



Regional Pest Surveillance in CAREC

Concept Note

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<https://www.carecprogram.org/?event=carec-policy-dialogue-regional-pest-surveillance-program>

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I. Rationale (situation, what is needed and why)

1. The Central Asia Regional Economic Cooperation (CAREC) region is a major producer of important agricultural commodities, e.g., cereals and grains, roots and tubers, fruit and vegetables, which enjoy strong international demand. Trade in such commodities provides pathways for moving pests as well, however, making plant health critical before products can be accepted abroad. Prospective importers typically assess risk based on their knowledge of the pests in the exporting country, the risk of introducing pests of concern, and the feasibility of imposing phytosanitary measures on imports in order to reduce risks to an acceptable level.

2. In negotiating market access for its plant products, it is crucial for CAREC countries to know the health status of its agriculture and forestry sector – in particular, the biology, distribution, host range, and economic status of plant pests. Extensive pest specimen-based records are the key, as they provide the most reliable evidence of the plant health status of a country, aside from serving as foundation for robust quarantine policies as well as farm-level pest-management strategies. To develop specimen-based pest lists, structured pest surveillance is needed, focusing on those pests that the commodity might carry¹, in accordance with the WTO Agreement on the Application of Sanitary and Phytosanitary (SPS) Measures.

3. In addition to pest detection and interception at the borders, pest surveillance is also necessary for establishing and maintaining pest-free areas to convince trade partners that commodities from such areas are free of certain regulated pests and should be exempt from quarantine measures. A regulated pest list may then include pests of quarantine significance that affect imports, or define particular pests requiring pest risk analysis (PRA) and precautionary phytosanitary measures from trade partners.

4. National pest surveillance programs are mostly shaped by policy issues related to international trade, followed by pest management objectives, then the need to protect the country's agriculture through quarantine.² However, many CAREC countries' resources and capabilities for pest surveillance and pest diagnostics are limited or under-developed. A regional approach to pest surveillance is therefore optimal, considering countries' geographical contiguity and similarity of agro-economic systems. This will enable CAREC countries to support one another in implementing best practice to address common phytosanitary and trade concerns.

II. Regional Pest Surveillance (what CAREC needs to do)

5. The International Standard for Phytosanitary Measures (ISPM) No. 6 provides Guidelines for Surveillance and defines pest surveillance to be “an official process which collects and records data on pest occurrence or absence by survey, monitoring or other procedures³” ISPM-6 describes the components of survey and monitoring systems for the purpose of pest detection and the supply of information for use in pest risk analyses, the establishment of pest free areas, and the preparation of pest lists. Pest surveillance

¹ <https://ageconsearch.umn.edu/bitstream/114089/2/119.pdf>

² <http://www.fao.org/docrep/015/i2731e/i2731e00.pdf>

³ http://www.standardsfacility.org/sites/default/files/PG_350_Manual_Plant_pest_surveillance_0.pdf

provides National Plant Protection Organizations (NPPOs) with a technical basis for many phytosanitary measures, e.g. phytosanitary import requirements, pest free areas, pest reporting and eradication, or pest status in an area.

6. The challenges for operating a national surveillance system may be classified into: (1) phytosanitary legislation and policies, (2) funding and sustainability, (3) surveillance management, (4) human resources, (5) communication and (6) information management. There is an opportunity to address these challenge areas through regional cooperation complementing national activities or initiatives:

Challenge Area	Regional	National
Legislation	Regional workshop to develop a toolkit to ensure legislation is harmonized with key requirements of World Trade Organization (WTO) and International Plant Protection Convention (IPPC)	National secondary laws and regulations are based on ISPM framework and adapted to country legal requirements
Funding	SPS Regional Working Group (RWG) as platform for sharing surveillance funding issues, regional case studies on how surveillance funding was supported by government and industry; RWG coordinates funding and technical assistance (TA) programs	SPS National Working Group (NWG) as platform for sharing surveillance funding issues
Management	RWG delegates an entity to compile summarized data from countries and communicates these to national contact persons	NPPO Surveillance Manager provides the NWG Plant Health representative with pest surveillance data and current capacity gaps
Human Resources	RWG appoints Plant Health coordinator/unit that compiles regional training resources e.g. CAREC Manual on Pest Surveillance Methodology	
Information Management	RWG promotes regionally-compatible data system for collecting, storing, and reporting pest surveillance information; also compiles horizon scanning results and border pest interception data	Share national pest records within CAREC for respective PRA work
Communication	Compile and distribute lessons from national surveillance programs on similar pests; how to improve these	Share best practice with NPPO internal and external communication

The recommendations for NPPOs in CAREC are described in Appendices 1 (Organizational Arrangements), 2 (Planning and Prioritization), and 3 (Surveillance Operations).

