WORLD BANK GROUP

Final Report

Phytosanitary Capacity Evaluation of PQPMC, Nepal

Food and Agriculture Organization of the United Nations

International Plant Protection Convention

July 2022

This report was produced with support from the **South Asia Regional Trade Facilitation Program** administered by the World Bank, with a financial contribution from **Australia's Department of Foreign Affairs and Trade.**

1818 H Street NW
Washington DC 20433
Telephone: 202-473-1000
Internet: www.worldbank.org

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Phytosanitary Capacity Evaluation of PQPMC, Nepal

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Abbreviations

DFTQC	Department of Food Technology and Quality Control
DOLS	Department of Livestock Services
ISPMs	International Standards for Phytosanitary Measures
IPP	International Phytosanitary Portal (website of the IPPC)
MOALD	Ministry of Agriculture and Livestock Development
MOICS	Ministry of Information and Communications
NPPO	National Plant Protection Organization
PQPMC	Plant Quarantine and Pesticide Management Centre
PCE	Phytosanitary Capacity Evaluation
SRCTIP	Strategic Road Connectivity and Trade Improvement Project

Introduction

The International Plant Protection Convention (IPPC) is an intergovernmental treaty signed by over 180 countries, aiming at protecting the world's plant resources from the spread and introduction of pests, and promoting safe trade. The Convention introduced International Standards for Phytosanitary Measures (ISPMs) as its main tool to achieve its goals, making it the sole global standard setting organization for plant health.

The Phytosanitary Capacity Evaluation tool or PCE is one of the resources that the IPPC Secretariat uses to assist contracting parties implement ISPMs. The PCE is a fully comprehensive NPPO-led, facilitator-enabled, IPPC Secretariat supported process of multiple phases, with a wide range of benefits, to help countries evaluate their phytosanitary capacities. In that regard, it is not something that is done to a country; rather it is done by a country.

Context

Nepal is a member of the WTO since 2004 and its access to international markets now largely depends on compliance with the Sanitary and Phytosanitary (SPS) Agreement of the WTO. Strengthening trade-related institutional capacity also includes the strengthening of trade-related SPS capacity. SPS measures contribute significantly to improve time and costs efficiency and some of these could be reduced by bringing improvements in sanitary and phytosanitary management including improved laboratory testing services. The Nepal Strategic Road Connectivity and Trade Improvement Project (SRCTIP) seeks among other things to support Nepal in improving its trade facilitation by supporting the Ministry of Agriculture and Livestock Development, Plant Quarantine and Pesticide Management Centre (PQPMC) in addressing gaps and capacity weaknesses.

The PCE was initiated as an additional component within the Nepal Strategic Road Connectivity and Trade Improvement Project (SRCTIP) which is a large project primarily focused on investing in transportation connectivity and trade infrastructure. As part of the improvements, the World Bank Group is undertaking a full assessment of the SPS agencies capacities to ensure that investments to address shortcomings of the agency facilitate trade improvements.

The current PCE project aims to facilitate the implementation of one aspect of the SRCTIP project, and specifically seeks to strengthen Plant Quarantine and Pesticide Management Centre's (PQPMC) ability to perform the functions of a national plant protection organization including undertaking inspection, sampling, testing, providing certifications, surveys and surveillance and attestations, relevant phytosanitary treatments, etc. The project was intended to run from February to December 2021. However due to Covid pandemic, the project was extended to

March 2022 and culminated with a face-to-face mission to Nepal.

The implementation of the PCE has gone through the first two stages of its application virtually with a third performed during a mission.

The first mission

began on March 30, 2021, a virtual meeting was held with officials from the World Bank and Plant Quarantine and Pesticide Management Centre (PQPMC), and the PCE Facilitator to clarify roles and involvement in the PCE. In this meeting a general overview of the PCE process was given, followed by discussions on the key deliverables of the PCE. It was noted that there needs to be consistent engagement considering the virtual environment and the challenges that will be met of scheduling and meeting duration to effectively engage all the stakeholders. PQPMC decided to do all the modules except module 2 – National Phytosanitary Legislation.

Conduct of the virtual sessions to complete modules 3, 4, 5, and 6 were done between 21 July and 25 August 2021.

The second mission

ran from 22 September to 24 November 2021. Modules 7 to 13 were completed, and the use of the strategic management tools commenced with the use of the problem tree analysis. Due to continued challenges in scheduling and consistent participation by stakeholders, it was decided that a face-to-face mission would be best to engage the stakeholders in the activities of the third mission. This would allow for several full days of interaction with PQPMC and its stakeholders. Thus, alleviating the challenges encountered in trying to finish the PCE in the virtual mode.

Third Mission

The third mission commenced virtually on 9 February 2022, with PQPMC and its stakeholders continuing the online sessions for completing the log frame for module 3: Environmental Forces Assessment. Sessions were held on 16 and 23 February 2022. On 15 March 2022 the online sessions continued with the beginning of the SWOT analysis for module 6 on NPPO's Resources.

The mission then transitioned to a face-to-face mode on 20 March, to engage the PQPMC and stakeholders in the remaining activities to complete the PCE. The PCE sessions were held at the Gokarna Resort in Kathmandu. The week's agenda is attached as Appendix 1.

The workshop for completing the PCE activities commenced on the afternoon of the 21 March. The SWOT analysis and logical frameworks for modules 5 to 13 were completed during the mission. Stakeholders participated from wide cross section of government and private individuals. Significant contributions came from the Joint Secretary and former Secretary of MOALD. More details on the stakeholders can be seen in the list of stakeholders as attached as Appendix 3.

The PCE facilitator led the group through a review of the weaknesses prioritized from all the modules. The workshop then continued though some new participants not involved in the virtual sessions participated in the face-to-face session while others involved in the virtual sessions were not able to participate in the face-to-face session. This did not significantly affect the discussions because the stakeholders including the private sector was fairly represented at all the sessions as seen in the appended list of participants. The PCE Facilitator provided a presentation of the SWOT analysis and the logical framework. The stakeholders were then divided into two groups to continue working on the outstanding SWOT analysis and logical frameworks. Many of the discussions led to the conclusion that the number of staff in PQPMC was scarce, hence the need to recruit and train persons is a priority. This along with the other mitigating interventions to address the agreed-on gaps were by consensus of the stakeholders. They are reflected in National Phytosanitary Capacity Development Strategy, that is stored on the PCE platform, which can be modified by PCE national coordinator. A portion of the strategy is included as Appendix 6 of this report. Appendix 6 also details the results of the prioritized weaknesses or gaps in the Phytosanitary system, along with the outcomes of the application of the strategic management tools used in the PCE.

The following areas were discussed:

1. The total staff needed in PQPMC is 150 persons, while there is currently a shortfall of 40% as only 90 staff are currently employed. This led to the agreement that human resource needs are a priority, coupled with the need to train those who will be employed to fill the gap in various disciplines, such as pest risk analysis, pest diagnosis and fulfilling their national reporting obligations

2. Conversion of current aluminum phosphide fumigation facility to use methyl bromide, and training of officers in methyl bromide fumigation. The current aluminum phosphide fumigation facility is currently not used as importing countries do not requirement such treatment. Importers from Australia and India have been demanding that methyl bromide be used to fumigate consignments.

3. Continue activities for developing the central laboratory and other laboratories. Aim to establish the central laboratory as “centre of excellence”. Further information about the central laboratory is shared under the field trip section below.

4. Information system management system to be assessed by an expert with the aim of improving it to capture data on Pest interceptions and occurrences, among other things. This would improve the current agricultural pest data base which was developed from a concept drafted by the staff of PQPMC, the system now stores some data on the known agricultural pests in Nepal and is not fully utilized; also lack some of the functionalities that PQPMC now recognizes is needed.

5. Consideration will be given to the development of a workflow management system as a separate system. This would help with the management of the human resources, data management, and streamlining how tasks get accomplished.

6. Support to the development of SOPs on inspection, sampling, and surveillance will accompany the provision of enough employees to optimally use the recently built and furnished laboratory. This will be initiated as soon as the Government provides the needed number of employees.

7. Equipment: vehicles inspection tools, further details are provided in appendix 5.

For the prioritized items above, consensus was reached in the workshop, that these should be included in the strategic plan, and the appropriate project documents will be prepared at the end of the PCE for funding the activities to eliminate the gap.

Continuing in the workshop, the Officer in Charge for Implementation Facilitation Unit demonstrated to the stakeholders the different sections of the International Phytosanitary Portal (IPP). It was noted that many resources are there to develop the capacities of the NPPO staff and to facilitate enhancing the phytosanitary knowledge using the IPPC guides and training materials. The participants were encouraged to keep interacting with the IPP and to pay attention for when the new training courses such as the ones for PRA and export certification become available.

The PCE facilitator then introduced the group to the PCE budget template and informed the participants that completing

the PCE Budget is important for accompanying the completed log frames in the strategic plan resulting from the PCE process. The completed budget (Appendix 5) relates to the priority activities identified in the National Capacity Development Strategy as attached as Appendix 6. It aligns each item with module or modules for which the weakness was identified. The table also indicated the priority placed on the prospective project and by ** indicating for which items financial support will be sought. The National PCE Coordinator indicated that for some of the listed items, a significant portion of the infrastructure was already there. The PCE facilitator informed the stakeholders that to start realizing tangible deliverables from the PCE, activities for which no donor funding was needed because PQPMC has or can identify the capacity to do them, these activities can begin as soon as the outputs from the PCE are validated. To do so, the PCE Facilitator directed the participants to the guide on the IPP, Preparing a National Phytosanitary Capacity Development Strategy.

This portion of the mission ended after the PCE Facilitator presented the next steps to be done under the coordination of the National PCE Coordinator:

1. Researching and inputting in the budget table the costs for activities to be funded by Government of Nepal.
2. Prioritize the projects for National funding
3. Develop strategic plan with guidance from the publication, Preparing a National Phytosanitary Development Strategy
4. Generate the strategic plan from the PCE platform after which a date for an online validation meeting can be set.

After the face to face meeting these activities were done in the days following, and the Strategic plan generated from the PCE platform is added as appendix 6.

Field visits

Field visits are essential for the PCE Team to understand the field reality and understand better the comments being made during the PCE consensus workshops.

The final activities of the mission included two field visits: the newly constructed and furnished PQPMC central laboratory and the fumigation centre.

Visit to PQPMC Central Laboratory

The construction and equipping of this laboratory were funded under the Nepal India Regional Trade and Transport Project (NIRTTP) Sep 2013- Nov 2021. It was evident that this facility is fully equipped but understaffed as it currently counts three staff, and that some degree of training is needed to effectively use new equipment.

Training needs include general training basic laboratory operation, and specific training in areas such as sample collection and preparation, sample storage, soils testing and pest diagnostics.

The building has four levels, the ground floor is expected to house rooms for:

- Verification of Documents
- Sample Preparation
- Sampling & Sample Preparation
- Treatment Facility
- PRA, Computer & Servers
- Library Record and Documentation
- Reference Sample Room (Plant Sample)
- Reference Sample Room (Cultures)

The first floor is to house rooms for mycology, virology, entomology, and nematology.

The second floor to house:

- Survey & Surveillance
- Molecular Lab (Entomology, Pathology, Nematology, Virology)
- General Lab
- General Lab (Entomology, Pathology, Nematology, Virology)
- Record and Documentation
- Reference Sample Room (Plant Sample)
- Reference Sample Room (Culture)
- Inoculation

- Autoclave
- Chemical/Glassware Storage
- Dark Room

The third and final floor is designated for administrative functions and a training room. Appendix 7 shows a picture of the building and some of the equipment.

Visit of the fumigation centre

The second visit was to the fumigation centre which construction was funded by a World Bank project. It was constructed 2018, handed over to PQPMC on 2019 February. The functionality of the centre is one of the top priorities as agreed to by the stakeholders. The facility consists of large warehouse containing four 20 ft long containers used as fumigation chambers. Appendix 8 also show pictures of the facility.

The facility needs to be converted from aluminum phosphide to methyl bromide, as importing countries do not recognize exports treated with aluminum phosphide, and methyl bromide can be used to treat both imported and exported items.

Appendix 4 shows the list of persons who went on these two field trips.

The results of the PCE are intended to place the NPPO of Nepal in a position to engage international donors and national partners to clearly see the needs for projects to address the gaps in the phytosanitary system. The NPPO is now able to confidently make the necessary approaches using the results to initiate short to long term projects to enhance their

human and infrastructural phytosanitary needs.

Summary Recommendations with Budget Estimates

The PCE tools provides an analysis of the weaknesses prioritized by the NPPO and its stakeholders, and the key areas identified for capacity enhancement, along with an indicative workplan for each module.

The Strengths Weaknesses, Opportunities, and Threats (SWOT) analysis, done in the second mission, revealed that some important strengths reside in the PQPMC.

The weaknesses identified in each module, to a large extent are similar or related. These weaknesses, cripple or significantly impact the effectiveness of PQPMC in protecting the national interests including biodiversity of Nepal and its ability to enhance international trade. Further to that, low staff morale, and inadequately trained staff lessens the effectiveness of performing the day-to-day PQPMC operations on the borders and in the administration of the unit. To address these weaknesses consistent effort is needed to take advantage of the existing opportunities, to mitigate or eradicate those identified in each module. To achieve this, the required interventions listed by modules in the table below should be strategically implemented.

The table also shows the budget estimates per module, which is to cover multiple activities, details for which can be found in the indicative workplan for each module in Appendix 6, generated by the PCE tool.

Key areas in which capacities enhancement is needed	Combined effect of weaknesses by module	Required interventions to address weaknesses	Budget estimates per module ($US) and summary of activities	Estimated implementation timeline (this is subject to when the intervention is approved, and finances are allocated)
Module 3: Environmental forces assessment **Weaknesses** 1. Weak enforcement of the provisions plant protection act and regulation 2. Inadequate research/scientific backup for phytosanitary control 3. Insufficient human resources and organizational setup, limited competence in the existing human resources 4. Weak Border Cooperation	• Disfunctioning of existing implementation agencies • High risk on biosecurity with a tendency of importers to bypass the biosecurity procedures.	1. Establishment and implementation of a policy for the retention of trained staff and amendment of the civil service act for creation of a Sub-Faculty of Plant Protection as Plant Quarantine and Laboratory Service which allows better remuneration of staff. Thus, setting the foundation for staff tenure, building of institutional knowledge, and creating a network for educating internal and external stakeholders. 2. Developed a program for the inclusion of the phytosanitary issues in the Mission, Vision and mandate of Research institutions and Academia. This would serve to give the non-government institutions a measure of recognition of their importance in establishing the phytosanitary agenda of the country. 3. Establish O & M of PQPMC based on the phytosanitary requirements of the Country, as guided by the Plant Protection Act and based upon the trade demand. 4. Create awareness on the biosecurity issues, awareness raising activities on the importance of Phytosanitary Border Control.	164,000.00 (Country study visits, workshops, lab to lab engagement, public education campaigns, engagement of universities and other education institutions)	3 years

5. Inadequacy of financial resources		5. Communicate the potential impact of pest invasion and the need of phytosanitary control.		

