Report No: AUS7462

Nepal

Nepal Trade Facilitation & Competitiveness

Nepal's Trade of Agriculture and Food Products

SPS-related Issues and Proposed Solutions

January 2015

GTI06

SOUTH ASIA

Nepal's Trade of Agriculture and Food Products: SPS-related Issues and Proposed Solutions

By

Kees van der Meer[1]

SPS and Trade Facilitation Specialist
World Bank consultant

Supported by

Mr. Murari Prasad Gautam Upadhya

Project Manager/Technical Advisor NIRTTP/PCO

and other PCO staff

January 2015

[1] This report is based on information of many persons and sources. The interpretation and conclusions are the sole responsibility of the Consultant.

Table of Contents

Acknowledgement

The Consultant is very grateful for the support received from government agencies, private sector entities and development partners. Special thanks go to the excellent support from the NIRTTP Project Coordination Office, in particular Mr. Mahesh Timsina, Project Coordinator and Mr. Murari P. Gautam Upadhya, Project Manager/Technical Advisor. World Bank staff Ms. Diep Nguyen-Van Houtte and Mr. Gerard McLinden provided helpful comments.

Abbreviations and Connotations

AEC	Agro-Enterprise Center
CIQ	China Inspection and Quarantine
DFTQC	Department of Food Technology and Quality Control
DOA	Department of Agriculture
DOC	Department of Customs
DOLS	Department of Livestock Services
DPR	Department of Plant Resources
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FNCCI	Federation of Nepalese Chambers of Commerce and Industry
GAP	Good agricultural practice
GHP	Good hygiene practice
GMP	Good manufacturing practice
HACCP	Hazard analysis and critical control point
HMF	5-hydroxymethylfurfural
ICD	Inland containers depot
ICP	Integrated checkpoint
IPPC	International Plant Protection Convention
ISO	International Organization for Standardization
ISPM	International standards for phytosanitary measures
MAPs	Medicinal and aromatic products
MOAD	Ministry of Agricultural Development
MOCS	Ministry of Commerce and Supplies
MRA	Mutual recognition agreement
MRL	Maximum Residue Limit
NBSM	National Bureau of Standards and Metrology
NIRTTP	Nepal-India Regional Trade and Transport Project
NPPO	National Plant Protection Office
NTIS	Nepal Trade Integration Study
PACT	Project for Agriculture Commercialization and Trade
PC	Phytosanitary certificate
PCO	Project coordination office
PFA	Pest-free analysis
PRIP	Policy Reform Initiative Project (USAID)
PRA	Pest risk assessment
SPS	Sanitary and Phytosanitary
STDF	Standards and Trade Development Facility
TA	Technical assistance
TBT	Technical Barriers to Trade
TOR	Terms of reference
US	United States of America
USAID	United States Agency for International Development
WTO	World Trade Organization

Executive summary

1. **Background of the report.** The development objective of the Nepal-India Regional Trade and Transport Project (NIRTTP)[2] is to decrease transport time and logistics costs along the Kathmandu-Kolkata corridor for the benefit of traders. Sanitary and phytosanitary (SPS) measures contribute significantly to time and costs and some of these can be reduced. There are occasional requirements by import authorities in India to send samples to a laboratory in India[3] for testing because SPS certificates from Nepal are not recognized. Nepal has also market access problems because it lacks capacity for SPS management. Since Customs faces technical constraints in clearing goods, suggestions have been made for building co-located multi-functional laboratories at Kathmandu and at the border near Birgunj for facilitating border clearance. From 16-29 November, 2014, an assessment was made of (i) SPS capacity needed for market access and health protection; and (ii) laboratory services needed in SPS and Customs clearance.

2. **Trade.** Birgunj is the main border checkpoint for trade in goods subject to SPS measures. In 2013, Nepal had recorded exports and imports subject to SPS measures of about US$ 250 million and US$ 1.16 billion, respectively. One-quarter of these exports and more than half of these imports were cleared at Birgunj while one-third of exports and 13% of imports were cleared at Biratnagar. It is noteworthy, however, that there is a significant amount of informal exports and imports.

3. **SPS requirements.** Market access for plant products is most important for Nepal's exports. Phytosanitary requirements for most plant products are dominant in India, China and most other countries. Food safety requirements are usually less constraining, unless there is a history of non-compliance. About 70 percent of Nepal's exports go to India. Nepal presently does not have any capable food safety laboratory with accreditation and insufficient capacity in plant pest surveillance and diagnosis that meets Indian requirements. Working relations between SPS authorities in Nepal and India are limited and their improvement could enhance transparency and mutual trust. Three years ago Nepal and Tibet Autonomous Region, PR China, agreed on a SPS protocol for citrus exports, but successful implementation is pending because Nepal cannot meet the requirements yet. Private buyers often add additional safety and quality requirements to those of the importing country.

4. **Nepal's current SPS system has major capacity gaps and weaknesses in WTO compliance:** (i) the SPS system is not risk-based; (ii) the food control system is mainly focused on quality requirements, not on food safety requirements; (iii) SPS agencies and laboratories suffer from frequent rotation of staff; (iv) insufficient capacity in plant pest surveillance and diagnostics; (v) no capacity to control pesticides; (vi) SPS import inspection is hardly in place and ineffective; and (vii) there is at present no testing capacity and accreditation for food safety parameters in microbiology, pesticide residues, veterinary drug residues, heavy metals, other pollutants and mycotoxins in any of the food laboratories including the Central Food Laboratory.

5. **Sustainable investment in laboratories.** Government regulatory agencies and private enterprises need access to laboratories. But, sustainability of investment in laboratories is a major challenge for developing countries. The cost of laboratories is generally high. Investment costs are often not the bottleneck, since donors provide funds and, if well maintained, equipment may have an economic life of 5-8 years. Crucial factors for sustainability of laboratories are: (i) availability of sufficient operational funding; (ii) a sufficiently large stream of samples; and (iii) experienced and dedicated laboratory staff.

[2] Nepal-India Regional Trade and Transport Project (NIRTTP). World Bank Report No. 78199, 3 June 2013.
[3] Choice at convenience of the exporters is Kolkata or Patna of Bihar or Lucknow of UP.

6. For Nepal the option of co-location of SPS and Customs laboratories in an integrated institution has been raised as a possibility for reducing costs. However, there are technical constraints about co-location and benefits are mainly restricted to overhead. An important institutional obstacle for integrated institutions is that plant health, animal health and food safety authorities each have their own legal mandates that can only be changed by new legislation. Shared use of laboratory services also requires sophisticated rules for funding and accounting. Therefore, it is uncommon in most countries to combine plant diagnostics, animal disease diagnostics, food and chemical laboratories in one institution.

7. Testing in regulatory laboratories depends largely on government programs and funding. Private laboratories focus on service that satisfies customers (e.g. operation 7x24 hours and rapid turn-around). Their income from government services is mostly limited.

8. **Considerations for proposed investment in laboratories.** Duplication of public laboratory services is undesirable for expensive equipment because it increases need for government funding and can worsen sustainability of laboratory functions. Therefore, most countries have an apex laboratory structure for regulatory laboratories and samples for expensive chemical testing are sent to the central laboratory. Priority for expensive chemical food testing is to strengthen the Central Food Laboratory in Kathmandu.

9. A laboratory for pest-free analysis (PFA) reports at the border checkpoint is uncommon. International practice is that phytosanitary certificates (PC) certify the pest-free status of the consignment as required by importing authorities. If India would recognize Nepalese PCs then a PFA is redundant. The real problem is lack of capacity of the Nepal National Plant Protection Office (NPPO) to issue credible PCs. By international standards, plant pest screening and issuance of PCs always needs backup from crop pest surveillance, a reference laboratory, and inspection at production and/or packing locations. Nepal does not have a national reference laboratory for diagnostics of plant pests and diseases and its pest surveillance methodology and coverage are deficient. Without addressing these deficiencies, even investment in screening capacity on the border is of limited use.

10. Customs laboratories should focus on testing needed for support of raising revenue and controlling fraud and smuggling. The present Customs laboratory in Kathmandu has limited capacity and structural, climatic and safety deficiencies. At the border checkpoints, Customs lacks back-up from rapid tests and screening, and considers especially screening for chemicals high priority.

11. A product focus can be desirable for product-specific SPS risks and market access. For example, soil on root products forms a special phytosanitary risk for ginger imports in other countries, which can only be addressed by adequate washing facilities for ginger. Quarantine pest lists of the importing country often require product specific care in surveillance, mitigating treatment and inspection. However, most SPS capacity needed is basic and cross-cutting and therefore, senior officers in SPS agencies do not support the idea of having priority export products as an important consideration for investment in laboratories.

12. **Recommendations.** The proposals for NIRTTP have been developed against (i) recommended overall SPS policy priorities; and (ii) ongoing support from development partners.

Recommended SPS policy priorities:

- Improve compliance with WTO requirements by introducing risk-based SPS measures.
- Follow good international practice and develop safety requirements for food products, in particular Maximum Residue Limits (MRLs) for pesticides residues, veterinary drugs and growth enhancers, mycotoxins and other contaminants, and tolerances for microbiological contamination.
- Address retention of SPS specialists in laboratories and inspectorates.

- Tasks of Customs and SPS agencies need alignment. The principle of "quarantine release before Customs release" is properly enacted, but implementation is insufficient.
- Laboratory support for Customs should focus on support for revenue collection, control of smuggling and fraud, and rapid release at the checkpoints.
- SPS controls at border checkpoints deserve improvement with regard to international SPS good practice, since presently they are low effective.

13. ***Donor support for SPS.*** NIRTTP support should not overlap with support by other agencies. No other agency supports laboratory capacity for Customs. However, in the SPS area several other agencies provide support.

14. The World Bank Project for Agriculture Commercialization and Trade (PACT) has a small component to improve SPS services, including laboratory capacity, with equipment, training and support for accreditation, mainly in the Department for Food Technology and Quality Control (DFTQC). Much of the support has been allocated for strengthening and accreditation of quality controls.

15. The USAID Policy Reform Initiative Project (PRIP) focuses on policy reform in the SPS area.

16. A new EU project will enhance the capacity of the DFTQC Central Food Laboratory and the regional food testing laboratory at Biratnagar. It will extend accreditation to food safety parameters, including pesticide residues. The project will also support National Bureau of Standards and Metrology (NBSM) laboratories for testing vegetable fats and oils and microbiology parameters, and provide technical assistance to prepare a training program on the application of GHP, GMP, and HACCP in the tea, coffee, dairy processing, and meat processing industries.