III. Prerequisites and Supporting Operations for Regional Pest Surveillance

Prioritization

7. In prioritizing regional pest surveillance activities, one must first identify the main reasons for initiating specific pest surveys, among which are (i) gathering information about the importance and damage of a specific pest, (ii) maintaining trade opportunities, (iii) on-farm pest management, (iv) new pest detections. Coordinating a regional list of key plant crops is another priority for the CAREC region, along with data on how many crops are officially surveyed for pests on a regional basis.

8. Cost-benefit analysis for justifying the pest surveillance program ought to be shared among CAREC countries, especially pest surveys of major crops that are common to most countries. A cost-benefit template could be designed for individual NPPOs to fill in. Regional sharing of pest detection tools for the major crops would focus national surveillance resource requirements such as the use of target-specific traps and lures.

Pest Risk Analysis (PRA) Management

9. A common PRA management plan must be developed for CAREC to ensure consistency in pest information sources and with the ISPM 11 PRA methodology.

10. Pests need to be prioritized based on the likelihood of causing serious impacts on crops. This work needs to be done by a dedicated national PRA team comprising of staff from various NPPO disciplines, with clearly defined roles, information sources, analysis tools, including the ability to interact with the diagnostic laboratory and pest interception database and implement commodity risk categorization.

11. PRA development in CAREC faces three major challenges: (1) the data required to make accurate analyses of the risks throughout the region is often lacking, (2) border and field pest surveillance programs are underdeveloped and (3) the PRA procedures are considered too complex, discouraging take-up among some countries. Regional collaboration for supporting national PRA teams could involve data collection and information sharing, and a consensus on how pests should be prioritized.

Diagnostic Laboratories

12. The NPPO should provide appropriate diagnostic services to support general surveillance and specific surveillance activities. Regional cooperation can support plant health diagnostic laboratory capacity through:

- Sharing of scientific expertise in all disciplines relevant to pest identification, including access to specialists for pest verification;
- Identifying best practices for record keeping and for processing and storing voucher specimens;
- Harmonizing laboratory standard operating procedures;
- Strengthening formal arrangements with laboratories in the CAREC region, such as sharing of pest images to assist in pest diagnosis;
- Verification of diagnostic results with other laboratories;

- Preparation for diagnostic laboratory accreditation;
- Harmonizing training in pest diagnostics.

13. Gaps in national pest laboratory diagnostic capacity must be identified, and resources specified for those diagnostic tests that certain countries are unable to perform. Quarantine pest outbreak responses need to be regionally coordinated to ensure pest spread is reduced and correct control methodology implemented.

Action Plan

14. The Plant Health representatives of the CAREC National Working Groups need to identify and agree on key regional priorities, and then develop an Action Plan for who is responsible for managing each priority task and when each task is planned to be completed. Examples of regional pest surveillance priorities (Appendix 1) could include:

Short Term (1-2 years):

- Sharing of technical resources such as supplier information (e.g. pest traps, data loggers), general identification guides (pest identification fact sheets, diagnostic protocols, taxonomic identification keys, Lucid Keys, etc).
- Regional pest survey manuals that can be commodity-based, taxon-based, or pathway-based.
- International phytosanitary standards should be used whenever possible (e.g. report pest status according to ISPM 8, use EPPO codes for pest/plant names, etc.). Agreement to use EPPO Codes and the EPPO Global Database for regional standardization. EPPO codes are computer codes developed for plants, pests (including pathogens) and constitute a harmonized coding system which aims to facilitate the management of plant and pest names in computerized databases, as well as data exchange between IT systems.⁴

Medium Term (1-3 years):

- A structured, transparent assessment process to identify regional pest threats, including forecasting pest distributions, emergence and invasion patterns.
- Multi-pest surveys that concentrate on multiple, high priority pests for efficiency and economy of survey

Long Term (1-5 years):

- Training materials resources such as regional guidelines for plant pest surveillance, and advocacy materials (posters, brochures and leaflets of quarantine pests).
- Regional data sharing platforms, such as a website, email list, social media account, or applications for mobile devices, should be further explored.
- Open databases (regional pest portal) on climate, crops and pest distributions (e.g. crop and yield forecasting systems) are useful for regional plant pest modelling and PRA modelling.

