Agrícola), D-VYC-VIS-PA-009 (Metodología y parámetros de Prospecciones Agrícolas), D-VYC-VIS-PA-010 (Colecta y envío de muestras), D-VYC-VISPA-007 (“Colecta y envío de muestras gastrópodos terrestres”), DVYC-VIS-PA-005 (“Documento general fichas malacológicas Agrícolas”) y los registros incluidos en el F-VYC-VIS-PA-047 (Fichas de Plagas de Vigilancia Agrícola), los cuales se encuentran disponibles en el software SE Suite del SAG (sistema de gestión de calidad).

Ecuador:

- En el caso específico de Vigilancia Fitosanitaria, AGROCALIDAD trabaja con la Normativa Internacional - NIMF 2, 6, 8, 9, 10, 22. A nivel Regional la Decisión 515 de la CAN y a Nivel Nacional la Ley de Sanidad Vegetal y su reglamento.
- Internamente AGROCALIDAD estableció el Sistema Nacional de Vigilancia Fitosanitaria mediante Resolución Nro. 024 del 2008.

- En el 2010 mediante Resolución Nro. 054 estableció el Manual Operacional de Vigilancia Fitosanitaria el mismo que es la herramienta y en el cuál nuestros técnicos se encuentran realizando sus actividades en campo.
- Actualmente, adicional al Manual hemos elaborado una Ficha de Supervisión a las actividades de Vigilancia Fitosanitaria y una Guía de cómo realizar una supervisión; así como la emisión de Alertas tempranas y el trabajo con Sensores fitosanitarios.

El Salvador:

- Ley de Sanidad Vegetal, Se cuenta con Manuales de Procedimientos operativas para las acciones de Vigilancia, Materiales de Difusión tales como, Afiches, Brochures, Guías técnicas, Programa de Radio por parte del Ministerio de Agricultura (Programa Buenos días Agricultor)

Guatemala:

- Manual de Vigilancia Fitosanitaria.
 - Determinación de Condición Fitosanitaria
 - Inspección de parcelas centinelas
 - Muestreo de plagas
 - Identificación de plagas y enfermedades en campo
 - Toma y envío de muestras a laboratorio.
- Manual de programas y Campañas Fitosanitarias
 - Detección e identificación de plagas y enfermedades presentes.
 - Procedimientos para la Aplicación de medidas de control para suprimir o erradicar plagas de importancia económica y cuarentenaria
 - Procedimientos para el Apoyo al aprovechamiento y desarrollo de áreas libres

Honduras:

- Manual Operativo de Vigilancia Epidemiológica Fitosanitaria.
- Manual de Inspectores Fitosanitarios pre exportación para la UE
- Manual de Regulaciones de Plantas para Plantar a exportarse a la UE para Oficiales que firman los Certificados Fitosanitarios Internacionales de Exportación.
- Manual de Trampeo para Lugares de Producción libres de plagas
- Existe la mejor disposición de compartirlos.

México:

- Fichas técnicas de las plagas bajo vigilancia.
- Manual operativo de Vigilancia Epidemiológica Fitosanitaria 2015
- Avisos públicos
- Infografías

- Guías de síntomas y daños
- Trípticos, Carteles, Folletos
- Alerta epidemiológica de la roya del cafeto
- Material disponible en página web del SENASICA (<http://sinavef.senasica.gob.mx/SIIVEF/>)

Nicaragua:

- Se cuenta con el Manual de procedimientos y operativo de Vigilancia fitosanitaria, protocolos de emergencia de plagas, normas técnicas obligatorias, cuñas radiales, videos, manuales y guías, protocolos de simulacros de detección de plagas. La entrega estaría bajo la autorización de la Dirección Ejecutiva.

Panamá:

- Se cuenta con los procedimientos enunciados en las normas internacionales de medidas fitosanitarias, NIMF, Resueltos Ministeriales, Decretos ejecutivos y leyes de protección Fitosanitarias, además de se tiene material de divulgación tales como Panfletos, afiches, hojas volantes, por programas fitosanitarios.