Recommendations for NIRTTP:

- Establish a plant diagnostic reference laboratory and support the enhancement of a program for pest surveillance.
- Upgrade the Customs laboratory in Kathmandu.
- Establish at the border checkpoint at Birgunj screening laboratories for Customs, food safety, plant quarantine and animal quarantine, preferably co-located with separate rooms (or in laboratory buildings in or near the border checkpoint).
- Adequate space in buildings at suitable locations will be needed for the laboratories. (A difficulty for planning screening laboratories on the Birgunj border is that Nepalese authorities seem to be uncertain about time of delivery of works at the Integrated Check Post or ICP.)

17. **Proposed next steps.** This report provides steps for implementing the proposals in the next 2-3 years. The first step is to have Government endorsement for the proposals. After approval the Government of Nepal might consult with Indian SPS authorities, aiming at obtaining cooperation in SPS capacity building and building mutual trust. Other steps include the recruitment of international phytosanitary and chemical laboratory specialists for designing the proposed investment plans. Outline Terms of Reference (TOR) for the international specialists are provided.

Introduction

18. **Background of the report** The development objective of the Nepal-India Regional Trade and Transport Project [4] is to decrease transport time and logistics costs for bilateral trade between Nepal and India and transit trade along the Kathmandu-Kolkata corridor for the benefit of traders by reducing key infrastructure bottlenecks in Nepal and by supporting the adoption of modern approaches to border management. Its Component B: Strengthen Trade-Related Institutional Capacity in Nepal, has a sub-component "Improvement of Trade-Related Laboratories" (with indicative budget of US$3m), including laboratories for Customs and sanitary and phytosanitary testing for food safety, plant quarantine and animal quarantine. The project document mentions the possibility of co-located multi-functional laboratories for facilitating the border clearance process.

19. In recent years, concerns have been raised in Nepal by government agencies and the private sector about occasional requirements by import authorities in India to send samples to Kolkata for testing because certificates from Nepal were not recognized. In the Aide Memoire of the NIRTTP Implementation Review and Support Mission[5] the question was raised whether investment in trade-related accredited integrated laboratories for SPS and Customs functions are desirable and feasible, e.g. one at Kathmandu Valley and one at a border checkpoint. It was agreed that as next steps the government would prioritize export products that should be promoted through consultation with public and private sector stakeholders, and that the Bank would send an international expert on laboratory certification to review assessments done and to propose an action plan for moving forward, including helping the Department of Customs (DoC), the Ministry of Commerce and Supplies (MoCS), and the Ministry of Agricultural Development (MoAD) to draft Terms of Reference (TOR) for a consultant to begin the design of the laboratories.

20. Work conducted. The Consultant visited Nepal during 16-29 November, 2014 and, in close cooperation with the NIRTTP Project Coordination Office (PCO), conducted interviews with public and private stakeholders in Kathmandu and Birgunj, and organized on Monday, 24 November a consultative workshop with stakeholders in Kathmandu. The list of interviewed persons is attached as ANNEX I. In addition, information was collected about foreign trade of products that might be subject to SPS requirements, i.e. (i) agriculture and food products, and (ii) medical and aromatic products (MAPs). It also appeared necessary to collect information about activities and experiences of projects supported by Development Partners, especially the EU, the World Bank Project for Agriculture Commercialization and Trade, and USAID.

21. The agencies and stakeholders directly involved in this initiative include the Ministry of Commerce and Supplies, Department of Customs, Department of Agriculture (DoA), Department of Livestock Services (DoLS), Department of Food Technology and Quality Control, and the Agro-Enterprise Center of the Federation of Nepalese Chambers of Commerce and Industry (AEC/FNCCI).

22. **Structure of the report** The subsequent chapters of this report cover the following:

- Exports and imports subject to SPS measures
- Nepal's SPS system: critical policy issues
- Basic capacity for SPS management
- Sustainability of SPS laboratories
- Demand for SPS laboratory services
- Conclusions and recommendations

[4] Nepal-India Regional Trade and Transport Project (NIRTTP). World Bank Report No. 78199, 3 June 2013.
[5] World Bank, Aide Memoire, 22 October, 2014.

Exports and imports subject to SPS measures

23. WTO members have the right to take sanitary and phytosanitary measures necessary for the protection of human, animal or plant life or health, provided that such measures are not inconsistent with the provisions of the SPS Agreement. All imported plants, animals and products thereof, including food and feed, can cause risks to the life and health of consumers, animals, plants and the biodiversity, and are therefore subject to sanitary and phytosanitary measures.

24. **Exports.** In 2013, Nepal had recorded exports of about US$ 250 million of products that are subject to SPS measures. (See Annex II Table II.1) The exports include a broad range of products. Among these, there were 25 products of which the export value was more than US$ 1 million and their total value was US$218 million and 36 products with export value of more than US$ 0.5 million with a total export value of US$225 million. Important products include:

- ***Agriculture crop commodities:*** cardamom, big cardamom, black fermented tea, lentils, betel nut and ginger;
- ***Processed products:*** fresh and frozen fruit juices, oil cakes, pasta; and
- ***Medicinal and aromatic products:*** these include plants and parts of plants (including seeds and fruits) of a kind used primarily in perfumery~ in pharmacy or for insecticidal or similar purposes.

Export value of animals and animal products is relatively limited.

25. **Imports.** In 2013, recorded imports subject to SPS measures were about US$ 1.16 billion (See Annex II Table II.2). Of these, there were 43 and 109 products with import values of US$ 5 million and US$ 1 million, respectively, and total import value of US$ 0.94 billion and US$ 1.10 billion. Most imported products are processed food, and agriculture crop products, including cooking oil, fruit and vegetables. Animals and animal products form a small share of imports and import of MAPs is limited.

26. **Informal export and import.** Nepal has an open border with India and in addition to recorded formal exports and imports of agriculture and food products there is much informal trade, especially with India. According to independent specialists, much more agricultural and food products are exported informally than formally, mostly potatoes, rice and vegetables from border districts. The Nepal tax system is said to provide incentives for informal export. By legislation, tax can be levied in the district of production and the district of consumption. However, districts also tax transiting cargo, which means that there is costly accumulation of taxes between production areas and Kathmandu. Informal trade with China is of much smaller scale and concentrated in particular locations, but may include some export of highly valuable MAPs. Informal imports include a range of products, including goats and buffalo.

27. The implications of informal trade are that there is no protection against health risks and that there is no tax revenue.

28. **Border checkpoints.** In 2013, one-third of all recorded exports were cleared at Biratnagar, followed by Birgunj with one-quarter and Tribhuvan International Airport with about one-fifth (Annex II Table II.3). More than half of all recorded imports enter the country at Birgunj and Birgunj Dry Port. Bhairahawa handles 15 % and Biratnagar 13% of imports.

29. Recorded exports subject to SPS controls contribute 27% of the export value. Most exports subject to SPS controls are released at Biratnagar (37%), Birgunj (27%) and Mechi (20%) (Annex Table II.4). Birgunj and Birgunj Dry Port together have the biggest share in handling recorded imports subject to SPS with 57%, followed by Bhairahawa with 20% and Biratnagar with 16%.

Export market access

30. Given their dominant share in trade, market access for plant products is most important for Nepal's exports. Second priority is access for processed food products.

Formal market access in India

31. About 70 percent of Nepal's formal exports go to India and therefore market access requirements in India are very important. There are clearly SPS issues with market access to India, but much information is anecdotal and without detailed interviews of traders and officials on both sides of the border and assessment of India's SPS imports policies and its implementation it is not possible to pinpoint exact bottlenecks. The implementation of SPS requirements among different border checkpoints apparently differs and may be subject to discretionary powers by authorities in different Indian states. Experiences differ among products and allegedly rent-seeking may also affect decision-making. The formal requirements for food safety and plant quarantine are provided and some experiences discussed below.

32. **Initial market access** for plant products requires that they need to be listed in the Plant Quarantine Order of India. If this is not the case products may be refused access because of suspicion that they may be in transit from China. Listing requires a formal request from Nepal to India and can perhaps trigger a pest risk assessment (PRA) by India before the listing is approved. For most processed food products no special market access approvals are required.

33. For **regular shipments** of approved plant products, the formal requirements for each consignment are that a random sample is taken and that for release (i) a pest-free analysis report and (ii) a pesticides residues report are required from the importer. An alternative for regular exporters of plant products to India is to obtain through an agent a special approval for a number of months or for the growing season. For this, traders need to present a so-called "type sample" of their product to the Indian authorities. The approval takes time and is costly, but the advantage is that subsequent imports are smooth.

34. Special issues for SPS management are that India requires phytosanitary certificates from Nepal but does not seem to recognize them and neither does India recognize the capacity of SPS testing laboratories in Nepal to provide test reports on pesticides residues. As a result, Indian authorities can and do sometimes require for some products at some border checkpoints that pest-free analysis and tests for pesticides are conducted at a laboratory in India[6] which requires long turn-around times of 7-10 days. However, it was reported that in Birgunj Indian importers manage to avoid long delays. There are concerns about rent-seeking on the Indian side of the border, which do raise transaction costs and in some cases result in increased waiting times. It is generally believed that the government of Nepal should ask for a Mutual Recognition Agreement (MRA) to solve SPS issues in bilateral trade, but that most likely India will respond that Nepal presently does not have any capable food safety laboratory with accreditation and insufficient capacity in plant pest surveillance and diagnosis.

35. At present working relations between Nepalese and Indian SPS authorities are limited and their improvement could enhance transparency and mutual trust.

Formal market access in China

36. PR China has demanding phytosanitary requirements. Market access for each product requires a signed protocol. So far Nepal only signed a protocol with Tibet Autonomous Region, PR China, for citrus

[6] Choice at convenience of the exporters is Kolkata or Patna of Bihar or Lucknow of UP.

exports three years ago. In order to implement this protocol, Nepal needs crop pest surveys of which the results need to be approved by China Inspection and Quarantine (CIQ). China has specified 24 quarantine pests, of which according to Nepalese specialists about 20 are absent in Nepal. However, no evidence based on international surveillance standards has been provided. After approval, it is likely that registration of production areas, traders, and packing houses will be required.[7] So far, successful implementation is pending and food safety requirements are not fully clear yet.

Formal market access in other countries

37. Market access requirements can vary much country by country, but phytosanitary requirements are likely to be dominant in most countries. They can be specific for plant species and pests and diseases.

38. Food safety requirements are generally not dominant, unless there is a history of non-compliance for certain food safety parameters. Food safety testing costs can be high, e.g. for the EU, because of the range of test parameters and tolerance levels. Sometimes, Good Agricultural Practice (GAP), Good Hygiene Practice (GHP), Good Manufacturing Practice (GMP), Hazard Analysis Critical Control Points (HACCP), and health certificates are required.