Key areas in which capacities enhancement is needed	Combined effect of weaknesses by module	Required interventions to address weaknesses	Budget estimates per module ($US) and summary of activities	Estimated implementation timeline (this is subject to when the intervention is approved, and finances are allocated)
Module 4: NPPO's mission and strategy ***Weaknesses*** 1. Lack of Strategic plan to guide the NPPO's activities 2. Lack of and/or underutilization of infrastructure and facilities (Lab. and Treatments) 3. Poor retention of staff and their capacity development 4. Inadequate coordination and support from the stakeholders	Very limited or no technical and scientific ground for: implementing phytosanitary control • No confidence on the phytosanitary certification in importing countries. Continued dependence on the phytosanitary treatments of the consignments undergone aboard • Restrictions on or loss of market access	1. Prepare a Strategic Plan for the NPPO, establishing development goals for long term and short term. 2. Operationalize the Central Phytosanitary and Diagnostic Laboratory. 3. Create and dedicated staff positions and train individuals to fill them, so that critical areas of the NPPO are functional 4. Synchronize working hours and lobby for support from the stakeholders for Phytosanitary Control. 5. Create the forum for higher authorities and policy makers understand and support Phytosanitary measures for trade facilitation.	70,000 (Handover and operationalization of the Lab, Hiring of experts and staff training)	2 years

5. Lack of understanding on the role of NPPO in the higher authorities		This is needed to underpin the need for continued and increased budgetary support.		

Key areas in which capacities enhancement is needed	Combined effect of weaknesses by module	Required interventions to address weaknesses	Budget estimates per module ($US) and summary of activities	Estimated implementation timeline (this is subject to when the intervention is approved, and finances are allocated)
Module 5: NPPO structure and processes ***Weaknesses*** 1. Limited diagnostic capacity and inability to intercept 2. Lack of formal guidelines for technical audit 3. No existence of Plant Quarantine Offices in all the entry points 4. Lack of Standard operating procedures 5. Inability to implement internal quarantine system	• Risk of introduction of new pests • Limited capacity of risk identification and management • Continued inability to store and retrieve data to have information to guide phytosanitary decision making.	2. Develop and implement a strengthened diagnostic capacity guideline for technical audit. 3. Establish Plant Quarantine Offices at the entry points based on trade volume and need, along with developed and implemented Sops for these offices. Leading to sufficient number of adequately resourced PQ border offices. 4. Establish an internal quarantine system, to support plant protection initiatives.	60,000 (Develop and implements training programs, establish and enhance PQ offices, develop and institute the use of SoPs)	3 years

Key areas in which capacities enhancement is needed	Combined effect of weaknesses by module	Required interventions to address weaknesses	Budget estimates per module ($US) and summary of activities	Estimated implementation timeline (this is subject to when the intervention is approved, and finances are allocated)
Module 6: NPPO's Resources ***Weaknesses*** 1. Marginally staffed 2. Limitation on the utilization and development of the current expertise of the staff 3. Allocation of Inadequate financial resources to PQPMC related program 4. Inadequate Infrastructures accommodated with investigation tools at entry	• Limited compliance and vigilance on Phytosanitary procedures at the entry points • Hampering proper processes of sampling, inspection and testing	1. Adequately train and place sufficient staff for collaboration with other agencies, put in place an outsourcing mechanism for experts. 2. Implement a mechanism to have adequately trained human resources and training plan for staff development 3. Develop an operational plan for the existing facilities and infrastructures and expansion of the offices with competent staff. 4. Develop a plan for selective laboratories in provincial/regional basis to operate with adequate human resources and infrastructure at the major control points.	105,000.00 (Operational and human resource plans developed and instituted, Establishment, renovation, refurbishing and operationalization of the selected laboratories at major entry/exit points	

points 5.Underutilized information management system		5. Update and upgrade the current data base to an information management system, this will lead to having data to support phytosanitary decision making and national reporting obligations to the IPPC.		

Key areas in which capacities enhancement is needed	Combined effect of weaknesses by module	Required interventions to address weaknesses	Budget estimates per module ($US) and summary of activities	Estimated implementation timeline (this is subject to when the intervention is approved, and finances are allocated)
Module 7: Pest diagnostic capacity ***Weaknesses*** 1. Lack of coordination mechanism with the stakeholders (Including other laboratories and National experts –out of office) 2. Lack of standard operating procedures and protocols 3. Lack of specified room for Quarantine pests in the central phytosanitary laboratory 4. Lack of training plan for specific laboratory procedures	• Limited or no pest diagnostic capacity to support enforcement of Phytosanitary Legislation • No technical and scientific backup for policy formulation to support phytosanitary activities	1. Develop a coordination mechanism between government and private laboratories and develop and implemented Standard Operating Procedures and protocols. 2. Identify and outfit a specialized room for quarantine pests in the central laboratory. 3. Develop and implement a training plan for specific laboratory procedures. This will facilitate harmonizing laboratory operations for plant pest diagnostics. 4. Construct and operationalize a Post Entry Quarantine facility. Thereby enabling more capacity for mitigating the entry of exotics pests.	550,000.00 (Develop and institute trainings, establish and empower logistics committee for lab operations. Construction of infrastructure, furnish and recruit staff	5 years

5. Lack of appropriate Post Quarantine facility				

Key areas in which capacities enhancement is needed	Combined effect of weaknesses by module	Required interventions to address weaknesses	Budget estimates per module ($US) and summary of activities	Estimated implementation timeline (this is subject to when the intervention is approved, and finances are allocated)
Module 8: NPPO pest surveillance and pest reporting capacity ***Weaknesses*** 1. Lack of strategic and operational plan 2. Inadequate Infrastructure - no updated Computerized Database System/Logistics 3. Limiting Financial resources 4. No Formal linkage with relevant stakeholders and International institutions	No planned and systematic surveillance activity, leading to inability to meet national reporting obligations under the IPPC. Potential negative impact on food security, economy, environment and non-agri sector including tourism.	1. Develop and implement a survey and surveillance strategic and operational plan 2. Update and customized pest information management database system 3. Lobby for sufficient financial resources to be allocated 4. Operationalize formal linkage with the stakeholders and cooperation with international institutions 5. Enhance the national capacity in pest diagnosis through trainings and fellowships	83,000.00 (Develop strategic plan, establish national network of the pest diagnosis labs., Engage expert to develop software and development of the user's manual. Training in the use of advanced diagnostic tools)	

5. Limited Diagnostic capacity.				

Key areas in which capacities enhancement is needed	Combined effect of weaknesses by module	Required interventions to address weaknesses	Budget estimates per module ($US) and summary of activities	Estimated implementation timeline (this is subject to when the intervention is approved, and finances are allocated)
Module 9: Pest eradication capacity ***Weaknesses*** 1. Lack of Pest Eradication Program and management team at NPPO 2. No contingency plan developed for any specific pests to be eradicated 3. Lack of inventory of prioritized regulated pests 4. Lack of commitment of	Inability to maximize market potential, leading to loss of opportunities for export which may cause farmers to abandon the crops and agriculture, exacerbating food insecurity and increasing trade deficit and dependency	1. Institute Pest Eradication and Management (PEM) program at PQPMC/NPPO Nepal based on the recommendation of contracted Experts 2. Develop a contingency plan for pests to be eradicated 3. Prepare documents to justifying the need of sustained pest eradication program to policy makers 4. Develop an operational manual/guideline for pest eradication program	80,000.00 (Research the components of Pest Eradication Program. Develop and institute program)	5 years

Policy makers for sustained pest eradication program 5. Lack of operational manual/guidelines for pest eradication program.				

Key areas in which capacities enhancement is needed	Combined effect of weaknesses by module	Required interventions to address weaknesses	Budget estimates per module ($US) and summary of activities	Estimated implementation timeline (this is subject to when the intervention is approved, and finances are allocated)
Module 10: Phytosanitary import regulatory system ***Weaknesses*** 1. No established review mechanism for updating legislation and regulations 2. Assessment indicators lacking for the review of performance of the import regulatory system 3. No updated procedures and guidelines for Inspection, sampling, testing etc.	Law and regulation not harmonized with international agreements and commitments resulting in conflicting provisions on cross cutting issues in different laws and regulations and among OGAs	1. Develop a review mechanism for updating legislation & regulation. 2. Develop assessment indicators for the review of performance of the import regulatory system. 3. Update procedural guidelines for sampling, testing, and inspection. 4. Develop and institute procedural guidelines for	33,000.00 (Organize and hold workshops with stakeholders and staff. Develop and institute procedures to fulfil national reporting obligations. Hold workshop for sensitization of different stakeholder groups on guidelines and standards)	5 years

4. No documented procedural guidelines for notifications including noncompliance 5. Lack of effective execution of the developed guidelines and standards due to the lack of resources, capacity		notification including non-compliance		

Key areas in which capacities enhancement is needed	Combined effect of weaknesses by module	Required interventions to address weaknesses	Budget estimates per module ($US) and summary of activities	Estimated implementation timeline (this is subject to when the intervention is approved, and finances are allocated)
Module 11: Pest risk analysis ***Weaknesses*** 1. Lack of trained Experts on PRA and a PRA team in the NPPO 2. Lack of policy support to have continued access to the online PRA software. 3. Lack of official procedures and manuals	Risk assessment, identification and risk management activities lacking causing increasing threat on biosecurity, and inability to define the Appropriated Level of Protection	1. Train staff in PRA and form a PRA team in PQPMC, formalise linkages with experts on PRA to support the national PRA team. 2. Establish formal access to the online PRA software with policy support and developed official procedures and manuals 3. Develop functional SPS notification system and enhance	53,000.00 (Source and contract expert. Organize hands on trainings, and establish PRA team. Develop and implement IPM program)	3 years

4. Lack of access to experts and/or institution with expertise on integrated risk management measures (economic impact assessment, qualitative and quantitative efficacy of pest management, biometrics) 5. Lack of system in place for advance SPS notifications		the mechanism for fulfilling Nepal's National Reporting Obligations. This will aid in building the confidence among international stakeholders.		

Key areas in which capacities enhancement is needed	Combined effect of weaknesses by module	Required interventions to address weaknesses	Budget estimates per module ($US) and summary of activities	Estimated implementation timeline (this is subject to when the intervention is approved, and finances are allocated)
Module 12: Pest free areas, places and sites, low pest prevalence areas ***Weaknesses*** 1. Unavailability of adequately trained HR and other essential resources. 2. Inadequate legislative provisions and	Limited utilization of the export potential coupled with potential cases of non-compliances and loss of credibility among stakeholders, which may lead to	1. Develop systems, guidelines, SOPs for traceability of consignments, phytosanitary security and integrity of consignments 2. Train stakeholders to use	63,000.00 (Prepare manuals and SOPs, organize hold sensitization workshop, embark	5 years

guidelines to support procedures for assuring traceability of consignments, phytosanitary security and integrity of consignment 3. Lack of awareness among the producers and other stakeholders regarding PFA, PFPP, PFPS and ALPP 4. Lack of infrastructures including standard packing house with updated equipment's and facilities 5. Lack of procedures and standard operating procedures regarding ALPP, PFA, PFPP and PFPS	inability to gain, maintain or improve market access	newly developed traceability system and IQ guidelines 3. Develop standard packing houses with accessories 4. Develop and update SOPs for ALPP, PFA, PFPP, PFPS. These will create opportunities for new and continued market access.	on public education campaign)	

Key areas in which capacities enhancement is needed	Combined effect of weaknesses by module	Required interventions to address weaknesses	Budget estimates per module ($US) and summary of activities	Estimated implementation timeline (this is subject to when the intervention is approved, and finances are allocated)
Module 13: Export certification, re-export, transit ***Weaknesses*** 1. Lack of export certification program 2. Lack of well documented	• Inconsistency and lack of uniform procedures • Limited traceability. Resulting in losses to exporters and reliability of the certification activities in question and increased cases of non-compliances	1. Develop a commodity/ country specific exports certification programme 2. Develop and implemented an export certification procedure and guideline for exportable commodities	115,000.00 (Develop guidelines/ procedures for export certification. Hold consultation with the stakeholders to Identify importing countries and commodities. Develop a	5 years

procedures and guidelines for exporting commodities 3. Lack of well-defined indicators for measuring export certification services 4. Lack of traceability of the consignments 5. Lack of dedicated packing houses and other infrastructures for export		3. Develop indicators for export certification services 4. Develop and implement a consignment traceability mechanism/ system 5. Develop facilities and infrastructure for export. These will create opportunities for new and continued market access.	mechanism to assess the priority on infrastructure development (including fumigation facilities, irradiation facility, cold treatment, Hot air treatment, packaging house, warehouse, storage structure etc)	

Conclusion

It is clear from the contents above that the combined effect of a few weaknesses, or the overall weakness will further hamper PQPMCs ability to fully carryout the various functions of a NPPO. It is also clear that, some of the gaps identified through the assessments are common to multiple modules, therefore some of the interventions required will address 2 or 3 weaknesses.

There are also areas for intervention that PQPMC can initiate with current resources because they do not require external funding. It is expected that the NPPO will prioritize the needed interventions, and approach donors to partner with the government of Nepal for addressing the weaknesses.

Appendices

Appendix 1 – PCE Mission Agenda

PCE Mission Agenda
Kathmandu, Nepal
3rd PCE Mission
March 19 – March 26, 2022

Activities preliminary to the mission
• Select and invite relevant stakeholders to attend the workshop (10 to 15 persons to work Logical frameworks and strategic plan discussions for remaining modules). • Select the place to run the meeting • The meeting room should be sufficiently spacious to have a projector, seating to facilitate Covid 19 seating distance. • Internet to connect to the PCE platform. • It should be possible to make photocopies • Stakeholders should receive an electronic copy of the completed Modules

		Actions needed
Day 1 – 19 March, Fitzroy (21 March Sarah)	Arrival	Transportation from airport to hotel

Day 2 – Sunday 20 March		**Actions needed**
09:00 – 11:00 12:00 – 13:00	Finalize physical logistics of workshop prior to arrival and registration of Stakeholders at hotel	
13:00 – 14:00	Lunch	
14:00 – 14:45	Opening and welcome World Bank Secretary/ Joint Secretary MOALD	
14:45 – 15:15	Meeting with the PQPMC team and participating stakeholders to agree on the agenda, share responsibilities, identify technical challenges	Organize the meeting with attendees
15:15 – 18:00	Comments and next steps on log frames started and continue logframe from online session	PCE facilitator - Brief presentation / reminder on purpose of log frame Finalize attendees to validation meeting on day 5
	End day 2	

Day 3 – Monday 21st March		**Actions needed**
08:00 – 11:00	Continue work on log frames	PQPMC/stakeholders
11:00 -11:15	Break	
11:15- 13:00	Continue work log frames	

13:00 - 14:00	Lunch	
14:00 – 18:00	Continue Log frames	
	End day 3	

Day 4 – Tuesday 22nd March		**Actions needed**
08:00 – 11:00	Continue work on log frames	
11:00 -11:15	Break	
11:15- 13:00	Planning session for validation meeting: • Srategic plans developing roadmap for addressing gaps • Proposed projects for validation meeting	Invite high level Government stakeholders
13:00 - 14:00	Lunch	
15:00 – 18:00	Continue work on log frames	

Day 5- Wednesday 23rd March		**Actions needed**
08:00 – 11:00	Presentation and discussion on PCE projects budget	PCE facilitator
11:00 -11:15	Break	
11:15- 13:00	Developing budget / finalizing log frames	
13:00 - 14:00	Lunch	
15:00 – 17:00	Transfer to Marriot Hotel to continue mission	