Paraguay:

- Materiales de divulgación como
 - Afiche de HLB,
 - Afiche *Leptocybe invasa*
 - Afiche de *Helicoverpa armigera*
 - Tríptico de Sigatoka negra.
- Procedimientos de:
 - Procedimiento de muestreo para Sigatoka negra.
 - Plan de actividades del HLB de los cítricos.
 - *Compartir los afiches impresa o en la presentación (fotos)

Perú:

- Resolución Directoral N° 06-2010-AG-SENASA-DSV, Lista de Plagas Reglamentadas que detalla las plagas cuarentenarias no presentes en el Perú.
- Resolución Directoral N° 20-2010-AG-SENASA-DSV, Procedimiento para el monitoreo y/o prospección de plagas de palto.
- Resolución Directoral N° 21-2010-AG-SENASA-DSV, Procedimiento para la atención de una alerta y/o emergencia fitosanitaria
- Resolución Directoral N° 44-2006-AG-SENASA-DSV, Procedimiento para el desarrollo de Análisis de Riesgo de Plagas para Plantas Productos Vegetales y Otros Artículos Reglamentados.
- Resolución Directoral N° 33-2006-AG-SENASA-DSV, Manual de Procedimientos para la Inspección Fitosanitaria de Predios Selecciones.
- Resolución Directoral N° 34-2006-AG-SENASA-DSV, Manual de Procedimientos para la Verificación de las Notificaciones sobre Ocurrencias de Plagas.
- Directiva General N° 39 -2000-AG-SENASA-DGSV-DVF Directiva de Procedimientos técnicos para la toma y envío de muestras de cítricos para el descarte de tres enfermedades cuarentenarias: Sarna del naranjo dulce, Mancha negra y cancro de los cítricos.

- Directiva General N° 41 -2000-AG-SENASA-DGSV-DVF Directiva de Procedimientos para la instalación, Mantenimiento y evaluación de las redes de monitoreo preventivo contra plagas cuarentenarias tipo A1 (*Anthonomus grandis*, Boheman; *Tecia solanivora*. Povolny; *Trogoderma granarium* Everts

República Dominicana:

- Manual de Procedimiento Cuarentenario
- Manual de Procedimientos para Análisis de Riesgo de Plagas
- Manual de Procedimiento para Detección por Trampeo para MoscaMed.
- Manual de Procedimiento de Detección por Muestreo para MoscaMed.
- Manual de Procedimiento para Control y Erradicación de MoscaMed.
- Manual de Procedimiento para Control Autocida (liberación de machos estéril) para MoscaMed.
- Manual de Procedimiento para identificación de Larvas y Pupas de la MoscaMed.
- Manual de Procedimiento para la Identificación en Laboratorio de MoscaMed.
- Estos manuales están basados en las diferentes NIMFs.

Uruguay:

- A nivel nacional, se elaboran Planes de Vigilancia específica por plaga en los cuales se establecen los procedimientos; además se cuenta con fichas, de uso interno para capacitación, por plaga.

4. ASIA

Australia

- National surveillance protocols and standards can be shared.

Bangladesh

Instruction Guide on Pest surveillance, Early warning and Forecasting.

China

There are a series of standards for quarantine surveillance. e.g.

1. Guideline for quarantine surveillance of *Cydia pomonella* (L.)
2. Guidelines for quarantine surveillance of *Microcyclus ulei* (P.Henn.) Von Arx.
3. Guidelines for quarantine surveillance of *Diabrotica virgifera* Leconte

Indonesia

- Develop survey manual/guidelines
- Increase in pest detection and identification by training

- Increase coordination with related local government, research agencies and universities.

Japan

PPSs have developed and update operation manuals and materials, especially for pest identification (e.g. identification keys for quarantine pests and domestic pests). These materials are shared through training courses to relevant staff of PPSs and prefectures and pest identification and diagnostic supports are extended to those authorities in the national network.

Laos

NPPO of Lao PDR still need and welcome technical advise on surveillance from neighboring countries and other international experts.

Malaysia

- (i) Exchange of information on SOPs, pamphlets and other publications

Mongolia

In specific surveillance study, weather equipments such as hygrothermograph which can be used during warm and cold seasons and attractant trap with lights that can be used to track insect prevalence monthly and on ten days basis, are in need. Also we need International standards and manuals which can be used to survey on insect pests in advance.

In our institute following books, manuals and recommendations necessary for farmers work are available

1. Controlling fruit insect and fruit disease.
2. Books and manuals according agricultural crop plants, disease and insect pests of forest and pasture land, which however are need to be replicated and printed out.

Myanmar

Plant Protection Division does not have the resources related to surveillance.