Requirements of private buyers

39. Often requirements of buyers are additional to the requirements of the importing country. They differ much between market segments, e.g.:

- In demanding markets, such as supermarkets and branded food companies in the EU, Japan, private inspection companies are often used for certification of safety and quality parameters.
- Less demanding markets, such as the modern sector in developing countries.
- Markets with low requirements, which are typically traditional market segments in developing countries, including wet markets.
- Private buyers in demanding markets can have many requirements. Food safety requirements can include GAP, GMP, HACCP, ISO 22000, etc. Often there is routine testing for each shipment, with preference for private laboratories (which provide 7x24 hours service with short turn around). Some private schemes accept third party laboratories only. The choice of laboratories depends in addition to trust also much on logistics.
- Quality requirements also differ much depending on the product and its commercial purpose. Often there is routine testing for each shipment. Public mandatory quality standards are mostly not useful for private buyers, or even a burden. Increasingly, requirements include environmental and labor conditions. Control of storage pests is common, but generally there are no other private requirements on plant and animal quarantine, except by seed and breeding businesses.
- Special requirements from buyers of MAPs include testing reports about concentrates of essential oils and active ingredients. This is about product characteristics, not SPS requirements. Technical capacity requirements for tests can be very diverse.

Nepal's SPS system: critical policy issues

40. The current SPS system has major capacity gaps and weaknesses in WTO compliance. Some of these weaknesses are being addressed with support from development partners, which need to be taken into consideration while designing improved laboratory capacity (See Chapter VIII).

[7] In protocols with countries in Southeast Asia such requirements are common.

SPS system not risk-based

41. The present SPS system is not compliant with the WTO SPS Agreement. SPS measures should be risk-based and controls should be proportionate to risk. This requires risk categorization of products and processes, which still has not received attention. Adoption of risk-based management will shift attention from routine controls to prevention and targeted controls, and the need for laboratory testing may turn out to be much lower than assumptions based on the present non-risk based system. USAID is providing support for adopting risk-based management.

Food control system mainly based on quality requirements

42. Nepal has about 115 mandatory food product standards which contain mainly minimum quality requirements and only a limited number of safety requirements. Good international practice suggests that, generally, quality standards should be voluntary, and that mandatory standards (called technical regulations in the Technical Barriers to Trade (TBT) Agreement) should only be used where necessary for the protection of safety, environment, and consumers. Food safety requires SPS measures with Maximum Residue Limits for chemical and microbiological contamination. The main DFTQC Central Food Laboratory has accreditation for 27 food quality parameters, not food safety parameters. Much of the capacity for quality testing is not relevant for international food safety requirements. Legislation and the policy framework for food safety are deficient. USAID and the EU are supporting formulation of food safety policy, testing capacity and accreditation for food safety parameters.

Inability to retain specialist staff

43. Diagnostics, testing, and quarantine inspection require high level specialists, of whom training is costly and requires much time. Frequent rotation of staff is a serious obstacle for building sustainable capacity in laboratories and inspectorates. Much international support has been provided for training in the country and abroad, but often after training the trained staff move to better paying employment in and outside of government.

Basic capacity for SPS management

Insufficient capacity in plant pest surveillance and diagnostics

44. Plant quarantine capacity, which is highest priority for market access for plant products, is very weak. International standards (i.e. the International Plant Protection Convention (IPPC)'s International Standards for Phytosanitary Measures (ISPM)) have been adopted with international support, but there is no implementation. A main shortcoming is that there is only ad hoc pest surveillance and no central diagnostics laboratory with specimen collection. There are insufficient numbers of specialists in pathology, entomology, taxonomy, etc., in the country. Capacity in plant quarantine is critical for (i) market access negotiations for plant products; (ii) developing quarantine and non-quarantine pest lists; and (iii) issuance of reliable phytosanitary certificates.

No capacity to control pesticides

45. Nepal has pesticides registration in place, but there is no market surveillance and no laboratory to control the approval status, prescribed quality and labeling requirements of pesticides in the market. These

issues are overlooked in public documents such as the agricultural development strategy[8] and present donor support.

SPS import inspection

46. SPS import inspection is hardly in place and ineffective. Samples are taken of every incoming consignment and papers are inspected, but at the main import checkpoint, Birgunj, testing is generally not conducted and no interceptions are being reported for food, plant and animal products.

47. The legal principle of the sequence in border release processes is correct: quarantine release before Customs release. However, the lay-out of border checkpoints is not suitable for correct implementation and quarantine inspectors are not operating in the Customs area but located behind.

Capacity for food safety surveillance and testing

48. There is at present no testing capacity and accreditation for food safety parameters in microbiology, pesticide residues, veterinary drug residues, heavy metals, other pollutants and mycotoxins in any of the food laboratories including the Central Food Laboratory.

49. There is an urgent need to build this capacity, which EU support is addressing. However, since testing for chemical parameters is often more expensive than quality testing, there will be competition for skilled staff and funding within the DFTQC Central Food Laboratory.

Sustainability of SPS laboratories

50. Sustainable use of SPS laboratory capacity is a major challenge for developing countries. This chapter discusses the main issues.

Cost of laboratories is generally high

51. Costs of SPS laboratories depend on the area and range of parameters. **Investment costs** are (i) high for:

- Food safety testing for chemical parameters for the international markets
- Animal disease control
- Quality testing of veterinary drugs and bio-active substances

(ii) moderate for:

- Quality of pesticides

(iii) low to moderate for:

- Plant pest and disease diagnostics
- Microbiology in food

[8] Ministry of Agricultural Development 2014. *Agriculture Development Strategy (ADS) 2014*, Singhdurbar, Nepal. See also Nepal Country Report in: FAO 2013. *Advancement of Pesticide Regulatory Management in Asia.* RAP publication 2013/08.

52. Investment costs are often not the bottleneck, since donors provide grants, and if well maintained, equipment may have an economic life of 5-8 years.

53. **Annual operational costs**, however, are usually much more constraining since donors are reluctant to pay for them and operational funding largely depends on Government. They are usually about 25% of investment costs in equipment and include expenses for:

- Participation in proficiency testing and maintaining accreditation
- Maintenance and calibration
- Expensive chemicals and standards needed for testing
- A minimum number of tests per year for maintaining proficiency and operational functioning of advanced testing equipment: it requires preferably 1000-2000 tests per year for advanced equipment and a minimum of at least 500 tests per year
- Collecting sufficient numbers of samples through active and passive surveillance and sending them to laboratories

Staff requirement

54. Staff requirements depend on the kind and range of tests. Specialized equipment and testing parameters require significant special training, and reliable results require experience and proficiency of staff. Staff cannot easily be reallocated to other equipment and other tests. Therefore, if a specialized staff takes another job, the laboratory may not be able to continue testing until replacement staff has been trained. Therefore, more than one staff has to be trained for sustainable use of sophisticated equipment.

Crucial factors for sustainability of laboratories

55. There are many examples of laboratories and testing capacity in developing countries that are not sustainable. Main factors for sustainability are:

- Availability of sufficient operational funding
- A sufficiently large stream of samples
- Experienced and dedicated laboratory staff

Co-location of laboratories

56. Given the sustainability constraints, the question arises whether co-location of laboratories (or integrated laboratories) would mitigate bottlenecks of funding, samples and staff. For Nepal the option of combining SPS and Customs laboratories in an integrated institution has been raised.

57. Different laboratories can be combined in one location. However, testing for different groups of products and parameters will require physical separation of individual rooms and groups of rooms to prevent cross-contamination. For example, microbiological and chemical testing needs to be done in separate laboratories and plant pest diagnostics has to be separated from food safety testing. There are only limited options for multiple use of expensive equipment for testing of different parameters. For example, testing pesticides quality and pesticides residues requires the same type of equipment but use of the same equipment and the same rooms for these different purposes should be avoided.

58. For all these reasons possibilities for cost saving though co-location are limited and are mainly restricted to overhead and staffing. Benefits of co-location for users are limited since multiple testing of samples is infrequent. Testing the same samples for food safety and plant pests rarely occurs. Testing animal (including fish) food and feed can have overlap of testing for zoonotic and general food/feed safety parameters. Therefore, there is a dilemma whether to establish animal food and feed laboratories near

animal disease diagnostic laboratories or near general food safety laboratories. In developed countries where the number of samples for testing is high, the choice is usually for duplicated laboratory capacity in general food safety and laboratories for safety of animal food and feed.

59. A complicating factor for co-locating SPS regulatory laboratories under one management is that plant health, animal health and food safety authorities each have their own different legal / institutional mandates. Use of services of a legally independent common laboratory requires sophisticated rules for funding and accounting for which present systems have no ready solutions. For all these reasons, it is uncommon in most countries to combine plant diagnostics, animal disease diagnostics, food and chemical laboratories in one institution.

60. Sometimes, combination of SPS laboratories with research, education and commercial testing are proposed for possible saving of costs. However, advantages are limited at best. International experience shows that combining research and regulatory laboratory functions is problematic because of different cultures and disruption of disciplined regulatory testing. Combining educational and regulatory laboratory functions is undesirable, because of risks of disruption and damage to expensive equipment.[9] Finally, combining regulatory and commercial testing functions is possible, especially in food and feed testing, but there is a difference in culture between commercial and regulatory testing laboratories as will be pointed out below.

Demand for SPS laboratory services

Regulatory laboratories

61. Testing in regulatory laboratories depends largely on government programs and funding. Funding can be lump sum, per test, and combinations of these. Demand and fee income from the private sector are often limited. As indicated already, often lack of funding is a main constraint for sustainability. It results in lack of samples, maintenance, calibration and accreditation, lack of safety, environmental care and climatic facilities, and last but not least, lack of quality of services.

62. In such cases, there is temptation to use regulatory powers to earn fee income from private enterprises, and sometimes also to set fees below cost in order to compete with other laboratories.

Private laboratories

63. Private investment in laboratories is subject to expected demand. If there is enough paying demand for quality of services, the investor will seek ISO 17025 accreditation. Private laboratories often have a limited range of tests, compared to reference laboratories. Their focus is on service to satisfy customers (e.g. operation 7x24 hours and rapid turn-around). They mostly earn little income from government services.

Geographic spread of regulatory laboratory services

64. Duplication of laboratory services is undesirable for expensive equipment because it increases need for government funding and can worsen sustainability of laboratory functions. Mostly, it is better to send samples for expensive chemical testing to the central laboratory than to duplicate capacity. However, it can be unavoidable for services of which turn-around time is critical. Duplication need not be a problem for

[9] This does not mean that groups of students cannot visit a regulatory laboratory to learn about the use of sophisticated equipment, but that is different from getting laboratory skills.

services with limited economies of scale, e.g. microbiology testing, simple quality parameters, and if logistics costs of central sample collection is relatively high. It can be even attractive if it generates sufficient extra demand.

