

Trade Development

Briefing Note

Issue 4, July 2010



Operating costs of trade-related sanitary and phytosanitary surveillance activities in the Lao PDR

Key messages

A growing trend faced by exporters trying to access international agro-food markets is the requirement for information about the pest, disease and food safety situation in the exporting country. This information is derived from sanitary and phytosanitary (SPS) surveillance and monitoring activities. Yet, implementation of these activities needs more than the initial capital investments and training provided by external sources. Sustainability requires public funding of substantial recurrent costs. However, decision makers in Government have little knowledge about the tasks to be performed and the costs involved.

A new study by the World Bank¹ provides recommendations for expanding surveillance, testing and diagnostic activities in the Lao PDR for the next five to seven years, and assesses minimum levels of additional public funding needed. In the short to medium run, cost-efficient methods to expand surveillance can be applied such as the use of rapid test kits and subcontracting of confirmation testing to laboratories abroad. The report also makes recommendations on ways to improve efficiency through the clearer delineation of responsibilities among existing SPS laboratories.

Methodology

The assessment makes use of information from three sources:

- Technical staff of relevant government agencies identified pertinent cost items for the various activities they are carrying out.
- Cost information, especially laboratory test fees, from Thailand and Vietnam provided benchmark information on cost levels in well-established laboratories in the region as well as costs of purchasing diagnostic services as an alternative to conducting tests by Lao PDR laboratories.
- International laboratory specialists provided information and stylized estimates for the costs of use of expensive laboratory equipment.

The work focuses on surveillance and diagnostic activities that include the collection of samples, diagnostics of pests and diseases, and testing of safety of agricultural and food products and agricultural inputs. An important assumption is that facilities, such as laboratories, and certain equipment are already or will soon be available and operational. Moreover, general expenditure items that are part of the regular public budget for laboratories such as utilities and salaries of staff are not included in the estimation. For laboratory tests, assessments assume a minimum workload of 500 tests in a year needed to maintain proficiency of staff and to make efficient use of advanced equipment and facilities.

Estimated operational costs consist of, among others:

- transportation and purchasing costs for sample collection;
- costs of chemical reagents and solvents;
- costs of outsourcing of tests;
- calibration and maintenance of laboratory equipment;
- maintenance of information systems;
- participation in proficiency testing schemes and training; and
- cost of accreditation services for testing activities.

Surveillance and monitoring activities

Sanitary and phytosanitary measures aim to protect human, animal and plant health against the introduction and spread of pests, diseases and harmful chemicals via the entry of imported agricultural and food products from abroad. Similarly, SPS measures benefit and promote domestic production, and in turn the production networks on which exports are

based, by monitoring and controlling pests, diseases and harmful chemicals along the entire food supply chain.

Surveillance and monitoring activities are important:

- to detect and, thereby, help to control hazards; and
- to provide information on pests, diseases and food hazards
 - to guide policy makers on adopting appropriate measures, priority setting and resource allocation;
 - to provide input for risk analysis; and
 - to comply with requirements of trading partners for information on the pests and disease situation and food hazards within the exporting country.

Such activities are especially important for countries with long porous borders, such as Lao PDR, where border controls may not be the most effective or cost-efficient method to manage agricultural and food hazards. Surveillance and monitoring activities rely heavily on capable and efficient diagnostic laboratory support (at home or abroad) that should have capacities to perform physical, microbiological and chemical analyses.

Lao PDR SPS institutions

The primary SPS institutions in the Lao PDR are the Ministries of Health (MOH), and Agriculture and Forestry (MAF). The Department of Agriculture (DOA) and the Department of Livestock and Fisheries (DOLF) of MAF are responsible for plant and animal health, respectively. Food safety, however, is a shared responsibility among various offices of both MOH and MAF. The Food and Drug Department (FDD) under the MOH is responsible for processed or semi-processed food products. FDD shares the responsibility for the management of food-borne diseases with the Hygiene and Prevention Department (HPD) of MOH. The proper use and safe levels of pesticides in food products, safe formulations of fertilizers and pesticides and the presence of heavy metals and other pollutants in soils and fertilizers are shared concerns of the FDD with the DOA. Likewise, safe use and levels of veterinary drug residues, proper formulation of veterinary drugs and animal feed, and safety of animal and fish products are food safety concerns shared with the DOLF.

The relevant agencies that provide support to surveillance and monitoring activities are the following:

- the Food and Drug Quality Control Center (FDQCC) under FDD;
- the National Central Laboratory for Epidemiology (NCLE) under the HPD;
- the Plant Protection Center (PPC) under the DOA; and
- the National Animal Health Center (NAHC) under the DOLF.

Recommendations

On investments: build-up of laboratory capacity should take into consideration demand and available cost-effective alternatives to several lumpy investments.