Nepal

Economic:

Regular annual budgets from the government of Nepal (MOAD and MOCS)

USAID funded support in policy infrastructure for surveillance for upcoming 3 years

NIRTTP support from government of India for upcoming 5 years. Regional surveillance Project/ FAO/Bangkok supported us for capacity development of our officials

Laboratories and staff

We have a good network of diagnostic laboratories like RPPL and RPQOS. Most of the laboratories are made full of basic set of equipments

and manpower with basic level of training on laboratory handling.

Improvement of existing laboratory infrastructures is underway. Modernized central reference laboratory will be established within 5 years (Support from the government of India)

Technical protocols for field survey of specific pest are being prepared at the rate of at least 20 protocols per year. Survey protocols of fruitflies, citrus canker, citrus greening, and 20 other pests are already prepared (<http://www.npqpnepal.gov.np/downloads.php>).

Regulatory:

Strong legislation Plant Protection Act and Plant Protection Regulation.

Document on Long term action plan with working modalities of NPPO-Nepal has recently been endorsed by NPPO (<http://www.npqpnepal.gov.np/downloads.php>).

Directive on domestic quarantine has recently been endorsed by the government of Nepal (in Nepali language).

Staff Requirements:

Presence of some trained (domestic trainings) officers and some untrained officers in every district and, field level technicians in every agriculture service centres within the district.

We have potential to deploy farmer facilitators and technical facilitators of IPM field schools as primary pest informants

Pest diagnostics

Diagnostic protocols of the quarantine pests of Apple, Banana, Citrus, Coffee, Zinger, Tea, Large Cardamom, and Garlic prepared (<http://www.npqpnepal.gov.np/downloads.php>).

Rice, Maize, Cucumber, Pumpkin, Bittergourd, Radish, Cabbage, Hot Chillies, Carnation and Gerbera are identified and prioritized to prepare diagnostic protocols of quarantine pests associated with the commodity pathways

Communication requirements We have a plan of establishing electronic plant pest surveillance networks to encompass all stakeholders including farmers. The electronic system is expected to be established within 2016.

Reporting: reports about weather and the pests status in agriculture crops from the districts are sent to the centre once a week.

Awareness: Radio, television and Printed media are in use to make public aware on pest incidences.

We have established online phytosanitary certification system, and we are proposing with the help of readiness assessment form of APPPC for selecting Nepal as one of the Pilot countries for establishing national and international e-phyto certification system.

Pakistan

Standard Operating Procedures (SOPs)

Philippines

None as of the moment

Singapore

- Survey plans & reports – can share
- Singapore Plant Host Pest Disease Index – diagnostic records from 1960s to 2000 – can share
- Singapore Plant Health Guide (CD) – can share
- Use of geographic information system to enhance collection of surveillance data – can share but data viewing require specific programme.

Monthly newsletter for the public (Plant Health Brief) – available for download online – can share.

Sri Lanka

Leaflets on Fruitflies and melon flies

Television programmes on the Fruitflies

Thailand

Diagnostic protocol pest.

Diagnostic training protocol based on surveillance pest.

Vietnam

National Standards were published:

- Surveillance methods:

Circular 71 /2010/TT-BNNPTNT (10/12/2010)QCVN 01-37: 2010/BNNPTNT. National technical Regulation on Surveillance method of pine and casuarina pests

QCVN 01-38: 2010/BNNPTNT. National technical regulation on Surveillance method of plant pests

Circular 26 /2010/TT-BNNPTNT (27/4/2010)

QCVN 01-17 : 2010/BNNPTNT. *National technical regulation on the procedure for monitoring of pests on imported citrus varieties in isolated quarantine area*

Circular 63/2012/TT-BNNPTNT (14/12/2012)

QCVN 01-111: 2012/BNNPTNT. National technical regulations on procedure for surveillance, monitoring and treatment of scale insects associated with imported plant varieties

QCVN 01-118: 2012/BNNPTNT. National technical Regulation on Surveillance method of tea pests

QCVN 01-119: 2012/BNNPTNT. National technical Regulation on Surveillance method of citrus pest

Circular 32/2013/TT-BNNPTNT (14/6/2013)

QCVN 01-140 : 2013/BNNPTNT. *National technical regulation on procedure for surveying, collecting and preserving rice virus diseases Circular 16/2014/TT-BNNPTNT (5/6/2014):*