Day 6 – Thursday 24th March		**Actions needed**
10 : 00 – 12 : 30	Wrap-up meeting • Discuss and finalize log frames • Next steps by National coordinator	PQPMC and Stakeholders
12 :30 – 13 :30	Break / Relocate to Marriot Hotel	
14 :00 – 16 :00	Visit to PQPMC Central Lab	
16 :30 – 17 :30	Visit Fumigation Center	

Day 7- Friday 25 March		**Actions needed**
09:00 - 11:00	COVID test for return flights	
12 : 00 - 13 :30	Meeting FAO office	
12 :30 – 13 :30	Break	
13 :30 – 14 :30	Visit private lab	
14 :30-16 :00	Meeting with Freight Forwarders and Custom Agents	
	Arrangements for departure	

Appendix 2 - Attendees to the Pre PCE working session meeting

Name	Designation	Organization
Fitzroy White	PCE Facilitator	IPPC
Shane Sela	Senior TF Specialist	World Bank
Deepak Man Singh Shrestha	Senior Transport Specialist	World Bank

Appendix 3 – List of stakeholders

S.N.	Name	Designation	Organization
Ministry of Agriculture and Livestock Development (MoALD)			
	Dr. Govinda Prasad Sharma	Secretary	MoALD
	Ganesh Kumar KC	Former Secretary	MoALD
	Dr. Rajendra Prasad Mishra	Joint Secretary	MoALD
	Radha Devi Sharma	Food Research Officer,	Quarantine Coordination Section, MoALD
Plant Quarantine and Pesticide Management Centre (PQPMC)			
	Sahadev Prasad Humagain	Chief	PQPMC
	Mahesh Chandra Acharya	Senior Plant Protection Officer	PQPMC
	Prakash Paudel	Senior Plant Protection Officer	PQPMC
	Debraj Adhikari	Senior Plant Protection Officer,	PQPMC
	Ram Krishna Subedi	Former Senior Plant Protection Officer	
	Shrinu Kumari Jha	Plant Protection Officer	PQPMC
	Mahesh Timilsina	Plant Protection Officer	PQPMC
Central Agriculture Lab (CAL)			
	Rajiv Das Rajbhandari	Senior Plant Protection Officer	CAL
Nepal Agriculture Research Council (NARC)			
	Dr Samudra L. Joshi	Former Principal Scientist	Nepal Agriculture Research Institute, Entomology Division
	Ram Bahadur Khadka	Scientist	National Plant Pathology Research Center
	Ram Chandra Gouli	Senior Technical Officer	National Entomology Research Center
Ministry of Industry, Commerce and Supplies (MoICS)			
	Nabraj Acharya	Senior Officer	MoICS
	Dipak K. Hitan	Chemist	Department of Commerce
Province			
	Mr. Narayan Kumar Shreshta	Senior Plant Protection Officer	Plant Protection Laboratory, Bagmati Province
Private Sector			
	Suresh Gurung	Chairman	Karma Group of Companies
	Durga P. Adhikari	Managing Director	SEAN Seed Co. Ltd.
	Govinda Ghimire	President	Alternative Herbal Products

	Sundar Dahal	Managing Director	Starlight Express P Ltd.
	Hira Kaji Manandhar	Chairman	Nepal Plant Disease and Agro Associates

Appendix 4 – List of persons who went on field trips

Name	Designation	Organization
Fitzroy White	PCE Facilitator	IPPC
Sarah Brunel	Officer in Charge for Implementation Facilitation Unit	IPPC
Mahesh Chandra Acharya	Senior Plant Protection Officer	PQPMC
Sahadev Prasad Humagain	Chief Officer	PQPMC
Sunita Shakya Chitraker		
Shane Sela	Senior TF Specialist	World Bank

Appendix 5 – Proposed PCE budget

BUDGET: PQPMC Nepal

Category	Item	Government Estimates US$ in Millions	Module	Priority
Laboratory and infrastructure	**Post Entry Quarantine facilities	1.5	M10	1
	**Development of IRRADIATION FACILITY for exports	0.5	M13	1
	**Pest diagnostic labs (construction)	2.5	M10, M7, M13	1
	**Purchase equipment -pest diagnostic labs	1.5		1
	**Establish quarantine facilities (entry/exit points)- Vehicles (Four wheelers-10(for survey, mobile laboratory type, treatment dedicated, for disposal, for administrative/monitoring purpose; Two Wheelers – 20) Refrigerators/Freezers, other accessories – 8 sets, Heat treatment/cold treatment facilities- Dryport Khobar/kirtipur)	2	M5	1
	** supplies for diagnostic facilities including acquisition of reference materials including physical specimens of Q Ps. (reference lab)	1.0		2
	**Improving existing infrastructure	0.15		2
	**Construct packing house on cost sharing with private sector (1 pilot)	0.05M	M12	3
	**Convert existing AP to MB facility		M13	1
	Total costs			
Programmes	**Pest Surveys (MAPs and Cultivated Crops) **Data collection and storage (expert for software systems)	0.5 M	M13	2
	Plant Pest Diagnoses/verification		M13	2
	Public education		M4, M8	2
	Export enhancement program (pest management)		M13	
	**Hire experts for developing SOPs, Procedures, Handling equipment, diagnosis, infrastructure analysis etc (refer to swot/Log frame)	0.2	M13	1
	**Develop Traceability system		M13	

	Total costs			
Training/Human Resources Development	**Overseas (25)/in country hands on trainings for lab personnel (10 events) Exposure visits offshore (4*10 person)	0.5		2
	**Abroad training on fumigation (Staffs and entrepreneurs)	0.05		1
	Local training for lab personnel			
	**5 year academic support (Graduation-10 people) **Cadre of Inspectors trained over 5-year period (30 people)	0.75	M5, M10	1
			M5	
	All front-line staff trained in customer service			
	Management training for relevant staffs		M3, M10 +	
	**PRA training (advanced TOT)-10 people, 1 event	0.05	M11	1
	Total costs			
Overall total costs		15.75		

*** Projected to be financially supported by the World Bank for 5 years (SRCTIP project period)*

Appendix 6 – Strategic plan generated from the PCE platform[1]

Phytosanitary Capacity Evaluation (PCE) – REPORT (Extract)

1. Introduction:

Nepal is a country situated in Asia. It has population of about 28.61 million (2019, World Bank). Total land area is 148181.86 sq.km. with a total arable land area of 30910 sq.km. Total natural vegetation occupies 86240 sq.km.

The major crops grown in the country are: Paddy, Maize, Wheat, Potato, Oilseeds, Vegetables, Pulses, Ginger, Tea, Millets.

Ten major imports of plant and plant products are: Paddy, Maize, Wheat, Pulses, Oilseeds, Onion, Potato, Vegetables, Fruits. Total value of imports of plant and plant products (including forestry products) amounted to Greater than $100M Nepal's major trading partners in plants and plant products imports are India, The Netherlands, Turkey, China, Brazil, Australia, Canada.

Ten major exports of plant and plant products are: Medicinal and Aromatic Plants and their Products, Cardamom, Coffee, Tea, Ginger, Lentil, Palm Oil, Soybean Oil. Total value of exports of plant and plant products (including forestry products) amounted to $25M to $50MNepal's major trading partners in plants and plant products exports are India, The Netherlands, Turkey, China, Brazil, Australia, Canada. 0 % of total exports (includes Forestry) are re-export consignments.

The Gross National Income (GNI) per capita is estimated at 3610 (2019) US $; latest GDP in US $ (World Bank) is 1085 (2019). Percentage contribution of agriculture (including forestry) to GDP is about 30 %; with about 30 % for plants and plant products (including forestry). The agricultural labour force (including forestry) as a percentage of total labour force is 60 %. 60 % of the agricultural labour force is directly employed in the production of plant and plant products (including forestry).

Nepal has membership of or is signatory to, the following organizations/conventions: RPPO APPC. It is a member of the following Regional economic integration/ co-operation organizations: RPPO APPC. Currently there are 1-3 bilateral phytosanitary arrangements in operation and 1-3 more negotiations are in progress.

During the last few years, major aid programs that have significantly contributed to phytosanitary capacity development or strengthening in the country include Ginger Project, NIRTTP.

[1] The complete report is contained in the PCE online module

2. Summary of Findings/Recommendations:

2.1. Key issues or points identified:

2.2. Identified Weakness:

Legislation and policy:

Module	Weakness/Priority (highest priority 1)
Module 3: Environmental forces assessment	1. Weak enforcement of the provisions plant protection act and regulation 2. Inadequate research/scientific backup for phytosanitary control 3. Insufficient human resources and organizational setup, limited competence in the existing human resources 4. Weak Border Cooperation 5. Inadequacy of financial resources

NPPO operations:

Module	Weakness/Priority (highest priority 1)
Module 4: NPPO's mission and strategy	1. Lack of Strategic plan to guide the NPPO's activities 2. Lack of and/or underutilization of infrastructure and facilities (Lab. and Treatments) 3. Poor retention of staff and their capacity development 4. Inadequate cordination and support from the stakeholders 5. Lack of understanding on the role of NPPO in the higher authorities
Module 5: NPPO's structure and processes	1. Limited diagnostic capacity and inability to intercept 2. Lack of formal guidelines for technical audit

	3. No existence of Plant Quarantine Offices in all the entry points 4. Lack of Standard operating procedures 5. Inability to implement internal quarantine system
Module 6: NPPO's Resources	1. Marginally staffed 2. Limitation on the utilization and development of the current expertize of the staff 3. Allocation of Inadequate financial resources to PQPMC related program 4. Inadequate Infrastructures accommodated with investigation tools at entry points 5. Underutilized information management system

Technical:

Module	Weakness/Priority (highest priority 1)
Module 7: Pest diagnostic capacity	1. Lack of coordination mechanism with the stakeholders (Including other laboratories and National experts –out of office) 2. Lack of standard operating procedures and protocols 3. Lack of specified room for Quarantine pests in the central phytosanitary laboratory 4. Lack of training plan for specific laboratory procedures 5. Lack of appropriate Post Quarantine facility
Module 8: NPPO pest surveillance and pest reporting capacity	1. Lack of strategic and operational plan 2. Inadequate Infrastructure - no updated Computerized Database System/Logistics 3. Limiting Financial resources 4. No Formal linkage with relevant stakeholders and International institutions 5. Limited Diagnostic capacity
Module 9: Pest eradication capacity	1. Lack of Pest Eradication Program and management team at NPPO 2. No contingency plan developed for any specific pests to be eradicated 3. Lack of inventory of prioritized regulated pests 4. Lack of commitment of Policy makers for sustained pest eradication program 5. Lack of operational manual/guidelines for pest eradication program

Module 10: Phytosanitary import regulatory system	1. No established review mechanism for updating legislation and regulations 2. Assessment indicators lacking for the review of performance of the import regulatory system 3. No updated procedures and guidelines for Inspection, sampling, testing etc. 4. No documented procedural guidelines for notifications including noncompliance 5. Lack of effective execution of the developed guidelines and standards due to the lack of resources, capacity
Module 11: Pest risk analysis	1. Lack of trained Experts on PRA and a PRA team in the NPPO 2. Lack of policy support to have continued access to the online PRA software. 3. Lack of official procedures and manuals 4. Lack of access to experts and/or institution with expertize on integrated risk management measures (economic impact assessment, qualitative and quantitative efficacy of pest management, biometrics) 5. Lack of system in place for advance SPS notifications
Module 12: Pest free areas, places and sites, low pest prevalence areas	1. Unavailability of adequately trained HR and other essential resources. 2. Inadequate legislative provisions and guidelines to support procedures for assuring traceability of consignments, phytosanitary security and integrity of consignment 3. Lack of awareness among the producers and other stakeholders regarding PFA, PFPP, PFPS and ALPP 4. Lack of infrastructures including standard packing house with updated equipment's and facilities 5. Lack of procedures and standard operating procedures regarding ALPP, PFA, PFPP and PFPS
Module 13: Export certification, re-export, transit	1. Lack of export certification program 2. Lack of well documented procedures and guidelines for exporting commodities 3. Lack of well-defined indicators for measuring export certification services 4. Lack of traceability of the consignments 5. Lack of dedicated packing houses and other infrastructures for export

3. Methodology:

Information on the stakeholders involved in the PCE application is available in the Annex 2.

4. Findings:

4.1 Introduction:

The 'New Revised Text' (IPPC, 1997) sets out clear obligations for the NPPO to address plant protection issues and/or broaden its scope of operations and establish systems to address IPPC requirements and responsibilities.

The objectives of an NPPO within the context of national development plans may be translated into three broad areas of responsibility:

- To protect plant resources (including cultivated, wild and aquatic plants) through implementation of appropriate phytosanitary measures
- To support national food security and a healthy environment through effective pest exclusion procedures
- To facilitate market access and safe international trade in agricultural commodities by establishing effective phytosanitary certification systems and procedures.

To fulfil all of these objectives an NPPO needs sustainable financing, planning for long-term staffing arrangements, having contingency plans in place for changes in political contexts and planning for natural disasters, among other areas, to ensure the organization remains sustainable and adaptable over the long term. At the same time, a well-organized, fully functional an NPPO should have appropriate national, regional and international networks.

4.2 SWOT Analysis:

SWOT (Strength, Weakness, Opportunities and Threats) - under this section relevant internal strengths, as well as external opportunities and threats can be found. Opportunities and strength can enable the recovery of each of the weakness.