65. For these reasons, it is common to have an apex laboratory structure for regulatory laboratories. It will have one central laboratory with reference function and expensive equipment that cannot be duplicated. In addition, it will have regional and local laboratories where unavoidable, or where duplication is not a problem, or even attractive. Decentralized laboratories need back-up from central laboratories. Nepal SPS agencies and the Department of Plant Resources (DPR) all focus on an apex structure. Figures A, B, C and D in ANNEX III show their present regional spread.

66. Is a laboratory on the border a good contribution, given the requirements by Indian authorities sometimes to send samples to Kolkata for analysis? Common international practice is to have only screening functions at border checkpoints. Many good screening tests are available for residues of (part of) pesticides, veterinary drugs / growth enhancers, aflatoxin, which provide cheap alternatives for conventional testing. Only ports with large volumes of trade have laboratories to avoid logistical delay and to facilitate trade. For financial and operational sustainability of a laboratory, at least 1000 samples of testing is required per year, and it should be taken into consideration that expensive testing equipment at the border competes with capacity at central laboratories.

67. Because it is important to avoid queuing at the border, testing for which cargo has to wait for release at the border is undesirable for all testing with turn-around time of more than one day. This applies to all microbiology testing since it requires several days. Moreover, testing of perishables that requires more than a few hours is undesirable because of rapid loss of quality.

68. India's future requirements for testing pesticide residues will be the main factor for demand. Will it be mandatory for all food consignments or will there be options for mitigation? If testing would become mandatory, the overall demand for testing services would probably jump to many thousands of samples per year. It would also make private investment in accredited laboratories attractive.

69. It is important to note that imposition of mandatory testing of all consignments may not be risk-based, unless India makes the point that there is frequent and persistent non-compliance. In the years ahead risk-based testing intensity by India may be modified when compliance improves, for example because of proper response from exporters.

70. Without mandatory testing, private sector demand for testing at the border is uncertain because the cost of conventional testing of pesticides residues is at least US$50 per sample. For most informal exporters the present system is preferable, and if testing becomes mandatory, incentives for informal exports will increase. For many formal traders, the present practice of approval for several months based on type sample may be more attractive than testing for each consignment. Some of the exporters may for logistical reasons prefer using the Central Food Laboratory after its accreditation. Most exporters to the EU, Japan etc., will probably not use a testing laboratory on the border since requirements in these countries cover more parameters and require lower levels of detection than India does.

71. Would requirements for import of food products in Nepal add demand for testing pesticide residues? This is not sure yet. To date, Nepal has only been testing for compliance with mandatory product standards, and these standards do not include requirements for maximum residue limits for pesticide residues and other contaminants. Development of food safety policy is needed to establish such requirements. However, these requirements should be risk-based and a system combining use of rapid test kits and conventional testing seems to be most appropriate for Nepal. Mandatory testing of pesticides

residues for all imports will impose significant costs. If the government pays it will be a drain on public finances and if private traders have to pay it would be an incentive for informal imports.

Is a laboratory for pest-free analysis (PFA) reports at the border checkpoint desirable?

72. Common international practice is that phytosanitary certificates certify the pest-free status of the consignment, as required by importing authorities. If India would recognize Nepalese PCs then a PFA is redundant. The real problem is lack of capacity/recognition of Nepal National Plant Protection Office (NPPO) to issue credible PCs.

73. By international standards, plant pest screening and issuance of PCs at the border always needs backup from crop pest surveillance, a reference laboratory, and inspection at production and/or packing locations. Therefore, a plant pest diagnostic laboratory on the border has only limited technical use, and is generally not good international practice.

74. Nepal does not have a national reference laboratory for diagnostics of plant pests and diseases and its pest surveillance methodology and coverage are deficient. Without addressing this deficiency, investment in screening capacity on the border is of limited use.

Customs laboratory

75. Customs laboratories should focus on testing needed for support of raising revenue and controlling fraud and smuggling. Duplication of laboratory functions of regulatory agencies can create sustainability problems and confusion because of the legal mandate of regulatory agencies.

76. The present Customs laboratory in Kathmandu has limited capacity and structural, climatic and safety deficiencies. At the border checkpoints, Customs lacks back-up from rapid tests and screening, and considers especially screening for chemicals high priority.

Should SPS support be focused on products?

77. The Nepal Trade Integration Study (NTIS) 2010 has a focus on institutions, policies, projects and trade issues for major export goods: cardamom, ginger, honey, lentils, green tea, black tea, uncooked pasta, medicinal plants and essential oils. Several donor projects focus on supply chains for some of these commodities, such as the STDF/FAO project for ginger. SPS capacity is often only one of many factors for trade facilitation and the question is how much weight should be given to product specific considerations for building SPS laboratory capacity.

78. A product focus can be desirable for product-specific SPS risks and market access constraints. For example, soil on root products forms a special phytosanitary risk for ginger imports in other countries, which can only be addressed by adequate washing facilities for ginger. Quarantine pests lists of the importing country often require product specific care in surveillance, mitigating treatment and inspection. However, some capacity needed is basic and cross-cutting. Testing pesticides residues requires costly generic testing capacity that can with limited fine-tuning be applied for all domestic and export products. Following international standards for crop pest surveillance and diagnostics requires generic capacity. Laboratory capacity needed for ISO 17025 has requirements that are partly basic and partly focused on a specific testing parameter. The actual range of products subject to SPS controls exported at the main checkpoints is broad (See Annex II Table II.5). Focusing on specific capacity for a few products can only be justified for specific constraints of major export products, such as ginger which should be free of soil.

79. In a consultation workshop, senior officers in SPS agencies did not support the idea of having priority export products as an important consideration for investment in laboratories.

80. Conclusions and recommendations

81. Requirements by India for pest-free analysis and testing for pesticide residues have triggered the proposal to establish two new integrated laboratories for SPS and Customs, one in Kathmandu and one on the border. The assessment of this proposal should be conducted against (i) overall SPS policy priorities; and (ii) ongoing support by development partners.

SPS policy priorities

82. Recommended policy priorities are:

- Improve compliance with WTO requirements by introducing risk-based SPS measures. This includes SPS policy reform, strengthening of the legal framework and risk-categorization.
- Follow good international practice and develop safety requirements for food products, in particular MRLs for pesticide residues, veterinary drugs and growth enhancers, mycotoxins and other contaminants, and tolerances for microbiological contamination. In this context, the present system of product standards with regard to WTO compliance and necessity should be reviewed. At present, quality requirements are much more demanding than safety requirements and there will be strong competition for scarce funds and staff between testing for quality and safety requirements.
- Address retention of SPS specialists in laboratories and inspectorates. The high job rotation of technical specialists affects capacity and creates recurrent gaps in capacity for use of advanced equipment in laboratories, plant pest and animal disease diagnostics, and surveillance and inspection. High mobility thwarts the buildup of specialized capacity in SPS agencies, and causes continuous high training costs to fill vacancies with adequate technical experience.
- Tasks of Customs and SPS agencies need alignment. The principle of quarantine release before Customs release is properly enacted, but implementation is insufficient because of deficiencies in the lay-out of border checkpoints and perhaps lack of SPS inspectors.
- Laboratory support for Customs should focus on support for revenue collection, control of smuggling and fraud, and rapid release time at the checkpoints. Better alignment with regulatory laboratories is desirable.
- SPS controls at border checkpoints deserve improvement with regard to international SPS good practice since presently they are not very effective. Technical screening capacity in Birgunj checkpoints appears to be missing for animal quarantine, poor for food quarantine, and limited for plant quarantine and underutilized. At present there appear to be virtually no interceptions. Requirements need to be clarified, and procedures reconsidered, also in interaction with Customs.
- Following international good practice in SPS it is desirable to have intensive contacts and regular consultations with the trading partners. Therefore, bilateral working groups should be considered for SPS – food safety, animal health, and plant health – with the main trading partners, i.e. India, China and Bangladesh. The Government of Nepal may propose to the authorities of the respective countries to include this in the agenda for the next trade treaty negotiations.

Donor support for SPS

83. NIRTTP support should not overlap with support by other agencies. No other agency supports laboratory capacity for Customs. However, in the SPS area several other agencies provide support which covers priority areas identified above.

84. The World Bank PACT has a small component of US$ 5.39 million to improve effectiveness and efficiency of SPS services, including strengthening laboratory capacity with equipment, training and support for accreditation, mainly in DFTQC. About US$ 0.8 million is not spent yet. PACT did not carry

out an initial needs assessment of laboratory capacity and responded generally to demand formulated by the SPS departments. Much of the support to DFTQC seems to have been allocated for strengthening of quality controls, and the 27 parameters for which accreditation has been obtained are not in SPS food safety, but in quality control.[10] Following a recent project review[11] it was decided to assess effectiveness of this support. The assessment will focus on output and outcome of support for testing, and for what parameters have been tested.

85. The SPS authorities have felt urgency to improve the legal framework to harmonize with international and WTO regulatory provisions. The USAID Policy Reform Initiative Project is addressing policy reform in the SPS area. It includes a.o. support for (i) food safety policy formulation; (ii) improving compliance of the food law and regulations with the WTO agreements; (iii) development of national standards on plant and animal quarantine; (iv) commodity-based pest lists; (v) assessment of strengths of public and private laboratories; and, (vi) a needs assessment of screening facilities on the border.

86. A new EU project will enhance the capacity of the DFTQC Central Food Laboratory and the regional food testing laboratory at Biratnagar to reach international benchmarks. It will provide technical assistance to extend accreditation to parameters of testing of pesticide residues, heavy metals, mycotoxins, veterinary drug residues, food colors, caffeine in tea and coffee, HMF[12] in honey, benzoic acid, nitrites and microbiological testing parameters for total plate count, coliform count, E.coli, and yeast and molds. Training will be provided on site using installed equipment in Kathmandu in which staff from regional laboratories and one or more private sector laboratories will participate. A laboratory needs assessment will be carried out in the first quarter of 2015 to identify equipment to be provided. The laboratory equipment and supplies will be delivered in June 2016.

87. The EU project will also support National Bureau of Standards and Metrology laboratories for testing vegetable fats and oils and microbiology parameters. It will also provide technical assistance to prepare a training program on the application of GHP, GMP, and HACCP in the tea industry, the coffee industry; the dairy processing industry, and meat processing industry.

SPS laboratory priorities

88. Considering the above, prioritized recommendations for **NIRTTP** are:

i. ***Establish a plant diagnostic reference laboratory and support the enhancement of a program for pest surveillance.*** Nepal lacks capacity in this area and given the dominant importance of exports of crop and other plant products, highest priority should be given to solve this bottleneck in phytosanitary capacity needed for negotiating improved market access. The laboratory and surveillance should serve all exported crop products and other plant products, such as MAPs and other non-timber forest products, for which importing countries require phytosanitary controls. For this, the MOAD should work in close cooperation with the Ministry of Forestry and Department of Plant Resources (DoPR).