QCVN 01 - 166: 2014/BNNPTNT. National technical regulation on surveillance method of Rice pests
 QCVN 01 - 167: 2014/BNNPTNT. National technical regulation on surveillance method of Maize pests
 QCVN 01 - 168: 2014/BNNPTNT. National technical regulation on surveillance method of Peanut and Soybean pests
 QCVN 01 - 169: 2014/BNNPTNT. National technical regulation on surveillance method of Cruciferous vegetable pests
 QCVN 01 - 172: 2014/BNNPTNT. National technical Regulation on Surveillance method of Black Pepper pests
 QCVN 01 - 177: 2014/BNNPTNT. National technical Regulation on Surveillance method of Longan, Lychee pests

- Diagnostic methods:

Circular 71 /2010/TT-BNNPTNT (10/12/2010)

QCVN 01-34: 2010/BNNPTNT. National technical regulation on Procedure for identification of *Ditylenchus dipsaci* (Kühn, 1857) Filipjev, 1936 and *Ditylenchus destructor* Thorne, 1945 – Plant quarantine pests of Vietnam

QCVN 01-35: 2010/BNNPTNT. National technical regulation on Procedure for identification of cyst nematodes (*Globodera pallida* (Stone, 1973) Behrens, 1975 and *Globodera rostochiensis* (Wollenweber, 1923) Behrens, 1975) – Plant quarantine pests of Vietnam

Circular 26 /2010/TT-BNNPTNT (27/4/2010)

QCVN 01-18: 2010/BNNPTNT. National technical regulation on Procedure for identification of San José scale (*Diaspidiotus perniciosus* (Comstock)) – Plant quarantine pest of Vietnam

Circular 63/2012/TT-BNNPTNT (14/12/2012)

QCVN 01-105 : 2012/BNNPTNT. National technical regulation on Procedure for identification of khapra beetle (*Trogoderma granarium* Everts) and larger cabinet beetle (*Trogoderma inclusum*

LeConte) - Plant quarantine pest of Vietnam

QCVN 01-106: 2012/BNNPTNT. National technical regulation on Procedure for identification of broad-nosed grain weevil (*Caulophilus oryzae* (Gyllenhal)) - Plant quarantine pest of Vietnam

QCVN 01-107: 2012/BNNPTNT. National technical regulation on Procedure for identification of grain weevil (*Sitophilus granarius* Linnaeus) - Plant quarantine pest of Vietnam

QCVN 01-108: 2012/BNNPTNT. National technical regulation on Procedure for identification of fruit fly species belong to *Anastrepha* genus - Plant quarantine pests of Vietnam

QCVN 01-109: 2012/BNNPTNT. National technical regulation on Procedure for identification of fruit fly species belong to *Bactrocera* genus - Plant quarantine pests of Vietnam

QCVN 01-110: 2012/BNNPTNT. National technical regulation on Procedure for identification of fruit fly species belong to *Ceratitis* genus - Plant quarantine pests of Vietnam

Circular 32/2013/TT-BNNPTNT (14/6/2013)

QCVN 01-136: 2013/BNNPTNT. National technical regulation on Procedure for identification of larger grain borer (*Prostephanus truncatus* (Horn) - Plant quarantine pests of Vietnam

Circular 16/2014/TT-BNNPTNT (5/6/2014):

QCVN 01 - 176 : 2014/BNNPTNT. *National technical regulation on Procedure for identification of groundnut bruchid (Pachymerus pallidus Olivier)*
- *Plant quarantine pest of Vietnam*
QCVN 01 - 179 : 2014/BNNPTNT. *National technical regulation on Procedure for identification of South American leaf blight of rubber*
(*Microcyclus ulei* (Henn.) Arx) - *Plant quarantine pest of*
Vietnam

Question 5: What do you think would help to address the challenges your country has with surveillance programmes?

5. NEAR EAST AND NORTH AFRICA

Egypt:

More access and Exchange of updated information regarding pest status and outbreaks in the neighboring country to help develop feasible strategic planning

- Training to the personnel applying the surveillance
- Fundamental resources.

KSA:

- Regularly organize workshops and seminars on this subject
- Training on phytosanitary capacity building
- Carry out preliminary Pest Risk Analysis
- Technical consultancies and expertise

Lebanon: income

Libya: Technical and financial support

Mauritania: Renforcement des capacités nationales dans les domaines du surveillance et du contrôle phyto-sanitaire.