Module 3: Environmental forces assessment	
Strength 1. Committed persons in the plant protection sector. • Plant Protection Act and regulation in place • PP Act aligned with the SPS agreement • Nationwide organizational setup and well recognized 2. Established institutions working in Research including the NARC, NAST, Universities • Experts available that can work on phytosanitary issues • Demand of the pest data sheets and other information from the trading partners 3. Availability of the Freelancer Experts that can be outsourced for performing the selective activities. • Donors are supportive of the facilities and human resource development • Organization and Management (O&M) survey of PQPMC under consideration at the ministry • The need of Plant Quarantine agencies realized at the new entry points like International Airports, Dry ports etc by the other agencies. 4. Existance of Quarantine Offices at entry points of Major Trade. • Operationalization of NNSW in full phase 5. Budget allocation for survey and surveillance as a multiyear activity with financial assurance from MoF.	**Weakness** 1. Weak enforcement of the provisions plant protection act and regulation 2. Inadequate research/scientific backup for phytosanitary control 3. Insufficient human resources and organizational setup, limited competence in the existing human resources 4. Weak Border Cooperation 5. Inadequacy of financial resources
Opportunities 1. Possibilities of partnering with private sector laboratories. • Potential of utilization of Inrernal and/or external fund for the Development and utilization of credible laboratory facilities • Market opportunities can be utilized 2. Experts available that can work on phytosanitary issues	**Threats** 1. Policy and priority of the Government may not be supporting • Frequent transfer of the trained human resources • Stakeholder support not strong for enforcement • Competitiveness interms of quality standards and scale of operations, 2. Phytosanitary Issues not included in the mandate of Research and Academia

• Formation of Network of experts at national level • Regional collaboration to get expertize and mutual cooperation. • Trade and Export Promotion Center/AEC and National Level Commodity Associations that can work on market research • Survey Surveillance and Pest Risk Analysis as a priority activity 3. Capacity enhancement of the existing human resources. • Government and Donor Support for Human Resource Development • Outsourcing the experts service. • Organization and Management (O & M) survey of PQPMC and updating the organizational setup as per the present need. • There are number of universities that can offer courses on Phytosanitary matters • Plant Quarantine is under the sole function of the Federal Government • Use of online system for overall phytosanitary regulation process except for Inspection and certification • Operationalization of the Central SPS Laboratory for testing and diagnosis, use as resource center for basic laboratories at the entry points, 4. Full operationalization of the NNSW, • Synchronization of the office hours of the border agencies • Mandatory functional coordination mechanism • Mutual recognition of the legal provisions of collaborating agencies, 5. Donors supportive of development of infrastructure and human resource development • Collaboration with the research and academia • Collaboration with the commodity associations	• Research priority of NARC and Academia may not supportive to the phytosanitary issues, 3. Transfer of trained and experienced human resources • Priority in the fulfillment of vacant positions in the Quarantine Offices and NPPO • Availibility of resources for outsourcing from the Internal Governmental resources • Increased potential of invasion of new invasive pests along with the increasing import trade because of weak phytosanitary control at the entry points, 4. Weak collaboration for effective phytosanitary control from other border agencies • Potential risk of introduction of exotic pests • Potential negative impact on the export • Continuing informal trade, 5. Lack of continuity on financial assurance for multiyear activities like survey and surveillance,
Module 4: NPPO's mission and strategy	
Strength 1. There are legal provisions for "preventing the introduction, establishment, prevalence and spread of pests while importing and exporting plants and	**Weakness** 1. Lack of Strategic plan to guide the NPPO's activities

plant products, promoting safe trade in plants and plant products" – Plant Protection Act 2007 and Plant Protection Regulation 2010 are in place – NPPO's action plan guides the activities of NPPO 2. Central Phytosanitary and Diagnostic Laboratory under installation of equipment and proposed to be handed over to PQPMC. • & M of the PQPMC under consideration at the ministry and a separate organogram proposed for the Central PSD Lab 3. Possibility of working online in the web-based system (Nepal National Single Window) 4. Meetings with stakeholders 5. Lobbying based on facts and figures on the importance of phytosanitary control at the borders	2. Lack of and/or underutilization of infrastructure and facilities (Lab. and Treatments) 3. Poor retention of staff and their capacity development 4. Inadequate coordination and support from the stakeholders 5. Lack of understanding on the role of NPPO in the higher authorities
Opportunities 1. Development of the Strategic plan of the NPPO to shape its basic goals, characteristics, values, and philosophy, 2. Support from donor agencies, 3. Support from the donor agencies • Training and Capacity enhancement, 4. Awareness raising and receiving better coordination and increased support from the stakeholders • More effective and efficient service delivery, 5. Demonstrating the facts and figures • Lobbying on the role of phytosanitary control on agriculture, biodiversity and the whole economy • Receiving external support for capacity enhancement,	**Threats** 1. Lack of resources and ability to implement the activities in line with the strategic plan, 2. Lack of resources and facilities for the sustained operation of the laboratory, 3. Vacant positions of the technical staff • Hindered compliance of the Phytosanitary regulation., 4. Continued ignorance of the phytosanitary requirements on trade, 5. Continued ignorance of the phytosanitary requirements on trade,
Module 5: NPPO's structure and processes	

Strength	Weakness
1. Legislative provisions for the NPPO in place • Basic organizational structure to build on in place for Phytosanitary activities • Core Human Resources available • Identified different stakeholders by NPPO • Newly constructed Phytosanitary and Diagnostic Lab available • Physical facility for Quarantine Treatment developed. 2. A number of NSPMs developed 3. 15 Quarantine Offices established at major entry points 4. Availability of experts • Senior management has knowledge of policy and political commitments for the developement of SoPs 5. Legal provisions in place. • Internal Quarantine Guidelines already prepared	1. Limited diagnostic capacity and inability to intercept 2. Lack of formal guidelines for technical audit 3. No existence of Plant Quarantine Offices in all the entry points 4. Lack of Standard operating procedures 5. Inability to implement internal quarantine system
Opportunities	**Threats**
1. Funds and technical assistance available • Coordination and collaboration among the different stakeholders • Possibility of using external laboratory services and expertize available in the country, 2. Access to International and Regional guidelines available, 4. Recognition of the need of SoPs at the higher level, 5. Realization of the importance of internal quarantine • Three level of Governments can share the responsibilities,	1. Human Resource availability (numbers, capability and retention) • Allocation of resources including financial, 2. Human Resource availability (numbers, capability and retention) • Allocation of resources including financial, 3. Human Resource availability (numbers, capability and retention) • Allocation of resources including financial, 4. Human Resource availability (numbers, capability and retention) • Allocation of resources including financial, 5. Human Resource availability (numbers, capability and retention)

	• Allocation of resources including financial • Coordination among the three tiers of the Government,
Module 6: NPPO's Resources	
Strength 1. All existing staff are faculty related • Have basic practical experiences on phytosanitary issues 2. Good Office network throughout the country • All staff faculty related • Central Phytosanitary and Diagnostic Lab constructed and equipment being installed 3. Basic laboratory facilities and equipment are available in the major Quarantine Offices • ICP/ICD being constructed with some infrastructures in some of the entry points • Positive attitude of private and public sector towards the need of Quarantine services 4. Minimum basic laboratory requirements available in most of the quarantine offices and basic inspection kits available in all • Laboratory facilities being expanded in some of the Offices 5. NNSW in operation, some information stored and available in the portal • Framework of the information management system developed • Available information being posted in the information management system	**Weakness** 1. Marginally staffed 2. Limitation on the utilization and development of the current expertise of the staff 3. Allocation of Inadequate financial resources to PQPMC related program 4. Inadequate Infrastructures accommodated with investigation tools at entry points 5. Underutilized information management system
Opportunities 1. Fulfilment of the vacant positions • Access to internal as well as external training and capacity enhancement of the available staff	**Threats** 1. No priority from the ministry for the fulfilment of the vacant positions • Trained human resources transferred to another organization • Inadequate resources for outsourcing,

• Universities, other institutions and private sector entities available for outsourcing of the activities, 2. Training and capacity development opportunities accessible • Use of Central Phytosanitary and SPS Lab for hands on capacity enhancement trainings • Hiring of experts to provide hands on training to the laboratory staff, 3. Stakeholders' realization of the need of the Quarantine Offices in the entry points • Pressure from the other stakeholders to the Ministry for strengthening the Quarantine offices • Projects and donors positive to support for the Phytosanitary capacity enhancement, 4. Collaboration with other agencies for the utilization of the available equipment and tools at the entry points • Donor funds available for upgrading the laboratory facilities in regional and priority basis • National and international training and capacity enhancement of the staff accessible, 5. Potential for updating and customization of the developed information management system • Utilization of the National/international expertize for updating and upgrading the information management system,	2. Lack of organogram continues for the SPS lab and the lab will not be operationalized. • No priority from the ministry for the fulfillment of the vacant positions • Trained human resources transferred to another organization • Lack of resources for outsourcing, 3. Lack of human resources still continues • Limitation of resources still continues, 4. Continued unavailability of human resources to operationalize the laboratory • Limited inputs in expansion of the entry points with the existing human resources, 5. Unavailability of resources • Unavailability of expertize
Module 7: Pest diagnostic capacity	
Strength 1. Legislative framework in place • Organizational setup in place • PQPMC willingness existing 2. Experienced staff in place • Framework for preparing the SoPs available in PQPMC	**Weakness** 1. Lack of coordination mechanism with the stakeholders (Including other laboratories and National experts –out of office) 2. Lack of standard operating procedures and protocols 3. Lack of specified room for Quarantine pests in the central phytosanitary

• Identification manuals for Quarantine Pests developed and published 3. Newly developed laboratory yet to be operationalized. 4. Availability of laboratories 5. Some structures have been built at kirtipur	laboratory 4. Lack of training plan for specific laboratory procedures 5. Lack of appropriate Post Quarantine facility
Opportunities 1. Many national diagnosticians/academicians identified • Increase the coordination and collaboration with existing laboratories in private/public sector, 2. Access to resources for developing SoPs and Protocols 3. Scope still exists for customization, 4. Resource persons available to develop the training plan, 5. Funds may be available,	**Threats** 1. Inadequate motivation for the experts Retention of the technical staff Unavailability of the experts in need Political environment may not be favourable, 2. Working environment and availability of the staff in place, 4. 5. Availability of expertise and resources for proper use,
Module 8: NPPO pest surveillance and pest reporting capacity	
Strength 1.Generic NSPMs in place • PQPMC understands the demand of the Traders/Exporters for efficient strategy from govt side and are willing to support government for implementation • PQPMC has access to pest reporting according to NROs • Legal provisions for reporting place • NSPM for Pest reporting in place 2. IT facilities are available at PQPMC • Provision of server and cloud to store the data	**Weakness** 1. Lack of strategic and operational plan 2. Inadequate Infrastructure - no updated Computerized Database System/Logistics 3. Limiting financial resources 4. No Formal linkage with relevant stakeholders and international institutions 5. Limited Diagnostic capacity

• Survey and surveillance on selective commodities going on 3. PQPMC as NPPO well defined by the government • Continuous lobbying and consideration of Phytosanitary Issues by the Ministry • Use of NNSW platform for the isuance of the documents 4. Member of IPPC, APPPC, WTO, BRS Convention • NPPO legally assigned to develop linkage with national and International Organizations • Concerned stakeholders from multiple sectors are identified • Provision of Plant Quarantine committee in the Law 5. Central laboratory in PQPMC about to be operationalized • Basic laboratory infrastructure available in some of the Quarantine Offices	
Opportunities 1. Access to information and networking technology at hand • Stakeholders willing to develop infrastructures in partnersip NPPO • Pest reporting and interception reporting templates accessible • Develop harmonized framework for working in surveillance, 2. IT sector is growing fast, use of IT personnel outside the system • Gadgets and internet systems easily accessible • Survey and surveillance activities going on by different agencies • Resources available from the different organizations • Networking of the diagnostic laboratories, 3. Leveraging more funds from National and International sources • Donors are interested to collaborate, 4. International institutions willing to collaborate • National Institutions willing to collaborate • Favorable national policies and strategies	**Threats** 1. Lack of resources to avail the experts • Acceptance of the surveillance activity as a multiyear activity • Poor Market access negotiations, 2. Internet security and data protection, 3. Competing priorities by the Government and International organizations for limited resources • Policy instability due to political instability, 4. Lack of common goal among stakeholders (NARC, NAST, Academia) • PQPMC development speed not acknowledged by insternational institutions • Idea indifference among PQPMC and stakeholders • Provincial and Local levels not obliged to collect and provide data, 5. Limitation of the financial resources • Limited expertize on diagnosis in some of collaborating institutions

• Demand of survey data from different countries for undertaking PRAs • Online networking to generate surveillance data and to encompass all the stakeholders 5. Government recognized NARC, NAST, Academia, and Provincial laboratories • Private laboratories coming up • Potential HR available in country for Diagnostic services • Availability of the advanced diagnostic services • Support for the higher studies in the core courses,	• Lack of retention of rrained HR • Lack of common goal of the collaborating institutions • Core course attendants declining in the universities,
Module 9: Pest eradication capacity	
Strength 1. Legal mandate to eradicate regulated pests in place • Focal person to mobilize the rapid response team can be assigned 2. Basic framework for contingency plan in place (Regulated pest diagnostic manual) 3. List of regulated pests of some commodities in place • Regulated pests of additional commodities can be recognized through PRAs • Priority Ranking of the potential pests to be eradicated can be done 4. Policy Advocacy • Rising awareness for the need of pest eradication program 5. Basic concept spelled out in the identification manuals • Draft of NSPM on Pest eradication program in place	**Weakness** 1. Lack of Pest Eradication Program and management team at NPPO 2. No contingency plan developed for any specific pests to be eradicated 3. Lack of inventory of prioritized regulated pests 4. Lack of commitment of Policy makers for sustained pest eradication program 5. Lack of operational manual/guidelines for pest eradication program
Opportunities 1. Experience of other NPPOs can be utilized. • Collaborative surveillance program with the provincial/local level to implement pest eradication program,	**Threats** 1. Verification and diagnostic errors may lead to resurgence issues • Adequate and timely availability of containment and teatment facilities and associated logistics,

2. Contingency plan can be prepared with stakeholders' engagement, 3. Development and implementation of pest eradication program for specific localized pests, 4. Willingness of the stakeholders to collaborate., 5. Detailed guideline at generic level can be sourced from the internet and IPPC Portal • Preparation of Pest Specific guidelines with external consultation,	2. Anticipated level of Cooperation may not be available for rapid response and cases of destruction, 3. Timely availability of expertise, HR and associated resources and logistics, 4. Priority may change because of competing resources, 5. Timely availability of experts and other resources,
Module 10: Phytosanitary import regulatory system	
Strength 1. Legislation has already the provision of PQ committee 2. List of Quarantine pests in place for certain commodities • Some regulated articles have been identified 3. Legal provision for preparation of procedures, guidelines in place • Inspection, sampling and testing guidelines in place 4. NPPO has mandate to notify noncompliance • SPS Notification Authority with MoALD 5. Some guidelines and NSPMs in place	**Weakness** 1. No established review mechanism for updating legislation and regulations 2. Assessment indicators lacking for the review of performance of the import regulatory system 3. No updated procedures and guidelines for Inspection, sampling, testing etc. 4. No documented procedural guidelines for notifications including noncompliance 5. Lack of effective execution of the developed guidelines and standards due to the lack of resources, capacity
Opportunities 1. International agreements, principles and standards are available for harmonization • Current Plant Protection act (2007) Act on revision process, 2. Effectve regulatory system can be developed in harmony with IPPC Guidelines,	**Threats** 1. Political instability, 2. Timely availability of experts, 3. Timely availability of experts

3. Inspection, sampling and testing procedures and guidelines can be updated in harmony with international standards, 4. Use of international guidelines for the preparation of procedural guidelines for notification, 5. Harmonization of the existing guidelines in line with the international standards,	• Availability of financial resources, 4. Timely availability of experts • Availability of financial resources, 5. Timely availability of experts • Availability of financial resources,
Module 11: Pest risk analysis	
Strength 1. Act and regulation in place • PRA section established in PQPMC • More than 25 commodity-based PRA completed 2. Access to CABI online PRA tool from courtesy of CABI 3. Trained manpower available at PQPMC to some extent 4. PRA experts available 5. SPS focal person assigned in PQPMC • Designation of IPPC Contact point.	**Weakness** 1. Lack of trained Experts on PRA and a PRA team in the NPPO 2. Lack of policy support to have continued access to the online PRA software. 3. Lack of official procedures and manuals 4. Lack of access to experts and/or institution with expertise on integrated risk management measures (economic impact assessment, qualitative and quantitative efficacy of pest management, biometrics) 5. Lack of system in place for advance SPS notifications
Opportunities 1. Collaboration and cooperation with international agencies (IPPC, CABI, APPPC) • Availability of experts for outsourcing within the country • Private sector willing to cooperate for trade promotion related PQ-procedures, 2. Membership of CABI to have continued access to the Online PRA Tool	**Threats** 1. Willingness of the experts available in the country may not continue Timely availability of the experts Availability of resources, 2. Policy support may not be available, 3.