[10] It has been estimated that to date only 10% of the testing is focused on food safety.

[11] Progress report 14-6-2014: Nepal - Project for Agriculture Commercialization and Trade (PACT) : P087140 - Implementation Status Results Report: Sequence 10 (English)
http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/SAR/2014/06/14/090224b0824f935c/1_0/Rendered/PDF/Nepal000Projec0Report000Sequence010.pdf

[12] 5-hydroxymethylfurfural

ii. ***Upgrade the Customs laboratory in Kathmandu.*** It should support revenue collection and control of smuggling and fraud. Its technical scope should not duplicate capacity and mandates of regulatory agencies and NBSM laboratories.

iii. ***Establish at the border checkpoint at Birgunj screening laboratories for Customs, food safety, plant quarantine and animal quarantine, preferably co-located with separate rooms (or in laboratory buildings in or near the border checkpoint).*** The selection of technical facilities, equipment and screening kits should focus on bottlenecks for timely release of consignments of regularly traded goods. The capacity on the border should be related to capacity of more advanced laboratories of SPS regulatory agencies, customs and NBSM.

89. **Laboratory buildings.** Adequate space in buildings at suitable locations will be needed for the laboratories. DoA needs a building for the plant quarantine. Customs has a laboratory building already in Kathmandu. At the Inland Container/Clearance Depot (ICD) or Integrated Checkpost (ICP) in Birgunj one or a few co-located buildings are needed for screening laboratories for quarantine and Customs, for which a building is under construction, but it may not provide sufficient space. There is also a canteen building at the ICD, presently used by security personnel which may offer additional suitable place. If existing buildings are made available, structural improvements will be required to make them suitable for the designed tasks, but this will most likely be much cheaper and cost less time than creating new buildings.

iv. ***The PCO should in consultation with the concerned agencies identify possible buildings.*** The specification of building requirements and necessary upgrading/new construction should be based on a detailed assessment of the scope of work for each laboratory. The assessment needs to be done by the responsible agencies with support from international laboratory specialists. A difficulty for planning screening laboratories on the border is that Nepalese authorities seem to be uncertain about delivery of works at the ICD.

90. Already covered by other donors. As mentioned earlier, USAID and EU are already offering support focusing DFTQC capacity on testing and accreditation for food safety control, including pesticides residues testing.

91. Not recommended. The following actions are **not recommended** based on the above analyses:

- Establishment of large integrated laboratories for SPS – this requires a costly and complex reorganization, including new legislation, and has limited advantages.
- Establishment of a laboratory on the border for pest free analysis – this addresses symptoms of weaknesses in plant quarantine management screening, not the basic weakness of the system.
- Establishment of an accredited pesticides residues testing laboratory on border – this duplicates capacity of advanced equipment already being created at DFTQC and has serious sustainability issues given the expected limited demand for testing.

Proposed next steps

92. For implementing the recommendations in the next 2-3 years, the following activities are recommended.

i. Discuss proposals of this report with relevant Government agencies

ii. The Government needs to propose suitable buildings for the plant diagnostic reference laboratory and screening laboratories on the border for Customs, food safety, plant quarantine and animal quarantine

iii. After its approval, the Government of Nepal might consider to consult about the overall plan and its implementation with Indian authorities, which will enhance mutual trust. Special issues for discussion might be:

   a. Adopting firm dates for finishing infrastructural work for the ICP

   b. Explore possibilities of establishing bilateral working groups for plant health, animal health and food safety with major trade partners which meet twice per year to share information, discuss coordination and harmonization issues for SPS border release, and possible cooperation in capacity building for plant pest diagnostics and surveillance, and exchange programs for SPS staff

iv. Contract two specialists for designing the proposed investment plans: a phytosanitary specialist with expertise in plant pest surveillance, pest diagnostic reference laboratories, and pest screening at border checkpoints; and a chemical laboratory specialist with expertise in chemical laboratory analysis, and screening at border checkpoints (outline TORs are proposed in the section below)

v. Procure the renovation/adjustment of buildings for the laboratories, laboratory equipment and supplies, and vehicles for plant pest surveillance

vi. Provide relevant general and hands-on training through TA by consultants (and if possible by exchange programs with India) for:

   - staff in plant pest surveillance, pest identification and improvement of quarantine pest lists
   - staff in the Customs laboratory
   - the preparation of inspection manuals and training of SPS staff at the ICD and IPC and the border screening laboratories

vii. Provide support for the operational cost of plant surveillance during two years

Outline TOR for two consultants for designing the investment plans

(1) Phytosanitary specialist (1.5 PM)

Under guidance of the PCO and in close cooperation with the Plant Protection Directorate and in consultation with the Ministry of Forestry and Department of Plant Resources (DoPR) the consultant will:

- Take stock of the capacity in phytosanitary management and ongoing upgrading, with special attention to compliance to international standards in pest surveillance, pest diagnostics, pest specimen collection, and border screening.
- Prepare a proposal for priorities for plant pest surveillance for export crops and MAPs in the next five years.
- Prepare the design for the institutional and physical establishment of a basic reference laboratory for plant pest and disease diagnosis and specimen collection, compliant with international standards for phytosanitary measures (ISPM), and with priority in entomology and pathology. (Other specialist fields may be strengthened later)
- It is assumed that an existing building will be proposed by government, and the consultant will identify necessary structural, climatic, and power supply improvements for the proposed building.
- Identify jointly with government staff and the chemical laboratory specialist, and taking into consideration assessments and recommendations from other projects, in particular the EU and USAID projects, the scope of screening laboratories on the border checkpoint at ICD or ICP near Birgunj, structural requirements of the building(s), equipment for simple screening that can be used (i) to improve SPS quarantine controls; and (ii) to enhance the timely SPS release for most common imports.

- Identify major gaps in staff qualification for pest surveillance and pest identification and diagnostics, and make a proposal for training and mitigation of bottlenecks for the next five years; this can involve arrangement with an expert center abroad (or a bilateral arrangement with plant quarantine of India), and technical assistance.
- Prepare a list of equipment and current supplies for two years with specifications required for NIRTTP procurement for surveillance (including necessary vehicles), the reference laboratory, and screening at the quarantine border inspection station.
- Provide itemized cost estimates for the proposed improvements by NIRTTP.
- Provide itemized estimates of annual operational cost needed for the government to make sustainable use of the investments.
- The ambition level of the proposals should take into consideration the size of the country and the low present capacity that forms the basis for improvements.
- Requirements: An advanced degree in entomology or plant pathology or equivalent, at least ten years of international experience in plant quarantine, and demonstrated experience in having designed/upgraded similar laboratories as specified herein.

(2) **Chemical laboratory specialist (1.0 PM)**

Under guidance of the PCO and in close cooperation with the Customs Department and the SPS departments the consultant will:

For the Customs laboratory

- Assess the capacity of the Customs laboratory, its operation, current use, and funding.
- Assess the need for in-house testing services in the Customs laboratory in support of Customs responsibility for revenue raising and control of smuggling and fraud, taking into consideration capacity in regulatory and other laboratories. Unnecessary duplication with other laboratories will be avoided.
- Prepare a proposal for upgrading of the building with regard to solving structural, climatic, safety and power supply deficiencies, and ISO 17025 accreditation for a few core parameters.
- Prepare a list of equipment and current supplies for two years with specifications required for NIRTTP procurement.
- Identify skilled staff requirements for operation of the laboratory and make a proposal for staff training; this will include technical assistance.

For the border screening laboratory

- Identify jointly with government SPS and Customs staff and the phytosanitary specialist and taking into consideration assessments and recommendations from other projects, in particular the EU and USAID projects, the scope of screening laboratories at the border checkpoint at ICD or ICP near Birgunj, structural requirements of the building(s), equipment for simple screening, and rapid test kits that can be used (i) to improve SPS quarantine controls; (ii) Customs controls; and (iii) enhance the release time for most common imports.
- Identify skilled staff requirements for operation of the screening laboratories and make a proposal for staff training by SPS agency and Customs laboratory staff in Kathmandu.

For each of the facilities above

- Provide itemized cost estimates for the improvements by NIRTTP.

- Provide itemized estimates of annual operational cost needed for the government to make sustainable use of the investments.
- The ambition level of the proposals should take into consideration the current conditions and low capacity that form the basis for improvements.
- Requirements: An advanced degree in chemistry or equivalent, at least ten years of international experience in chemical and food laboratories, and demonstrated experience in having designed similar laboratories as specified herein.

ANNEXES

Annex 1. Visit Schedule

Persons contacted by Mr. Kees Van Der Meer, World Bank SPS Laboratory Expert[i]