Morocco: Constitution d'un réseau pour l'échange des informations liées à la surveillance phytosanitaire;

Développement d'un système d'alerte rapide ;

Mise à niveau des connaissances du personnel technique, en matière de surveillance phytosanitaire, gestion des organismes nuisibles de quarantaine,

Constitution d'une base de données (organismes nuisibles et plans de surveillance,...)

Techniques d'identification des organismes nuisibles ;

Guide pratique de reconnaissance des organismes nuisibles ;
Développement des laboratoires phytosanitaires

Palestine:

1. Formulate pest surveillance strategic plan
2. budget to support this program
3. staff training

Qatar: May be technical assistance will help us to develop national list of quarantine pests, because the current one is for GCC.

Sudan: Capacity building and high tech tools and labs.

Tunisia: Manuel de procédure de prospection phytosanitaire et des prises d'échantillons

Constitution d'un réseau pour l'échange des informations liées à la surveillance phytosanitaire;

Développement d'un système d'alerte rapide ; avec la Mise en place d'un plan d'urgences en cas ou la bactérie est introduite en Tunisie

Renforcement des capacités des diagnostiques, la reconnaissance des symptômes typiques provoque pour la bactérie (*X. fastidiosa*) sur plusieurs plantes

hôtes ; l'identification morphologique des vecteurs de la bactérie (cicadelles et cercopes.....)

assistance sur les techniques de dépistage et d'analyse de la bactérie et de ses vecteurs

le développement d'un plan de surveillance et d'un plan d'épidémiologie

personnel technique, en matière de surveillance phytosanitaire, gestion des organismes nuisibles de quarantaine,

Constitution d'une base de données (organismes nuisibles et plans de surveillance,...)

Guide pratique de reconnaissance des organismes nuisibles ;

UAE: Allocation of sustainable resources.

Enhance the program with experts in surveillance programs.

Periodically training for inspectors.

5. CENTRAL AND EASTERN EUROPE AND CENTRAL ASIA

Armenia

- Technical support for laboratories
- Trainings

Azerbaijan

- Better training of staff
- Strengthening phytosanitary labs capacity
- Setting of a national database

Belarus

- Capacity for surveillance

Montenegro

capacity for surveillance

Samples,

Challenges are numerous and complex. These include both direct threats to crops and market, as well as the challenges to mitigate threats.

- The cost to manage
- science-based
- effects
- decision making for facilitate (development and implementation)

Undetected pests may become established

expertise, pest risk assessments and access to improved diagnostics will aid in early detection.

Georgia

In order to implement the surveillance programme would be very useful to conduct Phytosanitary Capacity Evaluation (PCE).

Serbia

Sufficient funds to cover regular training of staff performing surveillance, procurement of necessary equipment and field work.

Turkey

-

Uzbekistan

- The main problem for implementation of surveillance programme is insufficient financial resources
- Training of state regional plant quarantine inspectors
- Insufficient transportation means for conducting surveillance activities
- Quarantine Service of Uzbekistan is financed by the State budget. That is the reason why finances of the Service are limited. Costs of services delivered by the Service were kept without change for many years. However they have been reviewed and adjusted recently. The Service collaborates with the Ministries of Agriculture and Water Resources, Finances, Economics and other involved Ministries, agencies and organizations of Uzbekistan.

Tajikistan

- Training of staff
- Modern equipment for laboratory testing

5. PACIFIC

French Polynesia: An awareness of the authorities face to consequences of an introduction of pests.

Caledonia: There is a lack of qualification and of laboratory for analyses in New Caledonia for the identification of plant pathology and we need to assess what is really present.

Guam: More personnel permanently funded by local government to oversee federally funded grant program (CAPS).

Tokelau: With skeleton staff, *Community participation* is always paramount to us. Each person on the island should be taught what they should look out for. As soon as they know this, each person can become a potential inspector, therefore everyone in the island can be responsible and we can rely on them on them too for better boarder control.