• Alternate online PRA tools also available, 3. Possibilities of Outsourcing, 4. PRA experts and relevant institutions available, 5. SPS National Notification Authority established in MoALD • Access to the guidelines, forms and formats developed by IPPC,	4. Willingness and timely availability of the experts and institutions, 5. Frequent transfer of the assigned personnel,
Module 12: Pest free areas, places and sites, low pest prevalence areas	
Strength 1. Interested staff in place 2. NPPO legally assigned to assure traceability and integrity of the consignments 3. Discrimination of existing provisions possible 4. A few packing houses are constructed and piloted • Contract act-2053 in place • Can provide subsidies to the entrepreneurs for construction of packing house 5. Generic National standard (NSPM) available and can be updated • Internat Quarantine guideline (generic) available and can be updated according to the need.	**Weakness** 1. Unavailability of adequately trained HR and other essential resources. 2. Inadequate legislative provisions and guidelines to support procedures for assuring traceability of consignments, phytosanitary security and integrity of consignment 3. Lack of awareness among the producers and other stakeholders regarding PFA, PFPP, PFPS and ALPP 4. Lack of infrastructures including standard packing house with updated equipment's and facilities 5. Lack of procedures and standard operating procedures regarding ALPP, PFA, PFPP and PFPS
Opportunities 1. Access to technical resources • Countries are interested in importing products • Outsourcing of the experts as per need • Donors are interested for providing assistance,	**Threats** 1. May not get priority from the government, 2. Possibilities of non-compliance because of adulteration/ lack of integrity, 3. Poor market access negotiation,

2. Piloting of PFA, ALPP, PFPP, PFPS • Exporters willing to ensure phytosanitary security • Digital tools for ensuring traceability available, 3. GMP/GACP/GAP is already practiced by some traders • Piloting Geographical Branding of the products from PFA/ALPP/etc. • Trademark/patenting bills at parliament, 4. Land to construct needful packing houses can be accessed and provide the traders with nominal rent by the government • Land use act-2076 in place • Lease act 2078 bill at parliament, 5. Learning from offshore practices • SoPs can be developed from external consultation,	4. High cost for private sectors if the subsidies are not granted • Loan system of all the banks may not be bussiness friendly, 5. IQ systems may not be internalized by the local/provincial levels,
Module 13: Export certification, re-export, transit	
Strength 1. Some works has been done for citrus export to China 2. Some procedures and guidelines developed for citrus crop 3. Initiatives for the export of citrus to China 4. Orchard identification work has been done in citrus 5. Experience on planning for some infrastructures for export of citrus in China • Existing Facilities of Atluminium phosphide treatment infrastructure can be converted to MB treatment	**Weakness** 1. Lack of export certification program 2. Lack of well documented procedures and guidelines for exporting commodities 3. Lack of well-defined indicators for measuring export certification services 4. Lack of traceability of the consignments 5. Lack of dedicated packing houses and other infrastructures for export
Opportunities 1. High demand of Nepalese crop in international market • Increased production volume according export demand • Potential of high value crop production	**Threats** 1. Scattered production • Standard meeting of exportable countries

• Enhance export, 2. Crop wise and country need based procedure and guidelines preparation harmonized with IPPC standard, 3. To develop indicators for measuring export certification service (based on importers requirements), 4. Exportable crop wise tracing procedure can be developed • Involvement of provincial and local government, 5. Storge, packing, treatment and transportation guidelines, procedures and infrastructure can be developed according to exportable crops. • Training for MB accessible,	• Subsitance production system, 2. Unavailability of HR and associated resources, 3. Timely availability of experts, 4. Scattered production • Coordination of provincial and local government, 5. Expert availability • Budget allocation • Willingness of experts and private parties,

5. Recommendations:

5.1 Programme overview:

The programme overview table constitutes the development strategy for the NPPO during the .... year period 20...- 20...
It summarizes the following criteria:

- Development focus area (i.e. the different modules)
- Overall objective/ Goal of the whole plan
- Specific objective/ purpose related to the overall objectives/ goal for each module
- Outputs expected to result from each activity

An estimate of the funds required to realize the activities of the programme is ....

A log frame matrix and indicative work plan for each module can be seen in Annex 1.

Programme overview:

Development Focus Area	Overall objectives/ Goal	Specific objectives/ Purpose	Outputs	Indicative Cost USD
Module 3: Environmental forces assessment	Protected National biodiversity and enhanced international trade	Strengthened phytosanitary regulatory system	• Program developed for lobbying with the policy makers for the retention of trained staff and also for ammendment in the civil service act for creation of sub Faculty of Plant Protection as Plant Quarantine and Laboratory Service.	0

Development Focus Area	Overall objectives/ Goal	Specific objectives/ Purpose	Outputs	Indicative Cost USD
			• Program developed for the inclusion of the phytosanitary issues in the Mission, Vision and mandate of Research institutions and Academia Establish O & M of PQPMC based on the phytosanitary requirements of the Country, as guided by the Plant Protection Act and based upon the trade demand. • Creating awareness on the biosecurity issues, awareness raising activities on the importance of Phytosanitary Border Control. • Communicating the potential impact of pest invasion and the need of phytosanitary control	
Module 4: NPPO's mission and strategy	Protected National biodiversity and enhanced international trade	Mission and Strategy document prepared to motivate and drive the NPPO	• Strategic Plan of NPPO Nepal prepared. • Operationalization of the Central Phytosanitary and DIagnostic Lab • Positions of Staff Created and dedicated staff trained in specific fields of their work • Synchronized working hours and received support from the stakeholders for • Phytosanitary Control • Higher authorities and policy makers understand and support Phytosanitary measures for trade facilitation	0
Module 5: NPPO's structure and processes	Protected National biodiversity and enhanced international trade	Strengthened NPPO Structure and Processes	• Strengthened diagnostic capacity • Guidelines for technical audit developed and implemented • Plant Quarantine Offices established at the entry points based on trade volume and need • SoPs Developed and Implemented • Established Internal Quarantine System	0
Module 6: NPPO's Resources	Protected National biodiversity and enhanced international trade	Strengthened phytosanitary control and management system in the country	• Adequately trained and sufficient staff in place and mechanisms for collaboration with other agencies, outsourcing and hiring of experts established. • Mechanism to have adequately trained human resources and training plan for staff developed	0

Development Focus Area	Overall objectives/ Goal	Specific objectives/ Purpose	Outputs	Indicative Cost USD
			• Operational plan for the existing facilities and infrastructures developed, expansion of the offices with competent staff • Plan developed for selective laboratories in provincial/regional basis to operate with adequate human resources and infrastructure at the major control points. • Updated and upgraded information management system in place	
Module 7: Pest diagnostic capacity	Protected National biodiversity and enhanced international trade	Enhancement of pest diagnostic capacity to support effective phytosanitary control	• Coordination mechanism developed and implemented • Standard Operating Procedures and protocols developed and in use • Specialized room for quarantine pests availabled • Training plan for specific laboratory procedures prepared and implemented • Post Entry Quarantine facility developed and operationalized	0
Module 8: NPPO pest surveillance and pest reporting capacity	Protected National biodiversity and enhanced international trade	Strengthened inventory of national and exotic pests and their reporting with their repository development	• Developed survey and surveillance strategic and operational plan • Updated and customized pest information management database system • Sufficient financial resources allocated • Operationalized formal linkage with the stakeholders and cooperation with international institutions • Enhanced national capacity in pest diagnosis	0
Module 9: Pest eradication capacity	Protected National biodiversity and enhanced international trade	Enhanced pest eradication capacity	• Institute pest eradication & Management (PEM) program at PQPMC/ NPPO Nepal based on the recommendation of the Expert Developed contingency plan for pests to be eradicated Covered in output 2 • Prepare documents justifying the need of sustained pest eradication program to policy makers • Developed operational manual/guidlines for pest eradication program	0
Module 10: Phytosanitary import regulatory system	Protected National biodiversity and enhanced international trade	Strengthened the phytosanitary import regulation	• Review mechanism for updating legislation & regulation is developed • Assessment indicators for the review of performance of the import regulatory system developed.	0

Development Focus Area	Overall objectives/ Goal	Specific objectives/ Purpose	Outputs	Indicative Cost USD
			• Updated procedural guidlines for sampling, testing and inspection. • Procedure guidlines for notification including non-compliance developed • Execution of developed guidlines and standards	
Module 11: Pest risk analysis	Protected National biodiversity and enhanced international trade	Strengthened process of PRA	• Developed experts on PRA and PRA team in the NPPO Nepal • Achieved access to the online PRA softwere with policy support • Developed official procedures and mannuals • Developed access mechanism in NPPO/PQPMC to experts and or institution with expertize • Develop functional SPS notification system and enhance the mechanism for fulfilling Nepal's National Reporting Obligations	0
Module 12: Pest free areas, places and sites, low pest prevalence areas	Protected national biodiversity and enhanced international trade	PFA, PFPS, ALPP identified and declared	• Assured trained HR and other resources • Developed systems, guidelines, SOPS for traceability of consignments, phytosanitary security and integrity of consignments • Stakeholders are informed with newly developed traceability system and IQ guidelines • Developed standard packing houses with accessories • Developed and updated SOPs for ALPP, PFA, PFPP, PFPS	0
Module 13: Export certification, re-export, transit	Protected national biodiversity and enhanced international trade	Strengthened export regulatory and certification system	• Commodity/country specific exports certification programme developed • Developed and implemented export certification procedure and guideline for exportable commodities • Developed Indicators of export certification services • Consignment tracebility mechanism/ system developed • Developed facilities and infrastructure for export	0

Annex 1 - Strategic framework

Strategic framework consists of Logical frameworks and associated work plans for each applied module

Environmental forces assessment

Overall Objective	Key indicators	Means of Verification	Assumptions/ Risk
Protected National biodiversity and enhanced international trade	• No record of new pest incursions • Increased trade volume • Increased compliance by the stakeholders on the phytosanitary regulation	• Annual reports on phytosanitary activities	• Nepal taking advantage of New market opportunities • Exporting countries comply with the phytosanitary requirements of Nepal

Immediate Objective (purpose)	Key indicators	Means of Verification	Assumptions/ Risk
Strengthened phytosanitary regulatory system	• No interceptions of the exported consignments • No non-compliance reports for imports and exports	• Monthly reports of interceptions and non-compliances • Pest Risk Analysis Report	• Sufficiently trained staff • Necessary infrastructures are in place and staff are using them effectively

Outputs	Key indicators	Means of Verification	Assumptions/ Risk
Program developed for lobbying with the policy makers for the retention of trained staff and also for amendment in the civil service act for creation of sub Faculty of Plant Protection as Plant Quarantine and Laboratory Service.	• Retention of PQPMC Staff • Operational Directives in place from the ministry for retaining the NPPO staff within the NPPO System • Policy developed and implemented to support the creation of sub faculty	• Staff records at PQPMC • Govt. approved Policy documents and Directives on staff retention	• Priority fixed by MoALD • No National Political Crisis
Program developed for the inclusion of the phytosanitary issues in the Mission, Vision and mandate of Research institutions and Academia	• Phytosanitary research and scientific studies included in the Mission, Vision and Mandate of NARC • Phytosanitary matters included in the curricula of Agriculture Universities • PQ related courses offered	• Mission and vision document of NARC • Curricula of Universities	• NARC will be interested in the issue • Ministry will facilitate NARC and PQPMC
Establish O & M of PQPMC based on the phytosanitary requirements of the Country, as guided by the Plant Protection Act and based upon the trade demand.	• Revised organogram of PQPMC based on O & M survey • Supporting activities of NPPO outsourced for imporved phytosanitary control	• Restructured Organogram of PQPMC • Published reports, notifications to IPPC/WTO	• Awaited O & M Survey finalizes • MoF recognizes Survey and Surveliance and such other activities as a multi year activity
Creating awareness on the biosecurity issues, awareness raising activities on the importance of Phytosanitary Border Control.	• Awareness materials published and distributed. Zingles and documentaries developed and broadcasted for mass awareness,Number and participants of Awareness raising Workshops and Trainings, Improved Phytosanitary Border Control and compliance of Plant Protection act and rules at entry points • Number of Border Staff trained/ got exposure	• Awareness materials published • Annual progess and statistics book published, bulletins,	• Sufficient program approved and budget allocated

Communicating the potential impact of pest invasion and the need of phytosanitary control	• Estimated potential loss • Identified impact on biodiversity	• Study reports, bulletins and annual reports	

Indicative Work Plan

Activities	Estimated costs	Responsible Person	Deadline
1.1) Problem analysis indicating the effect of frequent transfer of staff on its performance involving all the stakeholders		Chief of PQPMC/ NPPO Section	Within 2 years
1.2) Visit and review the existing best practices in other countries	$ 10000	Chief of PQPMC supported by MoALD	Within 2 years
1.3) Workshop organized for engaging the MoALD officials	$ 3000	Chief, PQPMC	Within 2 years
1.4) Documentation and submission of the report with recommendations for official procedures		Chief, PQPMC	Within 2 years
2.1) Engage NARC for establishing MoU along with workplan and budget PQPMC facilitated by MoALD **2.1.1** Coordinate with NARC for the Plant Quarantine geared research activities including survey surveillance, updating national pest directory, diagnostic services and studies incorporated in the NARC Program and Budget	$ 10000	ED NARC & Chief PQPMC, facilitated by MoALD	Within 3 years
2.2) Coordinate with the AFU, IAAS (TU) and KU for the revision of the curricula of Universities to include Phytosanitary Matters **2.2.1)** PQPMC to develop the ToR for engaging Natioanl/International expert **2.2.2)** Implement a project to hire an expert	$ 20000	Chief, PQPMC facilitated by MoALD	Within 3 years

3.1) Finalization O & M Survey and restructuring of PQPMC and Offices under it		MoALD	Within 6 months
3.2) New organogram of Central Phytosanitary and Diagnostic Laboratory with Staffing under NPPO		MoALD	Within 6 months
3.3) Outsourcing of the relevant program (e.g. Survey Surveillance) as a multiyear activity **3.3.1)** PQPMC to develop the ToR for the program **3.3.2)** Engage relevant institution or individual for implementation	$400000	Chief, PQPMC	Continuous, for five consecutive years
3.4) Develop a mechanism for operationalizing the new organogram of Central Phytosanitary and Diagnostic Laboratory with Staffing under NPPO		MoALD	Within 6 months
3.5) Develop and establish a program supported by policy for outsourcing of the relevant program as a multiyear activity (e.g. Survey Surveillance)		PQPMC with support of MoALD	Within a year
4.1) Publications on the importance of on the biosecurity issues	$ 5000	Chief of PQPMC	Continuous
4.2) Use of electronic media for mass awareness on biosecurity issues	$ 5000	Chief of PQPMC	
4.3) Interaction workshops, trainings to the relevant stakeholders on the importance of biosecurity	$10000	Chief of PQPMC	
4.4) Capacity enhancement trainings/workshops and exposure to the Border staff	$20000	Chief of PQPMC	Within 2 years and continue
4.5) Develop publications on the importance of on the biosecurity issues	$5000	Chief of PQPMC	Continuous
4.6) Use electronic media for mass awareness on biosecurity issues	$5000	Chief of PQPMC	Continuous
4.7) Interaction workshops, trainings to the relevant stakeholders on the importance of biosecurity	$10000	Chief of PQPMC	Within one year and Continuous
4.8) Capacity enhancement trainings/workshops and exposure to the Border staff	$ 10000	Chief of PQPMC	Within 2 years and continue
4.9) Engage a communications expert for developing relevant messages for each of the stakeholder groups	$ 10000	Chief of PQPMC	Within 2 years

5.1) Preparation of an impact assessment document with supporting data of Quarantine pest invasion and potential threats	$ 5000	Chief of PQPMC	Within 3 years
5.2) Preparation of the report on interceptions and non-compliances and their impact on trade		Chief of PQPMC	Within 2 years
5.3) Plan and execute an awareness and sharing workshop with the policy makers and stakeholders	$5000	Chief of PQPMC	Within 2 years