Testing and diagnostic facilities and equipment require significant investment. Also, there are requirements to the efficient and sustainable use of advanced testing equipment such as (1) sufficient volume of tests (at least 500 per year), (2) availability of chemicals, (3) continuous supply of power and air conditioning, (4) regular maintenance and calibration, and (5) participation in a proficiency testing scheme. However, in some areas there is not yet enough demand to justify investment in expensive testing equipment. A short- and medium-term alternative is to make use of rapid test kits for initial diagnosis and to subcontract to laboratories abroad for confirmation testing.

¹ World Bank (2010) *Lao People's Democratic Republic: Operating costs of trade-related SPS activities*. Poverty Reduction and Economic Management Sector Department, East Asia and Pacific Region, Washington, D.C.

On institutions: a consolidated national SPS laboratory would provide economies of scale and is—at least from a technical point of view—the preferable solution for building laboratory capacity in Lao PDR.

If it is not feasible to consolidate laboratories, the next-best alternative is to design a clear delineation of functions with assignment of lead roles and specializations for each of the institutions.

The following division of responsibilities is recommended:

- FDQCC leads on food microbiology and food chemistry, including pesticide residues, and mycotoxins;
- PPC leads on heavy metals, and composition and quality of pesticides; and,
- NAHC leads on composition and quality of veterinary drugs and vaccines, residues of veterinary drugs in food, zoonoses in and microbiological safety of unprocessed animal products.

Lao PDR is too small to justify parallel capacities in most areas of food safety testing. The three institutions in place—FDQCC, NAHC and PPC—have common interest in various areas of surveillance and testing, such as pesticides, veterinary drugs, mycotoxins and heavy metals. The proposed division of responsibilities would allow for the use of each other's expertise and capacities. The above institutional arrangements also call for coordination on responsibilities, procedures, and sharing of information. There should be clear procedures, especially among agencies from different Ministries, on submission of samples, provision of certificates, and cost recovery mechanisms.

On funding: the amount of additional public operational funding needed to conduct the recommended volume of activities is about US\$ 800,000 each year.

Table 1 presents the breakdown of the estimated operational cost for recommended activities for the next five years. The total operational budget needed to carry out recommended expanded activities amounts to about US\$1 million a year (about 8.5 billion Kip). More than half (68 percent) is for animal health (and related food safety and human health protection), primarily for animal health surveillance and diagnostics, half of which is for Highly Pathogenic Avian Influenza (HPAI).

The present operational budgets allocated from Government sources are estimated to be in the range of US\$50,000 annually. In some cases temporary small budgets are available from foreign funded projects; the main exception is the sizable external funding for HPAI, which is currently about \$237,000 for surveillance and testing. If the HPAI external funding will continue in the medium term, additional public funds of about US\$800,000 each year would be needed to achieve the recommended volume of activities. One option to reach this target might be to increase public funding incrementally by US\$ 160,000 per year for five years.

Priority activities that may be expanded first in the near future are the use of rapid test kits and plant pest and disease surveillance. Subsequently, other active and passive surveillance activities can be gradually stepped up. A rolling annual plan will be needed to guide priority in allocations.

Key requisites to recommendations

Several requirements are critical to successfully expand operational budgets:

1. Institutional and legislative framework

Expanding capacity in surveillance, testing and diagnostics assumes that proper institutional and legislative frameworks are or being put in place already with support from the Trade Development Facility and other projects.

2. Volume of work

The volume of sample collection should be sufficient for the building and maintaining of proficiencies of staff and utilization of laboratory capacity. The current volume of samples does not justify further addition of equipment, staff and accreditation.

3. Equipment and facilities

In the medium and longer term, the purchase of equipment, facilities and structural adjustments may be needed to broaden the range of testing parameters.

4. Human resources

In all areas there is a dearth of trained specialists, inspectors and laboratory technicians to conduct surveillance, collect samples, and to carry out diagnosis and tests.

5. Information management

Information management should be performed by setting up a database in each of the three areas and employing a staff solely working in data management and analysis. Without ensuring proper use of the information, the benefits from surveillance, testing and diagnostics will be meager.

Table 1: Summary of estimated operational costs (US\$)

FDQCC (Food safety)	170,200
Surveillance	23,200
Microbiology	27,000
Pesticides residues, Variant 2	72,000
Mycotoxins, Variant 2	14,500
Heavy metals	17,000
Food-borne diseases	15,000
Data management	1,500
PPC (Plant health and food safety)	156,600
Pest surveillance	57,000
Purchased pest identification	5,000
Post-entry quarantine	3,000
Pesticide residues	22,600
Pesticide formulations	52,500
Heavy metals (soil and fertilizer)	15,000
Data management	1,500
NAHC (Animal health and food safety)	706,000
Surveillance	164,000
Diagnostic testing	310,000
Veterinary drug residues	25,000
Drug and vaccine quality	35,000
Animal and fish products (microbiology and zoonoses)	10,000
Safety of animal feed	60,000
Readiness, variant 2: vaccines	100,000
Data management	2,000
Total SPS	1,032,800



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Information contained in this briefing note reflects the views of the authors, and not necessarily those of the World Bank Group.

Produced with resources from the Trade Development Facility Multi Donor Trust Fund, financed by the European Commission and the Government of Australia, and administered by the World Bank.

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