1. *Willingness to Exchange ideas* with other regional countries

2. *More training available* – in our case our officers are not fully trained, so more training would help build their capacity

Technical help – like proper equipment's and facilities

Samoa: - Ongoing funding to carry out surveillance on a specific pests, mainly those of concern and likely to establish in Samoa;

- Capacity building for the staff directly involved in the pest identification for our pest list database;
- Enforcement strengthened at the borders as that is where pest detection takes place for incoming;
- increase public awareness on surveillance issues of bio-security concern;
- Strengthen links and cooperation of various border agencies in their roles to establishing a consistent and precise system for surveillance;
- Improvement of current surveillance procedures for the top 10 most unwanted pests in Samoa.
- Better records and consistent update of pest that are stated as “regulated”.

Solomon: Training and infrastructure are two key issues which we always face.

We have the PNG and SI boarder which people living both sides The people have traditional connections and have property and land on either side. Slow turnaround time of pest identification sent overseas for ID is also a concern.

Tuvalu: Increase fund,
Recruit of staff
Facilities & equipment
Installation of BIF
SPC assistance,
Upgrade internet.

Vanuatu: Ways forward

For Biosecurity Vanuatu to better meet its' obligations under the IPPC, it needs national government and other development partners support.

Establish Biosecurity as a Corporate entity

Currently Biosecurity Vanuatu is operating as a government departments. All the millions of worth of revenue that it makes goes to the government general revenue. It is the department's vision to change Biosecurity Vanuatu status to become a corporate institution. Through that corporate entity, Biosecurity Vanuatu can manage the money that it collects and better provide service delivery and it international obligations.

Secure funds under GEF 6 funding

Currently lots of funding is under GEF 6 funding assistance. Biosecurity Vanuatu has already submitted a proposal to strengthen its' capacity. If approved the project will greatly assist Biosecurity upgrading facilities, systems and operations.

Continue networking with local and regional partners

Networking with local and regional partners is a way forward to access to technical assistance. So regional bodies such as SPC, FAO, SPREP are important for Biosecurity Vanuatu to access funding and technical assistance.

Nauru: consistency and non-neglect from crop agencies.

5. CARIBBEAN**Antigua and Barbuda:**

- The facilitation of national workshops on the quarantine pests of Antigua and Barbuda for the staff conducting the activity would be quite useful. This assistance could be in the form of the provision of presentation templates that can be used in the conduct of staff training at the national level.

Barbados:

- Obtaining lures, diagnostic kits, training in surveillance and sampling methodologies and diagnostic techniques (use of new methods)

Belize:

- A higher budget allocation (For operational costs and additional personnel).
- Better coordination with industry to share resources and common objectives.

Grenada:

- The following interventions will make a significant difference to the conduct of surveillance in Grenada.
 - (a) Assigning more vehicles to the NPPO to conduct surveillance
 - (b) Training more extension staff in pest surveillance and pest identification

- (c) Offering a travelling allowance to staff willing to conduct surveillance using their own vehicles and GPS system
- (d) Provision of additional lab support (training and supplies)
- (e) Availability of enough computers and personnel for data entry

Guyana:

- The deployment of resources in the identified areas of needs, viz training, staffing, materials and financial

Haiti:

- Get funds and technical assistance to develop biological control to eradicate the cottony cushion scale (*Crypticerya genistae*) and fruit flies in Haiti.

Jamaica:

- A surveillance unit that has oversight for surveillance and pull the other agencies that contribute to surveillance activities would improve our capabilities. Jamaica currently has a surveillance committee that has this function however this is in addition to our substantive jobs and does not get the attention required.

St. Lucia:

- More awareness and compliance to related Plant Quarantine, Standard Operating Procedures, by related border control officials.

St. Vincent:

- It would help if survey protocols are developed for specific pests of importance to the region. Also if information on materials and supplies to execute these surveys and where to source are catalogued.

St. Kitts:

- More staff
- Surveillance manuals
- More materials
- More financial support
- Diagnostic lab

Suriname:

- Financial resources from the national budget and international donors.
- Having dedicated and skilled personnel
- Having good infrastructure to conduct pest surveillance be it general or specific.
- Training in survey techniques.

5. LATIN AMERICA

Argentina:

- S/D

Bolivia:

- Para su implementación se requiere contar con el financiamiento de recursos económicos, logísticos y de personal.

Brasil:

- Aperfeiçoando a legislação.
- Provendo-se recursos humanos e orçamentários compatíveis com as necessidades do serviço, e investindo-se na capacitação dos técnicos.
- Ampliando a vigilância também para as pragas de interesse econômico.