NPPO's mission and strategy

Overall Objective	Key indicators	Means of Verification	Assumptions/ Risk
Protected National biodiversity and enhanced international trade	• No record of new pest incursions • Increased trade volume • Increased compliance by the stakeholders on the phytosanitary regulation	• Annual reports on phytosanitary activities	• Nepal taking advantage of New market opportunities • Exporting countries comply with the phytosanitary requirements of Nepal

Immediate Objective (purpose)	Key indicators	Means of Verification	Assumptions/ Risk
Mission and Strategy document prepared to motivate and drive the NPPO	• Mission and Strategy of NPPO defined	• Mission and Strategy document	• Timely availability of experts

Outputs	Key indicators	Means of Verification	Assumptions/ Risk
Strategic Plan of NPPO Nepal prepared.	• NPPO's Strategic Plan	• Strategy Document	
Operationalization of the Central Phytosanitary and Diagnostic Lab	• Test reports • No of staff availed and trained	• Annual Reports	• The laboratory will be handed over

			• Organogram will be approved, and HR assigned
Positions of Staff Created and dedicated staff trained in specific fields of their work	• Number of staff recruited and trained	• Annual Reports,	• Ministry will consider Phytosanitary sector in priority to avail staff and to retain them
Synchronized working hours and received support from the stakeholders for Phytosanitary Control	• Working hours of the different offices at the entry point	• Annual reports	• Government will notify Quarantine Service as an essential service
Higher authorities and policy makers understand and support Phytosanitary measures for trade facilitation			

Indicative Work Plan

Activities	Estimated costs	Responsible Person	Deadline
1.1) • Development of the ToR for the preparation of the strategic plan • Hiring consultant • Validation of the strategic plan	$10000	Chief PQPMC	Within 2 years
2.1) • Handover of the Lab to PQPMC • Approval of the Organogram and staffing • Advanced training of the dedicated staff	$40000	Chief PQPMC	Within a Year and continue
3.1) • Hiring experts to provide hands on training of the staff in the laboratory • Hands on training of the staff at the laboratory with the assistance of the experts	$20000	Chief, PQPMC	Within 1 year

4.1) • Sensitization and advocacy program • Advancing the agenda through the ministry for synchronizing the working hours		Chief, PQPMC	Within a year
5.1) • Preparation of the document supporting the need of the synchronizing working hours and providing incentives for motivation of the staff • Awareness raising activities		Chief, PQPMC	Within 1 year

NPPO's structure and processes

Overall Objective	Key indicators	Means of Verification	Assumptions/ Risk
Protected National biodiversity and enhanced international trade	• No record of new pest incursions • Increased trade volume • Increased compliance by the stakeholders on the phytosanitary regulation	• Annual reports on phytosanitary activities, Nepal Gazette	• Nepal taking advantage of New market opportunities • Exporting countries comply with the phytosanitary requirements of Nepal

Immediate Objective (purpose)	Key indicators	Means of Verification	Assumptions/ Risk
Strengthened NPPO Structure and Processes	• Number of functional and well equipped labs • Number of Guidelines and SoPs • Number of trained HR • Number of Provincial and Local Level implemented IQ • Number of EP and PC Issued	• Periodic Reports, Annual reports, Diagnostic lab reports, Provincial/local government reports,	• O&M addresess HR requirement. • Trained human resource available • Adequate financial resources available • Collaborative Provicial and local level for IQ.

Outputs	Key indicators	Means of Verification	Assumptions/ Risk
Strengthened diagnostic capacity	• No of well equipped fucntioning lab • Number of training and trained staff • Number of exposure visit to pest diagnostician for lab operations.	• Project Report, Annual Progress Report • Training report, Annual Progress Report • Visit Report, Annual Progress Report	• O&M addresess HR requirement. • Trained human resource available • Adequate financial resources available
Guidelines for technical audit developed and implemented	• Number of guidelines	• Annual report	• Timely availability of technical experts and resources
Plant Quarantine Offices established at the entry points based on trade volume and need	• Number of Quarantine Offices at the entry points • Number of EP/PC issued from each office	• Nepal Gazette, Project report • Annual reports	• Availability of Financial and Human resources • O&M addresess the office requirement.
SoPs Developed and Implemented	• Number of SoPs	• Annual Progress Reports, Copy of SoPs	• Timely availability of Technical experts and financial resources
Established Internal Quarantine System	• Number of IQ Offices established	• Annual Progress Report	• Collaborating Provincial and Local levels • Availability of essential human and financial resources

Indicative Work Plan

Activities	Estimated costs	Responsible Person	Deadline
1.1) Develop plan for establishing new Laboratories and upgrading existing laboratories.		Chief, PQPMC	One year
1.2) Organize training for pest diagnostician on diagnostic procedures.	$10000		

1.3) Organize exposure visit for pest diagnostician to diagnostic laboratory.	$5000		
2.1) Develop guidelines for technical audit		Chief, PQPMC	Within 2 years
2.2) Organize training on implementation of guidelines	$ 5000	Chief, PQPMC	Within 2 years
3.1) Study and assess the need of Plant Quarantine offices at the entry points		Chief, PQPMC	One year
3.2) Define entry points for specific plant and plant products		Chief, PQPMC in collaboration with MoALD, MoICS and MoF	Within 2 years
3.3) Establish Plant Quarantine Offices at the required entry points		PQPMC, with support of MoALD	Need based
4.1) Develop and institute the use of SoPs	$10000	Chief, PQPMC	Within 2 years
4.2) Organize training on use of SoPs	$5000	Chief, PQPMC	Within 3 years
5.1) Update Internal Quarantine Guidelines	$5000	Chief, PQPMC	Within 2 years
5.2) Organize Policy level Interaction program on internal quarantine system with provincial and local level	$10000	Chief, PQPMC	within 2 years
5.3) Development of Internal Quarantine pest list	$5000	Chief, PQPMC	Within 2 Years
5.4) Develop awareness materials and organize Public campaign on the importance of internal quarantine	$5000	Chief, PQPMC	Within 2 years and continue
5.5) Collaborate with the relevant Provincial and Local level to develop the mechanism for internal Quarantine system	$5000	Chief, PQPMC	Within 2 years and continue

NPPO's Resources

Overall Objective	Key indicators	Means of Verification	Assumptions/ Risk
Protected National biodiversity and enhanced international trade	• No record of new pest incursions • Increased trade volume	Annual reports on phytosanitary activities	• Nepal taking advantage of New market opportunities

	• Increased compliance by the stakeholders on the phytosanitary regulation		• Exporting countries comply with the phytosanitary requirements of Nepal

Immediate Objective (purpose)	Key indicators	Means of Verification	Assumptions/ Risk
Strengthened phytosanitary control and management system in the country	• Adequate human and infrastructural resources in place	• Laboratory reports, personnel records, O & M survey report, notifications of noncompliances	• Government plan and policies supporting Phytosanitary regulations • Donor support available for the infrastructural development and capacity enhancement

Outputs	Key indicators	Means of Verification	Assumptions/ Risk
Adequately trained and sufficient staff in place and mechanisms for collaboration with other agencies, outsourcing and hiring of experts established.	• Vacant staff positions fulfilled • Human resource development plan developed and implemented, no of staff trained • Collaboration with other agencies • Mechanism developed for outsourcing and hiring of Natioanl/International experts	- Annual progress and statistics book, bulletins - HRD Plan - MoU with other agencies	• MoALD considers Phytosanitary Program on priority • Donor support continues • No political crisis • Ministry commits to fulfill and retain staff in substantive posts
Mechanism to have adequately trained human resources and training plan for staff developed	• Number of staff receiving basic, refresher and advanced trainings. • HRD Plan developed and implemented • Improved phytosanitary control mechanism	• Training reports • Annual book and periodic bulletins	• Transfer of the trained staff happens with consent of PQPMC • Donor support continues
Operational plan for the existing facilities and infrastructures developed expansion of the offices with competent staff	• Operational plan for the Central Phytosanitary and Diagnostic Lab and other laboratories developed • Operationalization of the Laboratories	• Lab reports • Notifications/actions on non compliances	• The Central Phytosanitary and Diagnostic lab will be handed over along with the organogram and staff

	• Records of non compliances • Awareness/ advocacy activities conducted		• Gov. gives priority to Phytosanitary Sector • Technical and Financial assistance continues to be received
Plan developed for selective laboratories in provincial/regional basis to operate with adequate human resources and infrastructure at the major control points.	• Operational plan developed • Laboratories upgraded and refurbished • Testing reports	• Annual book and bulletins • Actions/reports on non compliances	• & M finalized • Adequate human resources availed • Technical and financial support from donors continues.
Updated and upgraded information management system in place	• Availability of pest information in the portal	Information available in the Web portal	• Technical and financial assistance from the donors continues • GoN priority focused on phytosanitary issues • No political crisis

Indicative Work Plan

Activities	Estimated costs	Responsible Person	Deadline
1.1) Staff recruited to fill critical positions under PQPMC.		Chief, PQPMC	Within 1 year
1.2) PQPMC Staff trained in country and aboard as appropriate based on training plan on phytosanitary control.	$10000	Chief, PQPMC	Within 2 years and continue
1.3) Program developed for collaboration with OGA/private sector and recognition/accreditation of the private sector laboratories/other facilities that support PQPMC		Chief, PQPMC	Within 1 year
1.4) Mechanisms developed for the outsourcing of the specific activities and hiring national/international experts		Chief, PQPMC	1 year

2.1) Mechanism for the retention of the trained staff developed		Chief, PQPMC with support of MoALD	Within a year of PCE
2.2) Mechanism for adequate basic, refresher and advance trainings to the staff developed		Chief, PQPMC	Within 2 years
2.3) Human resource development and deployment plan developed	$5000	Chief, PQPMC	Within 2 years
3.1) Development of Operational plan for the Central Phytosanitary and Diagnostic Lab	$ 5000	Chief, PQPMC	1 year
3.2) Expansion of the office with adequate facilities at the new entry points based on priority	TBD	Chief, PQPMC with support of MoALD	Lumbini Airport- within 6 months Dry port Chobhar - within 6 months Pokhara Airport - within a year, Others- TBD
3.3) Awareness and advocacy program on the need of Phytosanitary Control and biosecurity	$ 20000	Chief, PQPMC	Ongoing
4.1) Identification of the selective laboratories to be scaled up and the development of operational plan		Chief, PQPMC	Within one year
4.2) Establishment, Renovation, refurbishment and operationalization of the selected laboratories at major entry/exit points	$ 50000	Chief, PQPMC/MoICS	2-4 years
5.1) System developed for accessing the data and the management of the available database		Chief, PQPMC	Ongoing
5.2) Expert hired to update and customize the information management system	$ 10000	Chief, PQPMC	1-2 years
5.3) Validation and update of the pest information on expert advice	$ 5000	Chief, PQPMC	2-3 years

Pest diagnostic capacity

Overall Objective	Key indicators	Means of Verification	Assumptions/ Risk
Protected National biodiversity and enhanced international trade	• No record of new pest incursions • Increased trade volume • Increased compliance by the stakeholders on the phytosanitary regulation	Annual reports on phytosanitary activities	• Nepal taking advantage of New market opportunities • Exporting countries comply with the phytosanitary requirements of Nepal

Immediate Objective (purpose)	Key indicators	Means of Verification	Assumptions/ Risk
Enhancement of pest diagnostic capacity to support effective phytosanitary control	• Number of pest interceptions reported within a year • Reduction on non compliance cases on export - Increase in detection of non compliance of imports	• Annual and periodical reports • Technical report • IPPC database	• & M meets the requirements • Sufficient resources allocated • Effective coordination - Support from stakeholders

Outputs	Key indicators	Means of Verification	Assumptions/ Risk
Coordination mechanism developed and implemented	• Decisions of Plant Quarantine Committee • No of Coordination meetings	• Meeting records	• PQC will facilitate coordination • Stakekolders willingness exists
Standard Operating Procedures and protocols developed and in use	• Number of SoPs and protocols prepared • Number of trainings organized for using the SoPs and Protocols • Operation Records	• Annual progress reports • Copies of SoPs and protocols • Project reports	• Adequate resources will be available. • Timely availability of expertize
Specialized room for quarantine pests available	• Indentified room for quarantine pests outfitted.	• Records, reports	• Resource allocated for facilitate improvement
Training plan for specific laboratory procedures prepared and implemented	• Training plan instituted • Training itinerary	• Approved program • Training reports	• Adequate resources allocated • Timely availability of Trainers

	• No of hands on trainings conducted • No of abroad trained technical personnels	• Progress reports	
Post Entry Quarantine facility developed and operationalized	• Number of PEQ facilities	• Project reports	• Adequate resources Identified and managed • Necessary expertize available

Indicative Work Plan

Activities	Estimated costs	Responsible Person	Deadline
1.1) Formation of coordination committee and management of logistics • Identification of stakeholders and development of profile of stakeholders/experts • Networking with relevant stakeholders and experts • Exposure visits	$200000	Chief, NPPO	2 years
2.1) Training • Hiring of needful experts/Outsourcing • Development of SoPs for Inspection, sampling, packaging and storage of samples, laboratory handling, diagnostics, auditing developed	$ 20000	Chief, PQPMC	2 years and continuous
4.1) Training need assessment • Preparation of Training plan (In country as well as international) • Develop agenda for training • Conduction of the trainings	$ 30000	Chief, PQPMC	2 years and continuous
5.1) Identify appropriate locations • Preparation of DPR • Construction of infrastructure and source accessories • Recruitment/ Arrangement of the HR • Operationalization of the facility	$ 300000	Chief, PQPMC	5 years

NPPO pest surveillance and pest reporting capacity

Overall Objective	Key indicators	Means of Verification	Assumptions/ Risk
Protected National biodiversity and enhanced international trade	• No record of new pest incursions • Increased trade volume • Increased compliance by the stakeholders on the phytosanitary regulation	Annual reports on phytosanitary activities	• Nepal taking advantage of New market opportunities • Exporting countries comply with the phytosanitary requirements of Nepal

Immediate Objective (purpose)	Key indicators	Means of Verification	Assumptions/Risk
Strengthened inventory of national and exotic pests and their reporting with their repository development	• Pest database and statistics • Number of pests reported • Functioning pest repositary	• Annual reports, publications, scientific papers, different kinds of forms and formats	• Regular budget allocated • HR trainings available to support the development of the pest inventory

Outputs	Key indicators	Means of Verification	Assumptions/Risk
Developed survey and surveillance strategic and operational plan	• Plan developed	• Published strategic plan	• Resources will be adequately available
Updated and customized pest information management database system	• A centrally controlled software system accessible to all the stakeholders	• Reports, softwares, mobile apps, websites	• Stakeholders will take ownership of the system
Sufficient financial resources allocated	• Annual budget	• Approved program and budget	• Government priority focused on Phytosanitary issues
Operationalized formal linkage with the stakeholders and cooperation with international institutions	• Workshop conducted • Number of Meetings	• Meeting minutes, MoUs, Guidelines, Directives and proceedings	• Stakeholders are interested in formal linkages

Enhanced national capacity in pest diagnosis	• Functioning labs • Use of advanced techniques in pest diagnosis • Updated pest lists	• Diagnosis reports, publications, functional pest repository	• PQPMC is able to retain the trained HR and maintain their willingness • Willingness of the stakeholders to partner with PQPMC for diagnosis