Day/ Date	Timing	Visit and other programs	Location	Tel. No.
Mon, 17 Nov	10.00 AM	Purushottam Ojha (former Secretary, MoCS), World Bank Consultant to NIRTTP	World Bank Office, Kathmandu	9851091822
	11.00 AM	Mr. Mahesh Timsina, Project Coordinator and Mr. Murari P. Gautam Upadhya, Project Manager/T A NIRTTP	NIRTTP/ PCO, Nepal Food Corp Building	9851161777 9841325382
	11.30 PM	Dr. Dinesh Prasad Parajuli, Joint Secretary, and Dr. Pradyumna Pandey, Under Secretary, Ministry of Agricultural Devevelopment	Singha Durbar,	4211687 9841295259 9851125554
	12.30 PM	Mr. Narendra Khadka, President, Mr. Hemanta Raj Bohora, Secretary, Nepal Ginger Producers and Traders Association	NIRTTP/ PCO, Nepal Food Corp Building, 9813542100	9842711994 9851069351 9851033784
	01.30 PM	Mr. Toya Narayan Gyawali, Joint Secretary, Ministry of Commerce and Supplies	Singha Durbar	
	02.30 PM	Mr. Krishna Bhandary, Advisor, Large Cardamom Entrepreneurs Association Nepal (LCEAN)	PCO Office , 9852671150, (President Rajendra K. Ghimire)	9841373171
	03.30 PM	Professor Biswo Poudel, Kathmandu University	biswo@kusom.edu.np	9851147844
Tues, 18 Nov	10.00 AM	Mr. Yam B. Thapa, Director General, and Ms. Sushma Upadhya, DDG, Department of Plant Resources	Thapathali, Kathmandu	9851010997 4251171
	11.00 AM	Mr. Surya P. Acharya, Director General, Mr. Ramesh Sharma Paudel, Director, and Mr. Manoj Nidhi Wagle , Laboratory Director, Department of Customs	Tripureswor, Kathmandu	9841323983 9851123119 9848029138
	02.00 PM	Ms. Rita Pandey, Director General, Mr. Mohan K. Maharjan, Sr. Food Res. Officer, and Mr. Gajendra K. Paudyal, Sr. Food Res Off., Department of Food Technology and Quality Control (DFTQC)	Babarmahal,	4262369 4262741 9841339911 and 4262337
Wed, 19 Nov	10.30 AM	Dr. Vijay Kant Jha, DDG (Dr. Keshav P. Premy, DG), Department of Livestock Services,	Harihar Bhawan, 5521610,	5522056 9804439035
	11.30 AM	Mr. Dilliram Sharma, Program Director, Plant Protection Directorate, Department of Agricultural; Mr. Prakash Paudel, PQO, Mr.Harihar Acharya, NPQP.	Harihar Bhawan, Pulchowk	5535844 9841369615 9841882798
	01.00 PM	Mr. Bimal Nepal, DED, Mr.Suyas Khanal Director, Mr. Surendra Gongal, Director & Mr. Rajendra Shrestha, Dir	Trade and Export Promotion Centre (TEPC)	
	02.45 PM	Mr. Dilli Baskota, General Secretary, Himalayan Orthodox Tea Producers Association (HOTPA	hotpa@mail.com.np	5521942/20 41036
	03.30 PM	Mr. Lobsang Lama, Vice Chariman/MD, Ms. Shanta Baskota Koirala, Director, Shangrila Agro World (P) Ltd.	sagro@wlink.com.np www.saw.com.np Shinamanagal	4469503 9851082828
	03.30 PM	Ms. Tara Baskota, Director, Kanchanjangha Tea Estate & Research Centre Pvt. Ltd.	kte@organic.wlink.com .np Shinamanagl	4493303 4469503
	05.00 PM	Mr. Colm Halloran, Quality Infrastructure Development Advisor, GFA Consulting Group GmbH	Hotel Yak & Yeti	9808150228
Thurs, 20 Nov	10.30 AM	Mr. Yogendra K.Karki, Project Director, Project for Agriculture Commercialization and Trade (PACT)	Maharagunj, ykkarkee@hotmail.com	4017765

	12:00PM	Dr. Deva Bhakta Shakya, Project Coordinator, and Mr. Madhab Karki, Policy Reform Initiative Project (PRIP)	Mandikhatar, dbshakya@gmail.com	9851066062
	01.00 Pm	Mr. Bishwo Babu Pudasaini, DG, Nepal Bureau of Standard and Metrology , 9841440568 / 4356810	Balaju,	4350818 4350445
	03.00 PM	Mr. Prem Tiwari, Vice President, Nepal Herbs & Herbal Producers Association (Mr Govinda Ghimire, President),	4462208/nehhpa@gmail.com,	9851060062 9851120541
Fri, 21 Nov	11.00 AM	Mr. Pradeep Maharjan, Executive Director, AEC/FNCCI	info@aec-fncci.org, Teku	4262260/45
	01.00 PM	Mr. Ganesh Dawadi, NTIS	PCO, Bhadrakali	9841364722
Sun, 23 Nov	9:30	Ms. Shova Basnet, MD, Zest Laboratories (P) Ltd.	Gothatar, Thimi	9851055140
Mon, 24 Nov	01.00 to 4.00PM	Consultation workshop with all stakeholders, Jointly organized by MOAD and NIRTTP of MOCS.	PCO N F C Building, Bhadrakali	4267534
Tues, 25 Nov	06.00AM	Departure to Birgunj		
	01.00 PM	Meeting with Mr. Animesh Kumar, Himalayan Terminal	ICD and ICP Syrsiya	9855026969
	02.00 PM	Meeting with Mr. Moti Lal Shah, SPS Inspector, Plant Q.	ICD Syrsiya	9804216219
	03.00 PM	Visit sites at ICD and ICP		
	04.00 PM	Meeting with Customs Officials, Mr. Man Bahadur Poudel and Mr. Harihar Poudel	ICD Customs Office, Syrsiya	9851105176 9742043797
Wed, 26 Nov	8.00AM	Meetings with Mr. Bijaya Khanal, Chief, DFTQC, Food Quarantine Office,	Birgunj Border Area	9845289672
	9.30 AM	Meeting with Dr. Hareram Yadav,Chief Animal Quarantime, Dr. Rakesh Mohan, Chief Check post, and Mr. Dhanai Prasad Yadav, Fisheries Officer	Animal Quarantine Office, Birgunj	
	11.00 AM	Meeting with Mr. Shankar Neupane (PQO), Plant Quarantine Office and Mr. Jhalaknath Kandel, S.Agri Ext. Officer (National Plant Quarantine Office)	Birgunj Border Customs	9841607670 9845671372
	12.00 PM	Meeting with Mr. Gopal Khatri, Chief Customs Officer	Birgunj Customs	9851092382
Thurs, 27 Nov	06.00AM	Travel back to Kathmandu		
Fri, 28 Nov	11.30 M	Briefing to Dr. Dinesh Prasad Parajuli, Joint Secretary, and Dr. Pradyumna Pandey, Under Secretary at MoAD	Singha Durbar	Postponed[ii]
	12.30 PM	Briefing to Mr. Jibraj Koirala, Joint Secretary, MOCS	Singha Durbar	Postponed[ii]
	01.30 PM	Wrap up and general discussion at PCO office with Project Coordinator, PM/TA	PCO	Postponed[ii]

Notes:

[i] The team members comprised of Mr. Kees Van Der Meer, WB Laboratory Expert; and Mr. Murari P.Gautam Upadhya, Project Manager/Technical Adviser, NIRTTP.

[ii] Mr. Murari P.Gautam Upadhya to complete all the postponed briefing meetings to the Joint Secretaries in the MoAD and MoCS after draft report is submitted.

Annex II. Nepal Export and Import 2013

Table II.1 Nepal's Exports of Agricultural, Food, and Medicinal and Aromatic Plant Products - 2013

S.N.	HS Code	Product Name	Unit	Quantity	Value(USD)
1	09083010	Cardamom	Kg.	2,914,470	28,211,343
2	20099000	Mixture of juices	Ltr	34,376,568	25,054,999
3	09024000	Black tea fermented	Kg.	10,805,321	21,609,279
4	09083110	Big Cardamon (Alaichi)	Kg.	2,403,939	20,153,948
5	07134000	Lentils	Kg.	13,323,172	18,151,830
6	08029000	Betelnuts	Kg.	10,420,723	17,043,942
7	20091100	Frozen orange juice	Ltr	12,795,315	10,079,631
8	24039910	Jarda~ Khaini~ Snuff~ Ghutka and similar preparations containing chewing tobacco	Kg.	2,210,655	9,390,712
9	12119090	Plants and parts of plants (including seeds and fruits) of a kind used primarily in perfumery~ in pharmacy or for insecticidal or similar purposes	Kg.	5,060,183	9,159,304
10	09101000	Ginger	Kg.	27,824,777	7,255,995
11	19021900	Uncooked pasta~ not stuffed or otherwise prepared	Kg.	5,510,197	6,859,847
12	23064100	Oil-cake and other solid residues of low erucic acid rape or colza seeds	Kg.	24,748,550	6,076,861
13	21069020	Panmasala plain	Kg.	1,370,286	5,493,901
14	02023000	Meat of bovine animals~ frozen~ boneless	Kg.	4,125,053	5,424,116
15	20097100	Apple juice of a Brix value not exceeding 20	Ltr	8,415,045	4,935,166
16	01029000	Bovine animal (Buffalo)	Pcs.	125,919	4,182,305
17	20094100	Pineapple juice~ of a Brix value not exceeding 20	Ltr	6,315,834	3,904,951
18	14049020	Vegetable products (khayar kattha)	Kg.	738,300	3,370,598
19	15159000	Fixed vegetable fats and oil	Kg.	3,200,854	2,298,443
20	14049012	Catechu of acacia (Kathas)	Kg.	346,000	2,072,166
21	23091000	Dog or cat food	Kg.	193,512	1,815,710
22	4059000	Fats and oils derived from milk	Kg.	466,542	1,548,252
23	23024000	Bran~ sharps~ and other residues of cereals	Kg.	10,747,764	1,278,182
24	09101110	Ginger~ fresh	Kg.	7,678,414	1,190,473

S.N.	HS Code	Product Name	Unit	Quantity	Value(USD)
25	23023000	Wheat bran	Kg.	4,740,485	1,121,734
		Sub-Total 25 products			**217,683,688**
26	9109990	Spices	Kg.	1,400,872	889,152
27	12119000	Plants and parts of plants (including seeds and fruits) of a kind used primarily in perfumery~ in pharmacy or for insecticidal or similar purposes	Kg.	756,461	884,282
28	14049011	Semi-prossed Catechu of acacia (liquid Kattha)	Kg.	238,830	789,679
29	23099090	Preparations of a kind used in animal feedings	Kg.	360,000	784,251
30	12119010	Yarchagumba	Kg.	274	710,708
31	21069010	Dalmott~ papad~ salted bhujiya and chamena	Kg.	616,033	687,684
32	11010000	Wheat flour	Kg.	1,935,233	648,573
33	24039100	Homogenised or reconstituted tobacco	Kg.	148,682	617,715
34	02021000	Meats of bovine animals~ caracasses and half-caracasses~ frozen	Kg.	872,540	574,571
35	09061100	Cinnamon (Cunnamomum zeylanicum Blume)	Kg.	722,715	561,566
36	20092100	Grapefruit (including pomelo) juice~ of a Brix value not exceeding 20	Ltr	812,772	542,530
		Sub-Total 36 products			**225,374,399**
		Grand total			**234,923,940**
Source: Export Import Trade Data Bank, Trade and Export Promotion Centre, www.tepc.gov.np					

Table II.2. Nepal's Imports of Agricultural, Food, and Medicinal and Aromatic Plant Products – 2013

S.N.	Product Code	Product Name (Covered by HS 01 to 24)	Unit	Quantity	Value(USD)
1	15071000	Crude soyabean oil	Kg.	139,623,685	152,610,348
2	10063000	Semi milled or wholly milled rice~ whether or not polished or glazed	Kg.	247,537,401	99,703,014
3	10059000	Maize corn	Kg.	207,235,767	52,442,342
4	10061000	Rice in the husk	Kg.	216,305,229	49,420,292
5	23040000	Oil cakes	Kg.	76,174,711	48,943,747
6	8029000	Betelnuts	Kg.	53,634,082	46,528,530
7	15111000	Crude palm oil	Kg.	46,573,989	39,514,973
8	7019000	Potatoes~ fresh or chilled	Kg.	214,273,497	35,031,550
9	21069040	Concentrate of non-alcoholic soft drinks	Kg.	8,736,557	27,766,401
10	24012000	Tobacco~ partly or wholly stemmed/stripped	Kg.	8,045,608	23,612,053
11	12051000	Low erucic acid rape or colza seeds	Kg.	37,263,985	22,899,320
12	23099000	Preparations of a kind used in animal feeding	Kg.	19,250,861	21,057,842
13	12075000	Mustard seeds	Kg.	38,329,064	19,961,340
14	7031000	Onions and shallots	Kg.	80,829,226	19,797,431
15	12010000	Soya beans~ whether or not broken	Kg.	26,855,149	18,421,809