Chile:

- Para enfrentar los retos en este programa de vigilancia nacional se requiere entre otros:
 - Disponer de suficiente presupuesto para desarrollar la vigilancia,
 - Contar con un programa de pasantías,
 - Visita de expertos,
 - Contar con un mecanismo de Intercambio de información fitosanitaria.

Ecuador:

- Uno de los aspectos fundamentales en la protección agrícola de un país es la Vigilancia Fitosanitaria, por lo que su existencia es de vital importancia para de esta manera lograr un intercambio comercial seguro entre los países; pero actualmente el conocimiento y divulgación de esta actividad no es el adecuado, por lo que un reto sería dar a conocer la existencia de los programas de vigilancia a nivel mundial y que estos de alguna manera cuenten con el apoyo externo en temas de experiencias, capacitaciones, plataformas informáticas.

El Salvador:

- Se Necesita que Consultores nos capaciten para mejorar los métodos de Vigilancia y Diagnostico Fitosanitario a nivel de Campo, ya que tenemos muchos Inspectores nuevos y los más viejo para reforzar los conocimientos.

Guatemala:

- Para realizar la vigilancia es necesario contar con los recursos para poder movilizarse en las áreas de trabajo también es necesario continuar esfuerzos para tener alianzas con sector académico y productivo para poder ampliar la cobertura de los servicios oficiales y trabajar en modelos de predicciones para mejorar la calidad de la información.

Honduras:

- Aplicando tecnología de punta para el Programa de Vigilancia Epidemiológica Fitosanitaria Modelo a seguir el de SENASICA de México.

México:

- Programas de capacitación continua a técnicos involucrados en la detección de plagas de importancia cuarentenarias.
- Armonizar las metodologías de detección de plagas de importancia cuarentenaria.
- Conocer el status real de las plagas de importancia cuarentenaria en los países de la Región (misiones técnicas)
- Realizar simulacros y planes de acción conjunta ante la detección de alguna plaga de importancia cuarentenaria en la Región.

Nicaragua:

- Es de suma importancia la actualización de todo el personal técnico de vigilancia fitosanitaria y campañas, ARP y Diagnóstico para dar respuestas inmediatas ante la detección de cualquier plaga cuarentenaria detectada en el país o la región. Las capacitaciones al personal son primordiales y serían de mucho valor para Nicaragua al fortalecer su Sistema de Vigilancia, ARP y Diagnóstico.

Panamá:

- Se requiere apoyo en capacitación continua del personal técnico en temas relacionado con vigilancia, tales como epidemiología, MIP, Agrometeriología.
- Se requiere apoyo en manejo y adquisición de tecnología para programas de detección temprana.
- Fortalecimiento de la base de datos. Entre otras.

Paraguay:

- Se deben mejorar los aspectos de capacitación sobre todo en aquellas dirigidas a plagas cuarentenarias tanto para el país como para la región.

Perú:

- Es importante cuantificar los beneficios económicos de las acciones de vigilancia, respecto a los daños de las principales plagas cuarentenarias, con la finalidad de asegurar recursos para acciones específicas a nivel global, regional y nacional. La Vigilancia implica personal y equipamiento, por lo cual se requiere de mayores recursos económicos para implementar y aumentar las acciones de vigilancia, de tal manera que la cobertura para generar y obtener información sea mayor.
- Es también importante evaluar los sistemas de diagnósticos de plagas cuarentenarias priorizadas, con la finalidad de fortalecer la sensibilidad del sistema y compartir muestras de referencia a nivel regional.
- Es necesario armonizar plataformas, formatos, acciones e información de vigilancia entre los países miembros de la CIPF.
- Necesitamos capacitaciones en temas de vigilancia, como: modelamientos, sensibilidad, métodos, teledetección, aplicaciones móviles y ocurrencias de nuevas plagas

República Dominicana:

- Creación de un Programa Nacional de Vigilancia Fitosanitaria, con autonomía y un personal técnico dedicado solo a la vigilancia.
- Actualizar técnicas de vigilancia para las diferentes plagas objetivo.
- Fortalecimiento de laboratorio para identificación.
- Implementar programa específicos para definir las nuevas plagas objetivos.

Uruguay:

- Aumentando la capacidad diagnóstica, contando con herramientas informáticas específicas y software adecuados, con capacitación en determinadas plagas, etc.