Indicative Work Plan

Activities	Estimated costs	Responsible Person	Deadline
1.1) Develop survey and surveillance strategic and operational plan	$ 10000	Chief, PQPMC/NPPO Nepal	2 years
2.1) Review of the existing software	$3000	Chief, PQPMC, Diagnostic Labs	2 years
2.2) Pretesting of the software and development of the user's manual	$ 2000	Chief PQPMC	2 years
2.3) Prepare the training course and deliver Training to the stakeholders	$10000	Chief, PQPMC	3 years
2.4) Develop national network of the pest diagnosis labs	$ 10000	Chief PQPMC/Chief CPSD Lab	5 years
3.1) Prepare a multiyear plan for surveillance and reporting and advocacy for approval	$ 3000	Chief, PQPMC	1 year
3.2) Develop projects according to the multiyear plan and prepare annual program	TBD	Chief, PQPMC	Continuous
4.1) Organize High level policy workshop to develop formal linkages among PQPMC with NARC, NAST, Universities, DPR and Private sector laboratories	$10000	Chief, PQPMC	2 years
4.2) Sign MoUs with relevant stakeholders		Chief, PQPMC	2 years
4.3) prepare and implement activities based on workshop recommendations	TBD	Chief, PQPMC	2 years and continuous

5.1) Use of advanced diagnostic tools including PCR, High Throughput Sequencing, Multispectral/NIR imaging, immunostripes in pest diagnosis	$ 20000	Chief, PQPMC	5 years
5.2) Develop a schedule and organize meetings, technical workshops and trainings for the HR for the relevant stakeholders	$5000	Chief, PQPMC	2 years

Pest eradication capacity

Overall Objective	Key indicators	Means of Verification	Assumptions/ Risk
Protected National biodiversity and enhanced international trade	• No record of new pest incursions • Increased trade volume • Increased compliance by the stakeholders on the phytosanitary regulation	Annual reports on phytosanitary activities	• Nepal taking advantage of New market opportunities • Exporting countries comply with the phytosanitary requirements of Nepal

Immediate Objective (purpose)	Key indicators	Means of Verification	Assumptions/ Risk
Enhanced pest eradication capacity	Number of pest eradication program implemented	Annual report, media report, website, task completion report	0 & M addressed

Outputs	Key indicators	Means of Verification	Assumptions/ Risk
Institute pest eradication & Management (PEM) program at PQPMC/NPPO Nepal based on the recommendation of the Expert	• PEMS at updated organogram at PQPMC/NPPO	• Annual report, website	• Inclusion in O & M assusrance of budget
Developed contingency plan for pests to be eradicated	• Contingency plan in-built in NPPO-Nepal's annual program	• Annual Program	• Timely availability of experts
Covered in output 2			

Prepare documents justifying the need of sustained pest eradication program to policy makers	• Committed policy documents	• Meeting minutes, proceedings, annual progress reports	• Willingness of policy makers
Developed operational manual/guidlines for pest eradication program	• Oeprational Manual/Guidlines	• Manual/Guidlines	• Timely availability of technical and financial resources

Indicative Work Plan

Activities	Estimated costs	Responsible Person	Deadline
1.1) To investigate the components of Pest Eradication Program	$ 5000	Chief, PQPMC	3 years
1.2) Develop ToR to engage the Experts		Chief, PQPMC	2 years
1.3) Implement the recommendations from the expert/s	TBD	Chief, PQPMC	5 years
1.4) Organize workshop on PEM / O & M	$ 10000	Chief, PQPMC	3 years
2.1) Review & update inventory of prioritized regulated pests	$ 25000	Chief, PQPMC	Continuous
2.2) Develop guidelines and SoPs for specific regulated pests	$10000	Chief, PQPMC	3 years
2.3) Prepare contingency plan	$ 5000	Chief, PQPMC	3 years
2.4) Establish emergency fund for pest eradication program	TBD	Chief, PQPMC	3 years
3.1) Covered in activities 2			
4.1) Organize advocacy workshop	$10000	Chief, PQPMC	2 years
4.2) Prepare policy documents		Chief, PQPMC	2 years
4.3) Incorporate in annual program		Chief, PQPMC	3 years
5.1) Review and update existing manual/guidelines	$ 5000	Chief, PQPMC	2 years
5.2) Publish prepared manual/guidelines		Chief, PQPMC	2 years
5.3) Training for staff involved in pest eradication program	$ 10000	Chief, PQPMC	3 years

Phytosanitary import regulatory system

Overall Objective	Key indicators	Means of Verification	Assumptions/ Risk
Protected National biodiversity and enhanced international trade	• No record of new pest incursions • Increased trade volume • Increased compliance by the stakeholders on the phytosanitary regulation	Annual reports on phytosanitary activities	• Nepal taking advantage of New market opportunities • Exporting countries comply with the phytosanitary requirements of Nepal

Immediate Objective (purpose)	Key indicators	Means of Verification	Assumptions/Risk
Strengthened the phytosanitary import regulation	• Number of functional guidlines • Frequencies of legislations revisons • Number of non-complineces • Quarantine pest outbreak • Number of monitoring	• Event reports • Monitoring reports • Annual Progress report • Workshop proceedings	• Political stability • Collaborative stakeholders • Resources availability

Outputs	Key indicators	Means of Verification	Assumptions/Risk
Review mechanism for updating legislation & regulation is developed	• Frequencies legislation revisions	• Act & Regulation • Meeting minutues • Annual Progress Report	Political stability
Assessment indicators for the review of performance of the import regulatory system developed.	• Number of indicators developed • Number of workshop held • Spread and outbreak of quarantine pest • Number of workshop held	• Meeting minutes • Workshop proceeding • Annual Progress reports	Resource availability
Updated procedural guidelines for sampling, testing and inspection.	• Number of functional guidlines	• Monitoring Reports • Training Reports • Annual Progress Report	Timely avialability of techical and finnancial resources

Procedure guidelines for notification including non-compliance developed	• Number of guidlines developed • Number of non compliance developed	• Guidlines published • Website notification • Annual Progress report	Timely availability of technical and financial resources
Execution of developed guidelines and standards	• Number of executed guidelines • Number of monitoring • Number of workshop organized	• Guidelines • Workshop reports • Monitor reports	Timely availability of technical and financial resources

Indicative Work Plan

Activities	Estimated costs	Responsible Person	Deadline
1.1) Organize workshop with stakeholders for issues identification	$5000	Chief, PQPMC	2 years
1.2) Task force formation for legislation review		Chief, PQPMC	1 year
2.1) Develop assessment indicators	$ 5000	Chief, PQPMC	3 years
2.2) Organize workshop on implementation of indicators	$ 1000	Chief, PQPMC	3 years
3.1) Organize stakeholder workshop for update of available guidelines with harmonization of international standards	$ 10000	Chief, PQPMC	3 years
3.2) Organize training for staffs on guidelines	$ 5000	Chief, PQPMC	3 years
3.3) Monitor the entry points for sampling, testing and inspections		Chief, PQPMC	Continuous
4.1) Develop procedure guidelines for notification of non-compliance	$ 2000	Chief, PQPMC	1 year
5.1) Organize workshop for sensitization of different guidelines and standards	$ 5000	Chief, PQPMC	2 years
5.2) Monitor the regulatory system.		Chief, PQPMC	Continuous

Pest risk analysis

Overall Objective	Key indicators	Means of Verification	Assumptions/ Risk
Protected National biodiversity and enhanced international trade	• No record of new pest incursions • Increased trade volume • Increased compliance by the stakeholders on the phytosanitary regulation	Annual reports on phytosanitary activities	• Nepal taking advantage of New market opportunities • Exporting countries comply with the phytosanitary requirements of Nepal

Immediate Objective (purpose)	Key indicators	Means of Verification	Assumptions/ Risk
Strengthened process of PRA	• Process, document and manuals of PRA conduction	• Monthly report, • Annual report, training reports	• Access to online PRA tool continues • Availability of expertize and human resources • Sufficient funds will be made available

Outputs	Key indicators	Means of Verification	Assumptions/ Risk
Developed experts on PRA and PRA team in the NPPO Nepal	• No. of trained personnel	• Training Report • Annual Report	• Budget assurance • Availability of experts • Assurance of HR
Achieved access to the online PRA software with policy support	• Online PRA software • Policy support paper	• Annual report, Report from PRA softwere	• Policy support • Budget assurance • Understanding of concerned authorities
Developed official procedures and manuals	• Procedure document, manuals	• Monthly and annual Report	• Expert availability • Budget assurance

Developed access mechanism in NPPO/PQPMC to experts and or institution with expertise	• Rooster of PRA experts	• Meeting minutes	• Priority fixation • Budget assurance
Develop functional SPS notification system and enhance the mechanism for fulfilling Nepal's National Reporting Obligations	• notification status in the IPPC portal	• Notification documents progress report, annual report	• Timely reporting, notifications

Indicative Work Plan

Activities	Estimated costs	Responsible Person	Deadline
1.1) Identify resource persons, institutions		Chief, PQPMC	One year
1.2) Organize hands on trainings	$ 10000	Chief, PQPMC	2 years
1.3) Establish and mobilize PRA team in the NPPO		Chief, PQPMC	2 years and continuous
1.4) Source and utilize expert support needed	$ 10000	Chief, PQPMC	2 years
2.1) Prepare justification document to achieve policy support from related government institution		Chief, PQPMC	One year
2.2) Lobbying for support/ awareness program	$ 5000	Chief, PQPMC	One year
3.1) Identify experts/Institution		Chief, PQPMC	2 years
3.2) Outsourcing of the experts/Institutions	$ 10000	Chief, PQPMC	3 years
3.3) Develop official procedure		Chief of PQPMC	3 years
4.1) Develop rooster of potential expert/institution having expertise on PRA	$ 2000	Chief, PQPMC	2 years
4.2) Organize meeting with identified expert/institution expertized to PRA	$ 2000	Chief, PQPMC	2 years
4.3) Develop and implement the program on Integrated risk management	$ 10000	Chief, PQPMC	3 years and continuous

5.1) Collect, synthesize, and report to the relevant authority		Chief, PQPMC	One year and continuous

Pest free areas, places and sites, low pest prevalence areas

Overall Objective	Key indicators	Means of Verification	Assumptions/Risk
Protected national biodiversity and enhanced international trade	• No record of new pest incursions • Increased trade volume • Increased compliance by the stakeholders on the phytosanitary regulation	• Annual reports on phytosanitary activities	• Nepal taking advantage of New market opportunities • Exporting countries comply with the phytosanitary requirements of Nepal

Immediate Objective (purpose)	Key indicators	Means of Verification	Assumptions/ Risk
PFA, PFPS, ALPP identified and declared	• Trained HR • Guidelines, SOPs developed • Declared areas of PFA/ALPP/PFPS/PFPS • Internal Quarantine system in place	• Annual reports, • Documents including the guidelines and SOPs, IQ	• Policy support will be received

Outputs	Key indicators	Means of Verification	Assumptions/Risk
Assured trained HR and other resources	• Number of training • Annual budget	• Training report • Annual report	• Government priority and willingness of high-level authority
Developed systems, guidelines, SOPs for traceability of consignments, phytosanitary security and integrity of consignments	• Software and web-based systems developed	• Training report • Annual report	• Possibility of non-compliance

Stakeholders are informed with newly developed traceability system and IQ guidelines	• Numer of market access negotiations with contracting parties	• Annual report	• Poor market access negotiation
Developed standard packing houses with accessories	• Number of packing houses	• Completion report	• Government subsidy granted to support for private sectors • Business-friendly bank loan • Timely handover infrastructures by the contractor
Developed and updated SOPs for ALPP, PFA, PFPP, PFPS	• Number of SOPs	• SOPs • Annual Report	• Timely availability of experts and resources

Indicative Work Plan

Activities	Estimated costs	Responsible Person	Deadline
1.1) Prepare trainers manual and curricula	$ 10000	Chief, PQPMC	3 years
1.2) Organize training for staffs and stakeholders	$ 10000	Chief, PQPMC	3 years
2.1) Review existing guidelines, SOPs	$ 5000	Chief, PQPMC	2 years
2.2) Develop mechanisms to ensure phytosanitary security of the consignment		Chief, PQPMC	3 years
3.1) Organize sensitization workshop	$ 5000	Chief, PQPMC	3 years
3.2) Publish code of conduct, extension materials, factsheets	$ 5000	Chief, PQPMC	3 years
3.3) Preparation of product-specific market access submission documents according to IPPC guidelines	$ 5000	Chief, PQPMC	3 years and continuous
4.1) Develop DPR, select sites, acquire land for infrastructure development,	TBD	Chief, PQPMC with support of Ministry	5 years

4.2) Coordinate with other agencies e.g. PMAMP for providing subsidies to the entrepreneurs in constructing standard packing houses		Chief, PQPMC with support of the ministry	5 years
5.1) Review and update existing SOPs, and NSPMs	$ 3000	Chief, PQPMC	3 years
5.2) Develop and implement SOPs	$ 10000	Chief, PQPMC	3 years
5.3) Organize validation and sensitization workshop	$ 5000	Chief, PQPMC	3 years
5.4) Organize training on utilization of SOPs & NSPMs	$ 5000	Chief, PQPMC	3 years

Export certification, re-export, transit

Overall Objective	Key indicators	Means of Verification	Assumptions/Risk
Protected national biodiversity and enhanced international trade	• No record of new pest incursions • Increased trade volume • Increased compliance by the stakeholders on the phytosanitary regulation	Annual reports on phytosanitary activities	• Nepal taking advantage of New market opportunities • Exporting countries comply with the phytosanitary requirements of Nepal

Immediate Objective (purpose)	Key indicators	Means of Verification	Assumptions/Risk
Strengthened export regulatory and certification system	• Country specific export certification programs • Procedures and guidelines • Indicators of export certification service • Consignment traceability mechanism • Infrastructure development	• Annual report • Publications • Proceedings • Completion reports	• Timely availability of experts • Climatic factors will not hinder • Cooperating value chain partners • Timely availability of sufficient resources

Outputs	Key indicators	Means of Verification	Assumptions/Risk

Commodity/country specific exports certification programme developed	• Number and quanitties of commodities exported • Expanded markets for potential commodities. • Number of feedback received and addressed • Number of phytosanitary certificate issued	• Assessment reprt • Annual report	• Value chain partner will collaborate • Timely availablity of adequate resources
Developed and implemented export certification procedure and guideline for exportable commodities	• Number of workshops/ interaction meeting • Number of proceedings and guidelines for export certification/ Regulation	• Meeting minutes • Workshop reports • Annual reports	• Availability of resources and expertise
Developed Indicators of export certification services	• Number of key indicators identified • Number of workshops meeting • Collected data	• Workshop meeting reports • Annual reports • Data base	• Availability of resources and expertise
Consignment tracebility mechanism/ system developed	• Developed mechanism • Number of training	• Annual report • Training report • Monitoring report	• Availability of resources and expertise
Developed facilities and infrastructure for export	• Number of infrastructure (treatment facilities, pack houses,..) developed • Number of workshops • Number of trainings conducted • Volume of consignments treated and exported	• Annual reprot • Workshop report • Trainig report • Monitoring report • Record of treatments	• Timely availability of resources and expertise • Cooperation and interest of the exporters exists