S.N.	Product Code	Product Name (Covered by HS 01 to 24)	Unit	Quantity	Value(USD)
16	8081000	Apples~ fresh	Kg.	56,827,596	17,509,844
17	19019000	Malt extracts	Kg.	7,433,260	17,136,066
18	15121100	Crude sunflower oil	Kg.	16,444,880	13,677,216
19	1042000	Goats	Pcs.	460,260	13,382,974
20	7139000	Dried leguminous vegetables	Kg.	21,003,586	12,946,804
21	22029000	Water~ non alcoholic beverages	Ltr	13,236,644	11,984,960
22	19053100	Sweet biscuits	Kg.	9,019,696	11,967,362
23	7131000	Dried peas	Kg.	21,154,142	11,283,536
24	7132000	Chickpeas	Kg.	16,597,771	11,158,786
25	17049000	Sugar confectionery not containing cocoa	Kg.	5,132,260	10,933,802
26	12019000	Soya beans~ whether or not broken	Kg.	16,727,856	10,709,418
27	7134000	Lentils	Kg.	16,457,313	10,679,302
28	17011490	Cane sugar	Kg.	18,689,694	10,340,485
29	18069000	Chocolate in blocks~ slab or bars	Kg.	1,970,851	9,928,684
30	8028000	Areca nuts	Kg.	11,036,826	9,779,230
31	9041100	Pepper~ neither crushed nor ground	Kg.	1,318,458	9,605,079
32	12119000	Plants and parts of plants (including seeds and fruits) of a kind used primarily in perfumery~ in pharmacy or for insecticidal or similar purposes	Kg.	2,261,861	7,407,380
33	10011000	Durum wheat	Kg.	25,859,564	6,923,616
34	17011110	Sugar~ raw not containing added flavouring or colouring matter	Kg.	11,176,466	6,893,198
35	10019000	Wheat and meslin	Kg.	27,587,474	6,770,447
36	9083090	Cardamom~ Small~ Sukumel	Kg.	1,712,995	6,739,792
37	22083090	Whiskies	Ltr	516,900	6,353,640
38	22071000	Undenaturated ethyl alcohol of an alcoholic strength by volume of 80% or higher	Ltr	7,771,105	6,162,897
39	11010000	Wheat flour	Kg.	17,430,285	5,412,447
40	3019900	Live fish	Kg.	7,372,121	5,336,210
41	12011000	Soya beans~ seed	Kg.	8,126,281	5,297,668
42	9093000	Cumin seeds	Kg.	3,144,025	5,271,024
43	15119000	Palm oil	Kg.	5,403,060	5,094,225
		Sub-total 43 products			**944,397,084**
44	10064000	Broken rice	Kg.	22,897,805	4,795,197
45	21069090	Food preparations	Kg.	2,061,664	4,635,427
46	4022900	Milk and cream in powdered and granules of a fat content by weight exceeding 1.5% containing sugar or added sweetening matter	Kg.	963,001	4,616,847
47	9101000	Ginger	Kg.	12,270,593	4,594,544
48	21069010	Dalmott~ papad~ salted bhujiya and chamena	Kg.	2,808,442	4,185,774
49	12129900	Vegetable products (including unroasted chicory roots of the variety Cichorium intybus sativum) of a kind used primary for human consumption	Kg.	72,624,202	4,135,551
50	17041000	Chewing gum	Kg.	1,491,980	3,644,945
51	9093100	Seeds of cumin~ neither crushed nor ground	Kg.	2,228,365	3,611,081
52	19011000	Preparations for infant use	Kg.	1,141,259	3,540,254
53	15179000	Edible mixtures and preparations of animal or vegetable fats or oil	Kg.	3,646,790	3,406,214
54	22085010	Alcoholic fluids including spirits used as raw materials of Gin and Geneva	Ltr	235,107	3,348,783
55	21039000	Sauces	Kg.	1,269,759	3,328,107
56	20089910	Fruit pulp	Kg.	4,498,536	3,209,660

S.N.	Product Code	Product Name (Covered by HS 01 to 24)	Unit	Quantity	Value(USD)
57	7032000	Garlic	Kg.	6,108,824	3,017,653
58	9042000	Fruits of the genus capsicum or of the genus pimenta~ dried or crushed or ground	Kg.	3,395,524	2,798,990
59	1051900	Live poultry weighing not more than 185g	Kg.	237,848	2,723,110
60	19059020	Potatoes chips	Kg.	616,835	2,668,031
61	9042100	Fruits of the genus Capsicum or of the genus Pimenta~ Dried~ neither~crushed or ground	Kg.	2,622,286	2,645,965
62	8109000	Fresh fruit	Kg.	6,201,189	2,537,850
63	20099000	Mixture of juices	Ltr	3,923,573	2,485,976
64	10019900	Wheat and meslin	Kg.	8,917,489	2,483,982
65	10011900	Durum wheat	Kg.	8,849,375	2,462,012
66	8011100	Desiccated coconut	Kg.	2,448,676	2,454,311
67	7133900	Beans (Vigna spp.~ phaseolus spp.)~ shelled~ whether or not skinned or split	Kg.	3,877,268	2,451,856
68	11071000	Malt~ not roasted	Kg.	5,014,225	2,436,756
69	21069060	Kurkure~ kurmure~ lays & Similar goods	Kg.	699,459	2,433,391
70	12099100	Vegetable seeds	Kg.	275,390	2,430,004
71	10019100	Wheat and meslin~ seed	Kg.	9,375,458	2,385,793
72	15121900	Sunflower oil	Kg.	1,377,830	2,326,814
73	17023000	Glucose and glucose syrup not containing fructose or containing in dry state less than 20% by weight of fructose	Kg.	3,321,960	2,325,860
74	8059000	Citrus fruits	Kg.	11,116,246	2,280,090
75	8061000	Fresh Grapes	Kg.	12,006,129	2,277,001
76	10011100	Durum wheat~ seed	Kg.	8,631,620	2,211,166
77	15020000	Fats of bovine animal~ sheep or goats	Kg.	3,010,794	2,199,222
78	21061000	Protein concentrate and textured protein substance	Kg.	324,558	2,121,003
79	23012000	Flour~ meals and pellets of fish or of crustaceanes	Kg.	2,786,071	2,113,561
80	10051000	Maize seeds	Kg.	1,368,796	2,055,993
81	8051000	Oranges	Kg.	9,849,477	2,023,644
82	19059090	Bakers wares	Kg.	724,529	1,920,857
83	7133100	Bean of the species vigna mungo~ Hepper or vigna radiata Wilczek	Kg.	2,818,695	1,886,614
84	21011100	Extracts~ essences and concentrates	Kg.	151,988	1,885,842
85	11090000	Wheat gluten	Kg.	1,220,255	1,710,094
86	12024200	Ground-nuts~ shelled	Kg.	1,706,251	1,706,682
87	22041000	Sparkling wine	Ltr.	539,488	1,679,220
88	4051000	Butter	Kg.	610,476	1,655,773
89	10082900	Millet	Kg.	6,513,595	1,605,057
90	9092000	Seeds of coriander	Kg.	2,139,836	1,588,913
91	10082000	Millet	Kg.	8,151,178	1,559,480
92	8013200	Cashew nuts shelled	Kg.	354,066	1,544,857
93	4021000	Milk and cream in powder~ granules or other solid form~ of a fat content~ by weight~ not exceeding 1.5%	Kg.	584,139	1,533,926
94	7099000	Vegetables~ fresh or chilled	Kg.	13,110,928	1,505,651
95	8021200	Almonds~ shelled	Kg.	253,290	1,406,231
96	9092100	Seeds of coriander~ neither crushed nor ground	Kg.	1,617,127	1,363,240
97	8041000	Dates	Kg.	2,503,249	1,355,437

S.N.	Product Code	Product Name (Covered by HS 01 to 24)	Unit	Quantity	Value(USD)
98	8055000	Lemons (Citrus limon~ citrus limonum) and limes (Citrus aurantifolia~ Citrus latifolia)	Kg.	4,092,443	1,296,335
99	8045000	Mangoes	Kg.	10,838,709	1,286,581
100	24039100	Homogenised or reconstituted tobacco	Kg.	546,721	1,220,470
101	11031100	Groats and meals of wheat	Kg.	3,778,604	1,206,661
102	21041000	Soups and broths and preparations thereof	Kg.	196,926	1,181,934
103	8013100	Cashew nuts in shell	Kg.	295,026	1,178,688
104	4012000	Milk and cream~ not concentrated nor containing added sugar or other sweetening matter of a fat content~ by weight~ exceeding 1% but not exceeding 6%	Kg.	2,480,740	1,174,357
105	23061000	Oil-cake and other solid residues of cotton seed	Kg.	5,843,427	1,085,168
106	23024000	Bran~ sharps~ and other residues of cereals	Kg.	7,489,975	1,028,188
107	19053200	Waffles and wafers	Kg.	249,736	1,025,686
108	24039930	Cut tobacco~ dust tobacco not for retail sale	Kg.	593,141	1,015,832
109	8011900	Cocunuts	Kg.	3,709,668	1,006,645
		Sub-total 109 products			**1,095,413,921**
		Total all products			**1,160,975,862**

Source: Export Import Trade Data Bank, Trade and Export Promotion Centre, www.tepc.gov.np

Annex II Table II.3. Total trade share by customs checkpoint						
	Total trade (%)			Subject to SPS controls*		
Checkpoint	**Export %**	**Import %**		**export %**	**import %**	
Biratnagar	34	13		37	16	
Birgunj	25	41		7	45	
Dryport Birgunj	3	10		2	13	
T.I. Airport	21	11		8	1	
Mechi	7	3		20	5	
Tatopani	2	3		4	1	
Bhairahawa	5	15		2	20	
Sub-total				100	100	
Nepalgunj	2	3				
Krishnanagar	1	1				
Kailali	1	1				
Other Customs	0	1				
Total	100	100				
* includes agricultural products and food only (HS codes 1-24); timber and other plant products not included						