⁴ EPPO Codes. https://www.eppo.int/RESOURCES/eppo_databases/eppo_codes

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Appendix 1: Potential Pest Surveillance Activities Identified

**CAREC Policy Dialogue on Regional Pest Surveillance Program
25-27 March 2019, Tbilisi, Georgia**

Thematic Cluster	Proposed Regional Initiatives	Potential Activities				Implementation Plan
		National SPS Agencies	Inter-agency Coordination (through SPS national working groups)	CAREC Program	International Development Partners	
1. Legal framework for trade-related measures	1.1 Alignment of plant health legislation to IPPC principles	<p>Review of existing legislation and identification of necessary legislative reforms</p> <p>Development of instructions for amending primary legislation to align with IPPC principles</p> <p>Adoption of International Standards for Phytosanitary Measures (ISPMs)</p>	Inter-agency cooperation between the National Working Group (NWG), National Plant Protection Office (NPPO) and Attorney General's office	<p>Regional/sub-regional workshops on drafting plant health legislation</p> <p>Toolkit, guidance or instructions for lawyers and legal officers in drafting plant health legislation</p>	<p>Partnership and collaboration such as with USAID project on Competitiveness, Trade, and Jobs Activity in Central Asia (C5+1 Initiative) in national and subregional initiatives</p> <p>Use international standards, codes and Global Database maintained by the European and Mediterranean Plant Protection Organization (EPPO)</p>	<p>2019-2020</p> <p>[Review of plant health legislation for MON, PAK and UZB is ongoing or completed. Awaiting confirmation from the government to proceed with assistance on necessary legislative reforms.]</p>
	1.2 Understanding the impact on trade of new European Union (EU) Regulations on plant health, invasive alien		Inter-agency cooperation between NWG and relevant agencies	Support as requested by GEO and could potentially be relevant to AZE. Good practice and lessons learned can be shared to other		2019-2020

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		National SPS Agencies	Inter-agency Coordination (through SPS national working groups)	CAREC Program	International Development Partners	
	species and official controls.			countries exporting to EU		
2. Information portal	2.1 Establishment of a CAREC pest surveillance database/web portal for information sharing	Collection of national data and information sharing - list of major crops to be surveyed, outbreak measures, pest spread mapping, pest alerts, etc National contact persons	Inter-agency cooperation on collection of relevant data	Development of the CAREC database/ web portal for information sharing that may include regional data system on pest surveillance, horizon scanning results, and border pest interception data		2020-2021
3. Development of a CAREC A1 (pests absent in the region)/ A2 (locally present in the region) quarantine pest lists	3.1 Pest Risk Analysis (PRA)	PRA mentoring for the PRA team of NPPOs Developing PRA management plans	Inter-agency coordination between Ministry of Agriculture and Inspection Agencies	(Sub) regional PRA workshop, including import risk categorization	PRA training in collaboration with USAID-CTJ and EPPO	2019-2020 PRA management plan and mentoring work program have been drafted
4. Pest Surveillance	4.1 Surveillance for selectively identified regional priority pests	Quarantine pest surveillance using tools such as rapid test kits and pheromone traps	Inter-agency cooperation with inspection agencies on pest interception information	Sub-regional initiatives according to pest priorities	Collaboration with USAID-CTJ on pest surveillance initiatives in C5 countries	2020-2021

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		National SPS Agencies	Inter-agency Coordination (through SPS national working groups)	CAREC Program	International Development Partners	
	4.2 Joint pest surveillance to establish Pest Free Areas on selected export crops	Sharing of pest presence information	Inter-agency cooperation with inspection agencies on pest interception information	<p>Joint border collaboration (e.g. UZB, KGZ, TAJ)</p> <p>Sub-regional pest surveillance collaboration in areas where there is a concentration of major/ potential export crops</p> <p>Regional support to diagnostic labs, harmonized training on pest diagnostics, lab standard operating procedures, and coordinated response to pest outbreaks</p>		2020-2021
	4.3 Development of a manual for pest surveillance guidelines and procedures for the CAREC region	Submission of best practices, case studies to be included in the manual		Technical advise or support in drafting the pest survey manual	USAID-CTJ doing similar manual for phytosanitary export requirements (C5)	2019-2020
	4.4 Capacity building for CAREC pest surveillance staff	Integrating pest interception in border inspection procedures	Inter-agency collaboration with Customs border officers for training	(Sub) regional dialogue to promote coordination of surveillance including sharing of best practices	Collaboration with EPPO countries' diagnostic laboratories	2019-2020

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		National SPS Agencies	Inter-agency Coordination (through SPS national working groups)	CAREC Program	International Development Partners	
		Field pest surveillance training Training on laboratory diagnostics – advanced equipment & taxonomy				

USAID-CTJ – United States Agency for International Development-Competitiveness, Trade and Jobs Project

EPPO - European and Mediterranean Plant Protection Organization