Indicative Work Plan

Activities	Estimated costs	Responsible Person	Deadline

1.1) Consultation with the stakeholders to Identify importing countries and commodities	$ 5000	Chief, PQPMC	2 years
1.2) Customize the phytosanitary Export control and certification program for specific commodities	$ 5000	Chief, PQPMC	2 years
1.3) Implementation of the program		Chief, PQPMC	3 years
1.4) Technical audit		Chief, PQPMC	3 years and continuous
2.1) Organize workshops/ interaction meetings with stakeholders	$ 10000	Chief, PQPMC	2 years
2.2) Develop guidelines/ procedures for export certification of commodities	$ 10000	Chief, PQPMC	3 years
2.3) Organize training for staff/stakeholders for implementation of export certification guidelines	$ 10000	Chief, PQPMC	3 years
3.1) Review of international best practices, literature for identifying indicators	$ 5000	Chief, PQPMC	3 years
3.2) Organize interaction workshop among stakeholders to validate identified indicators	$ 5000	Chief, PQPMC	3 years
3.3) Develop and implement a plan to collect and analyse data for indicators	$ 5000	Chief, PQPMC	3 years
4.1) Develop a mechanism to record and trace data on the product	$ 10000	Chief, PQPMC	3 years
4.2) Develop and implement a regular monitoring system		Chief, PQPMC	3 years and continuous
4.3) Training to different value chain partners	$ 10000	Chief, PQPMC	3 years
5.1) Develop a mechanism to assess the priority on infrastructure development (including fumigation facilities, irradiation facility, cold treatment, Hot air treatment, packaging house, warehouse, storage structure etc)	$ 10000	Chief, PQPMC	3 years
5.2) Develop strategic and operation plan for infrastructure development	TBD	Chief, PQPMC with the support from Ministry	5 years
5.3) Establish major infrastructure as identified	TBD	Chief, PQPMC with the support from Ministry	5 years
5.4) Convert existing fumigation chamber from aluminium phosphide to methyl bromide treatment	$10000	Chief PQPMC	1 year

5.5) Organize hands on training and exposure visit for handling of infrastructures and processes	$ 20000	Chief, PQPMC	1 year
5.6) Develop ToR and hire the experts as per need	$ 5000	Chief, PQPMC	3 years
5.7) Develop ToR and hire experts for the feasibility study for the establishment of the Irradiation facility	TBD	Chief, PQPMC	5 years

Annex 2:

List of stakeholders:

Name	Organization/Division	Email
Fitzory White	None	Fitzroy.White@fao.org
Kiran Ghimire	None	kiran.ghimire17@gmail.com
None None	None	None
Ram Krishna Subedi	None	rksubediipm@gmail.com

Annex 3:

Human Resources

Module 7 - Pest diagnostic capacity

Pest diagnostic laboratory current human resources

	Current				Required	
	PEST DIAGNOSTIC AND SUPPORT STAFF		LABORATORY MANAGERS			
	No. of Staff	Average years of experience	No. of Staff	Average years of experience	Diagnostic /support	Managers
Mycology						
Doctoral equivalent	0		2	0-5	Yes	Yes
Master equivalent	0		4	5-10	Yes	No
Bachelor equivalent	0		4	5-10	Yes	No
Lower than bachelor level	0		2	0-5	No	No
Virology						
Doctoral equivalent	0		1			
Master equivalent	0		2	5-10	Yes	Yes
Bachelor equivalent	0		3	5-10	Yes	No
Lower than bachelor level	0		3	5-10	No	No
Nematology						
Doctoral equivalent	0		1			No

Master equivalent	0		2	0-5	Yes	Yes
Bachelor equivalent	0		3	5-10	Yes	No
Lower than bachelor level	0		3	5-10	Yes	No
Weed science						
Doctoral equivalent	0		1			
Bachelor equivalent	0		2	5-10	Yes	Yes
Bachelor equivalent	0		3	5-10	Yes	No
Lower than bachelor level	0		3	5-10	No	No
Entomology						
Doctoral equivalent	0		2	5-10	Yes	Yes
Master equivalent	0		3	5-10	Yes	No
Bachelor equivalent	0		3	0-5	Yes	No
Lower than bachelor level	0		2	0-5	No	No
LMOs						
Doctoral equivalent	0		1			
Master equivalent	0		1			
Bachelor equivalent	0		1			
Lower than bachelor level	0		1			
BCAs						
Doctoral equivalent	0		1			
Master equivalent	0		1			
Bachelor equivalent	0		1			
Lower than bachelor level	0		1			
Plants For Planting						
Doctoral equivalent	0		1			
Master equivalent	0		1			
Bachelor equivalent	0		1			
Lower than bachelor level	0		1			
Treatments						
Doctoral equivalent	0		1			
Master equivalent	0		1			
Bachelor equivalent	0		1			
Lower than bachelor level	0		1			

Economist						
Doctoral equivalent	0		1			
Master equivalent	0		1			
Bachelor equivalent	0		1			
Lower than bachelor level	0		1			
Staticians						
Doctoral equivalent	0		1			
Master equivalent	0		1			
Bachelor equivalent	0		1			
Lower than bachelor level	0		1			
Crop specialists						
Doctoral equivalent	0		1			
Master equivalent	0		1			
Bachelor equivalent	0		1			
Lower than bachelor level	0		1			
Technical support and administrative staff						
Doctoral equivalent	0		0			No
Master equivalent	0		0			No
Bachelor equivalent	0		3	0-5	No	No
Lower than bachelor level	0		6	0-5	No	No

Module 8 - NPPO pest surveillance and pest reporting capacity

The human resources of the pest surveillance activities

	Current				Required	
	PEST SURVEILLANCE AND SUPPORT STAFF		SURVEILLANCE MANAGERS			
	No. of Staff	Average years of experience	No. of Staff	Average years of experience	Surveillance/support	Managers
General surveillance						
Doctoral equivalent	1		2		Yes	Yes
Master equivalent	1		4		Yes	No

Bachelor equivalent	1		4		Yes	No
Lower than bachelor level	1		4		Yes	
Specific surveillance						
Doctoral equivalent	1		2		Yes	
Master equivalent	2		3		Yes	
Bachelor equivalent	1		3		Yes	
Lower than bachelor level	1		3		Yes	
Total						
Doctoral equivalent	1		3		Yes	Yes
Master equivalent	2		6		Yes	No
Bachelor equivalent	1		6		Yes	No
Lower than bachelor level	1		6		Yes	No

Module 9 - Pest eradication capacity

The human resources involved in eradication programmes

	Current				Required	
	Field and support Staff		Eradication managers			
	No. of Staff	Average years of experience	No. of Staff	Average years of experience	Field/support Stafft	Managers
Doctoral equivalent	1		2		Yes	Yes
Master equivalent	1		2		Yes	No
Bachelor equivalent	1		3		Yes	No
Lower than bachelor level	1		3		Yes	No

Module 10 - Phytosanitary import regulatory system

The import regulatory system human resource

Current			
TECHNICAL	IMPORT MANAGERS	SUPPORT STAFF	

	No. of Staff	Average years of experience	No. of Staff	Average years of experience	No. of Staff	Technical	Managers	Support
Doctoral equivalent	1		0		0			
Master equivalent	6	10-20	0		0			
Bachelor equivalent	3	5-10	0		0			
Lower than bachelor level	6	5-10	0		0			

Module 11 - Pest risk analysis

The human resources of the NPPO PRA programme

	Current			Required
	Full Time Staff		Ad hoc Staff	
	No. of Staff	Average years of experience	No. of Staff	Required
Mycology				
Doctoral equivalent	1		1	Yes
Master equivalent	1		1	
Bachelor equivalent	1		1	
Lower than bachelor level	1		1	
Virology				
Doctoral equivalent	1		1	
Master equivalent	1		1	Yes
Bachelor equivalent	1		1	
Lower than bachelor level	1		1	
Nematology				
Doctoral equivalent	1		1	
Master equivalent	1		1	Yes
Bachelor equivalent	1		1	
Lower than bachelor level	1		1	
Weed science				
Doctoral equivalent	1		1	
Bachelor equivalent	1		1	Yes
Bachelor equivalent	1		1	
Lower than bachelor level	1		1	

Entomology				
Doctoral equivalent	1		1	
Master equivalent	1		1	Yes
Bachelor equivalent	1		1	
Lower than bachelor level	1		1	
LMOs				
Doctoral equivalent	1		1	
Master equivalent	1		1	Yes
Bachelor equivalent	1		1	
Lower than bachelor level	1		1	
BCAs				
Doctoral equivalent	1		0	
Master equivalent	1		1	Yes
Bachelor equivalent	1		1	
Lower than bachelor level	1		1	
Plants For Planting				
Doctoral equivalent	1		1	
Master equivalent	1		1	Yes
Bachelor equivalent	1		1	
Lower than bachelor level	1		1	
Treatments				
Doctoral equivalent	1		1	
Master equivalent	1		1	Yes
Bachelor equivalent	1		1	
Lower than bachelor level	1		1	
Economist				
Doctoral equivalent	1		0	
Master equivalent	1		2	Yes
Bachelor equivalent	1		1	
Lower than bachelor level	1		1	
Staticians				
Doctoral equivalent	1		1	
Master equivalent	1		1	Yes
Bachelor equivalent	1		1	
Lower than bachelor level	1		1	
Crop specialists				
Doctoral equivalent	1		1	
Master equivalent	1		1	Yes

Bachelor equivalent	1		1	
Lower than bachelor level	1		1	
Technical support and administrative staff				
Doctoral equivalent	1		1	
Master equivalent	2	0-5	1	
Bachelor equivalent	1		1	Yes
Lower than bachelor level	1		1	Yes

Module 12 - Pest free areas, places and sites, low pest prevalence areas

PFA/ALPP/PFPP/PFPS: Human resources

	Current				Required	
	Field and support Staff		Eradication managers			
	No. of Staff	Average years of experience	No. of Staff	Average years of experience	Field/support Staff	Support
Doctoral equivalent	1		1		Yes	No
Master equivalent	1		1		Yes	No
Bachelor equivalent	1		1		Yes	No
Lower than bachelor level	1		1		Yes	Yes

Module 13 - Export certification, re-export, transit

The human resources in the NPPO export certification program

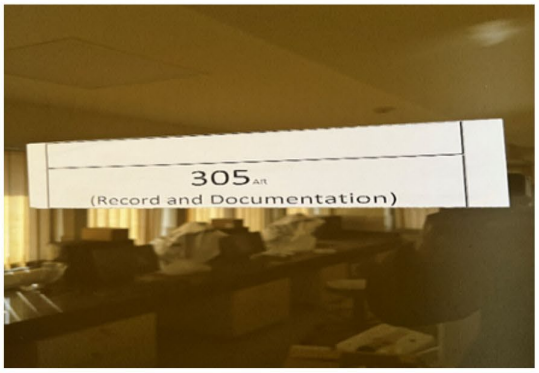
	Current				Required	
	Inspector and support Staff		Export managers			
	No. of Staff	Average years of experience	No. of Staff	Average years of experience	Inspector/ support Staff	Export managers
Technical support and administrative staff						
Doctoral equivalent	1		2	5-10	Yes	Yes
Master equivalent	6	0-5	6	0-5	Yes	Yes
Bachelor equivalent	6	5-10	0		No	Yes

Lower than bachelor level	6	5-10	0		No	No

Appendix 7 – PQPMC Central laboratory

Equipment and Accessories



Appendix 8:

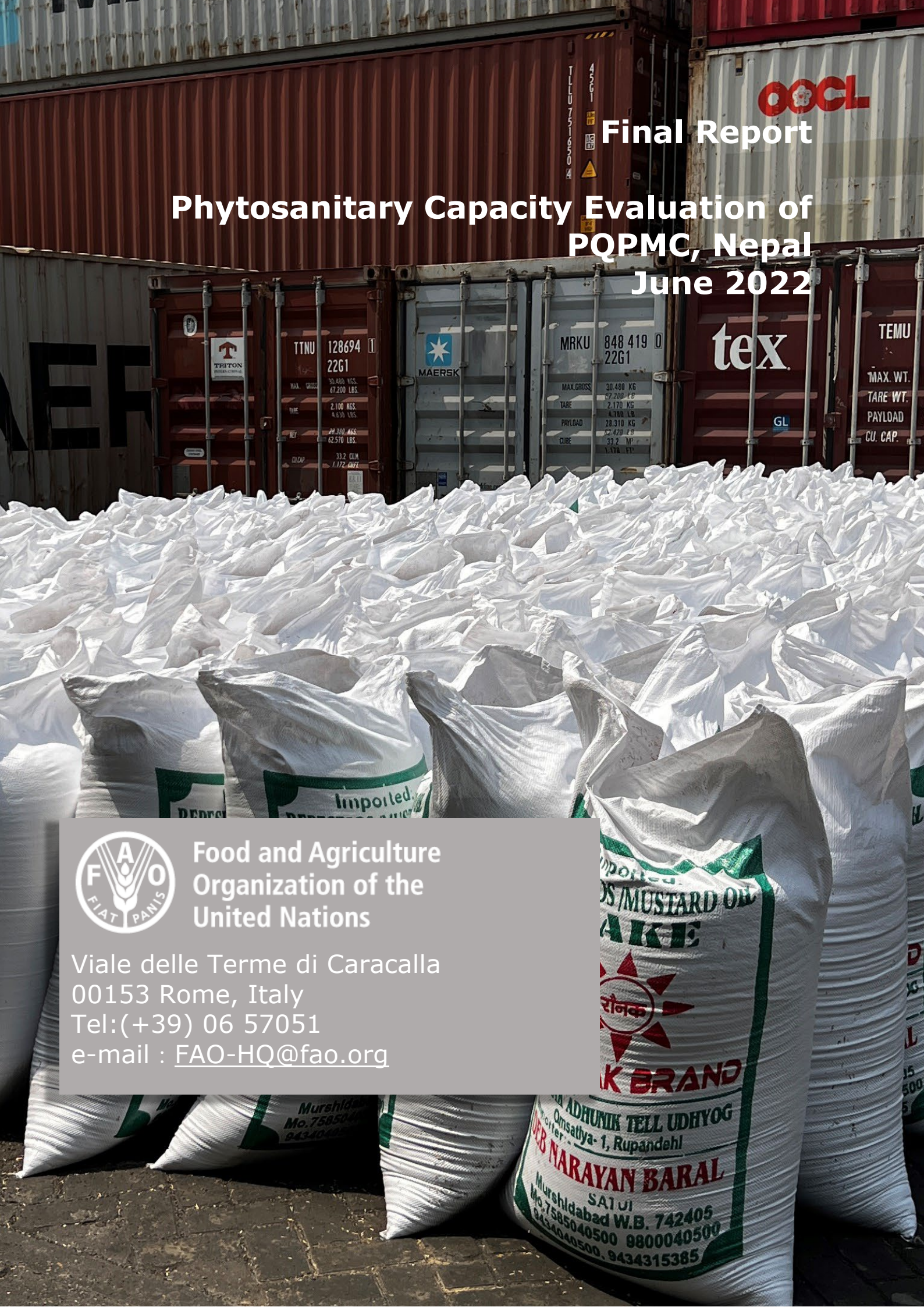
Facility to be converted from current set up for Aluminium Phosphide to use Methyl bromide




Final Report

Phytosanitary Capacity Evaluation of PQPMC, Nepal

June 2022



Food and Agriculture Organization of the United Nations

Viale delle Terme di Caracalla
00153 Rome, Italy
Tel:(+39) 06 57051
e-mail : FAO-HQ@fao.org