Annex Table II.4. Export and import by major checkpoint

	total (US$'000)		of which subject to SPS controls*			
			US$'000		%	
checkpoint	**export**	**import**	**export**	**import**	**export**	**import**
Biratnagar	300,714	856,849	84,488	171,500	28.1	20.0
Birgunj	218,366	2,792,049	61,019	467,678	27.9	16.8
Birgunj dry port	21,730	643,139	3,694	131,873	17.0	20.5
T Intern Airport	184,658	740,784	18,269	7,599	9.9	1.0
Mechi	64,735	220,215	45,267	46,890	69.9	21.3
Tatopani	15,250	189,731	9,021	14,924	59.2	7.9
Bhairahawa	44,658	984,570	4,675	208,966	10.5	21.2
Total	**850,111**	**6,427,337**	**226,433**	**1,049,430**	**26.6**	**16.3**
* includes agricultural products and food only (HS codes 1-24); timber and other plant products not included						

Annex II Table II.5. Main export products subject to SPS* at main customs checkpoints

Checkpoint	Main export products
Biratnagar	Meat
	Fresh Vegetables
	lentils
	plants and parts of plants
	vegetable products
	betel nuts
	fresh fruits
	black tea
	pasta
	biscuits
	cinnamon
	Cardamom
	Ginger
	papad
	brans
	oil cakes
Bhairahawa	cinnamon
	ginger
	spices
	buck wheat
	uncooked pasta
	plants and parts of plants
	and oil cakes
	brans
	macadam
Birgunj	meat
	fresh/dried vegetables
	lentils
	fresh fruits
	coffee
	green tea
	ginger
	spices
	veg and oil seeds
	plants and parts of plants
	pasta
	prepared foods
	fruit fuice
	pan masala
	catechu of acacia
	soapnuts
	veg oils
	cane molasses
	oil cakes
T I Airport	live plants, bubs,
	coffee and tea
	pan masala
Mechi	Live animals
	Fresh Vegetables
	Lentils
	Green and black tea
	Ginger
	Vegetable seeds
	Plants and parts
	Wheat bran
	Oil cakes

* includes agricultural products and food only (HS codes 1-24); timber and other plant products not included

Annex III. Regional spread of DFTQC, DLS, PQO, DPR

Figure III.A

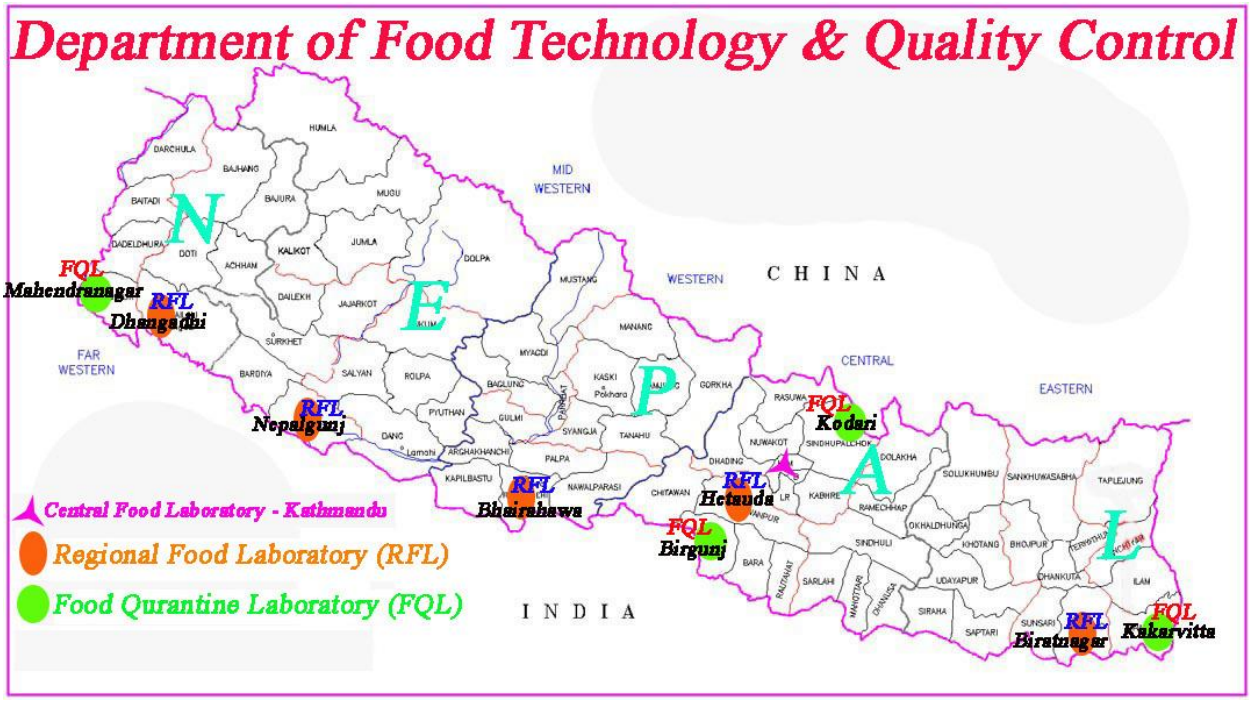

Figure III.B

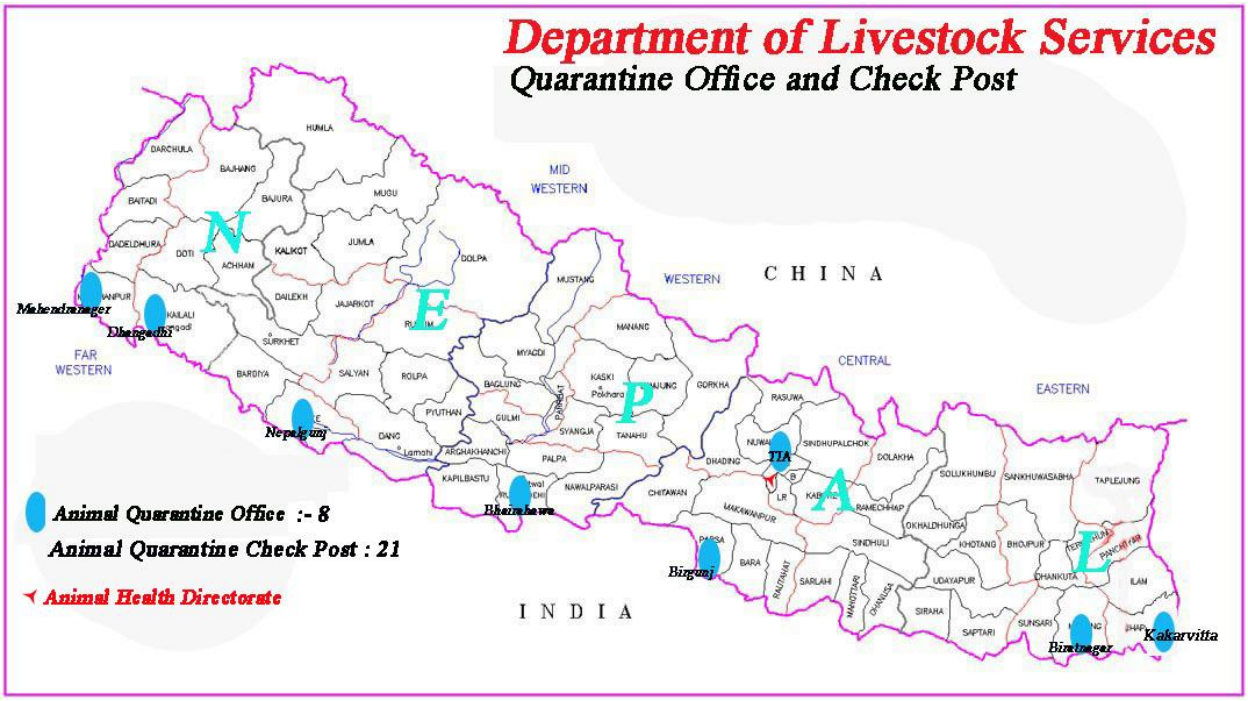

Figure III.C

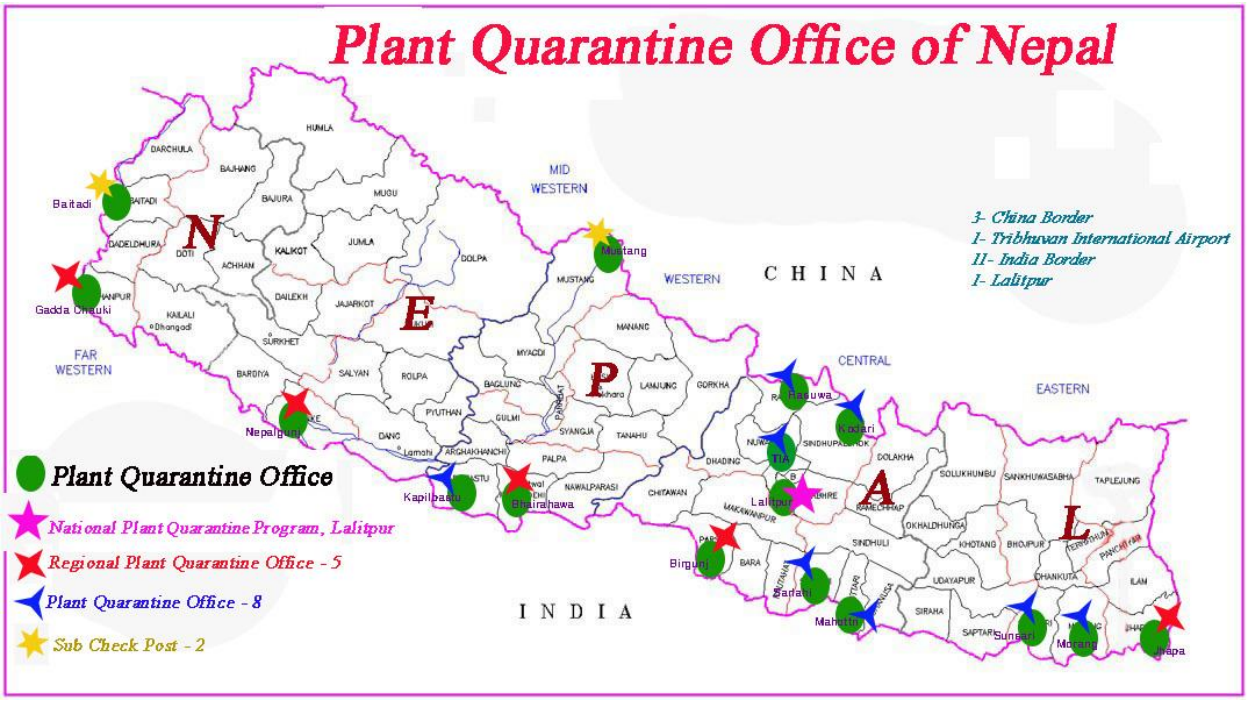

Figure III.D