5. ASIA

Australia

- National coordination of surveillance programs and information would help to have a consistent approach to how surveillance data is collected and disseminated.
- Greater focus on the importance of surveillance so that the states and territories ensure adequate resources are available
- Better understanding of the regional differences and the impact on surveillance systems *e.g.* some types of traps cannot be used in particular areas due to climatic conditions
- Properly utilizing surveillance data to be able to determine the status of pests in Australia. This information supports Biosecurity and market access and then needs to be used to guide future surveillance planning.

Bangladesh

To develop competency regarding surveillance we need:

- (i) Capacity building training programs.
- (ii) Strengthening international co-operation and co-ordination.
- (iii) Harmonization of pest detection and surveillance procedures.
- (iv) Exchange of information regarding surveillance Manual and Standard Operating Procedures (SOPs).

China

The best benefit of surveillance programmes is to know whether one new pest is present timely.

Indonesia

- Propose increase the budget in order to survey can be conducted at least twice a year (in dry season and rainy season)
- Need more time (day) in conducting survey in order to get real actual conditions.

Japan

The NPPO plays role in surveillance of the introduction of quarantine pests at entry points. On the other hand, PPCSs play role in surveillance of domestic pests and early detection of quarantine pests in production sites. Meanwhile, since the number of officers and full-time officers are decreasing recently at PPCSs, it is necessary to conduct the surveillance more effectively with enhancing cooperation among NPPO, national research institutes, universities and local governments.

Laos

It is very helpful if technical information could be shared among NPPO.

Malaysia

- (i) Capacity building in areas related to:
 - Diagnostic
 - Database management
- (ii) Surveillance planning
 - For area of low pest prevalence
- (iii) Pest reporting and database

Mongolia

By having surveillance program, we will have a convenience to make plan that can prevent from natural factors. Moreover, the risk of agricultural crop and vegetable yield can be prevented. Thus leads to increased food availability which can be main factor to limit unnecessary cost and economic saving can take place.

Myanmar

- Financial assistance
- Expertise
- Taxonomists
- Technical-Training/Workshop
- Advanced molecular technology training
- Molecular Lab Facilities

Nepal

Published resources: Apart from the links provided in the previous slides, following additional resources are also available in the same URL anybody can access these resources.

Long term action plan of NPPO

Manual on laboratory handling techniques for quarantine pests

Manual on Identification of seedborne diseases

33 different national phytosanitary standards (NSPMs)

Detection and Monitoring Techniques for Quarantine Pests

Technical Protocols for Collection and Handling of Insect Samples

Technical Protocols for Collection and Handling of disease Samples

Pakistan

Yes, Surveillance is considered as key to understand the incidence of pests and the basis to undertake remedial measures.

Philippines

1. Capacity Building on Surveillance and Early Monitoring System
2. Provision of equipment for detection and identification of pest
3. Capacity building on pest data base management

Singapore

- It would be beneficial to conduct coordinated surveys on a regional level. Important pests of concern for the region could be identified, followed by surveys by member countries to determine the presence or extent of distribution and spread.
- Information sharing on the eradication and control of pests of concern for the region.
- Details of urban pest surveillance i.e. urban landscape
- How to write survey reports.
- How to establish sampling rate for imports.
- Practical training on surveillance with specific surveys as follow up basing on “Guidelines for surveillance for plant pests in Asia and the Pacific”.
- Identified pest priorities of the region for Singapore to incorporate into our programme as Singapore is an entreport

More capacity building activities.

Sri Lanka

1. Establish a network of trained technical experts to carry out surveillance activities island wide
2. Attitude change in the agriculture community including extension staff, policy makers, farmers and interested groups to utilize surveillance information in crop management
3. Dedicated server for data collection / analysis and dissemination to relevant organizations/ farmers
4. An Expert consultation for a period of at least one year to provide technical and operational guidance to establish the surveillance program in Sri Lanka.

Thailand

1. Training methodology for survey will include the design and sampling of surveillance activities (early detection, monitoring, delimiting), the development and implementation of specific and general surveillance.
2. Data management and databasing
3. Identification and diagnostic skill

Vietnam

Knowledge training, training professionals or training abroad Funds for:

- Capacity building on surveillance and monitoring, establishment of Pest free area for potential fruit for export market, packaging, storage methods
- Conducting survey on plant quarantine activities of 5 specific areas - Pest Risk Analysis, pest survey, pest diagnosis, plant quarantine inspection and information exchange in VietNam