

SPS system and its challenges in Nepal

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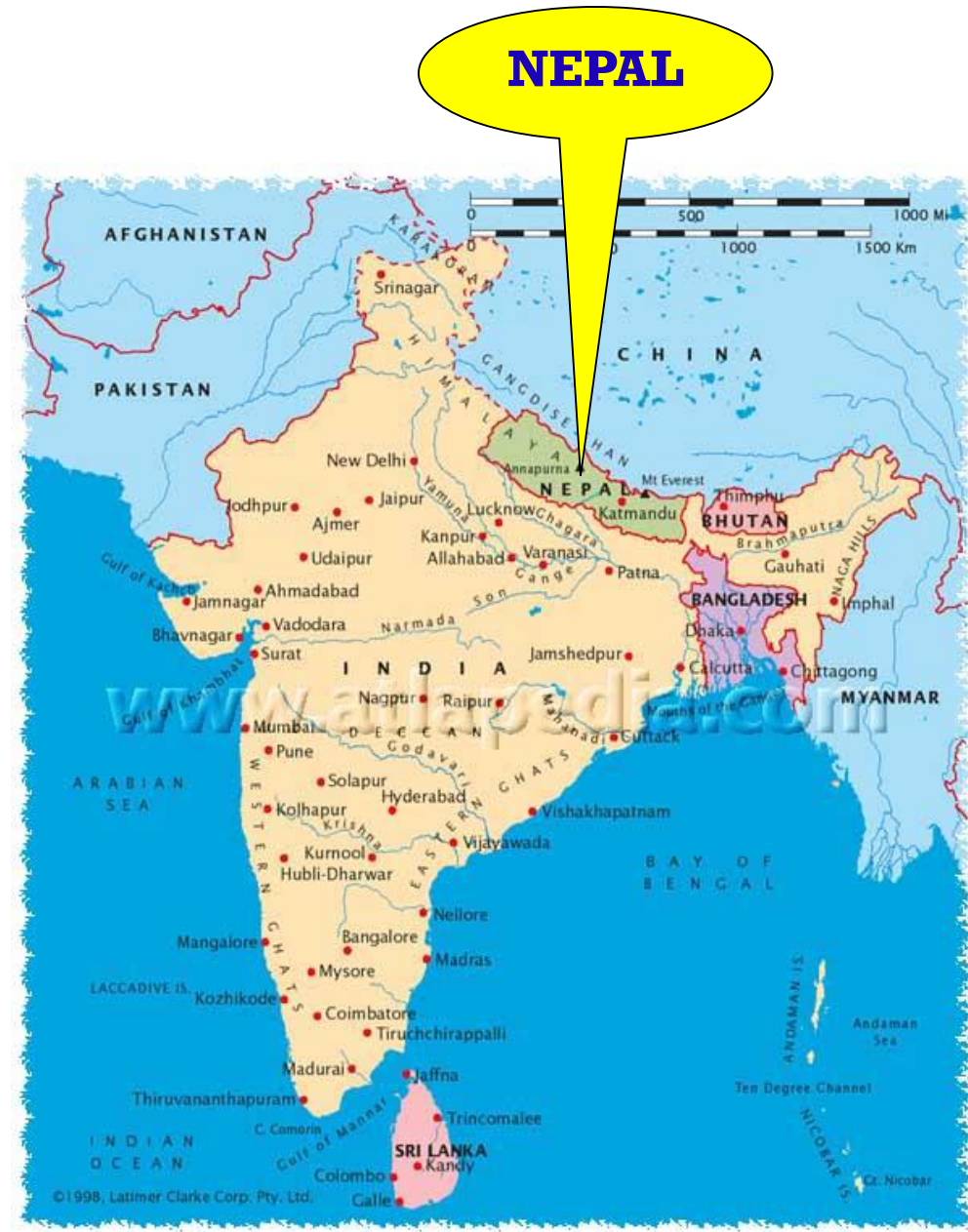
The Country

- Land locked country
- Birth place of **Lord Buddha**
- Bordering countries:
 - China (Tibet): North
 - India: East, south and west
- Geographical region: (3)
- Altitude ranges from few meters to 8,848m
- (Mt Everest; the highest peak of the world)

Major crops :

Rice, Wheat, Maize, vegetables, potatoes and fruits.

Cash crop- Tea, Coffee, Sugarcane, Jute and cardamom



Geographical and Political division of Nepal

Geographical division: 3 Eco-zones

Mountain (16 districts)

- 35% of total area. (4800 mt and above)
- Yak/Nak, sheep, alpine goats (Chyangra) and mule rearing forms the way of life of people in this region.

Hills (39 districts)

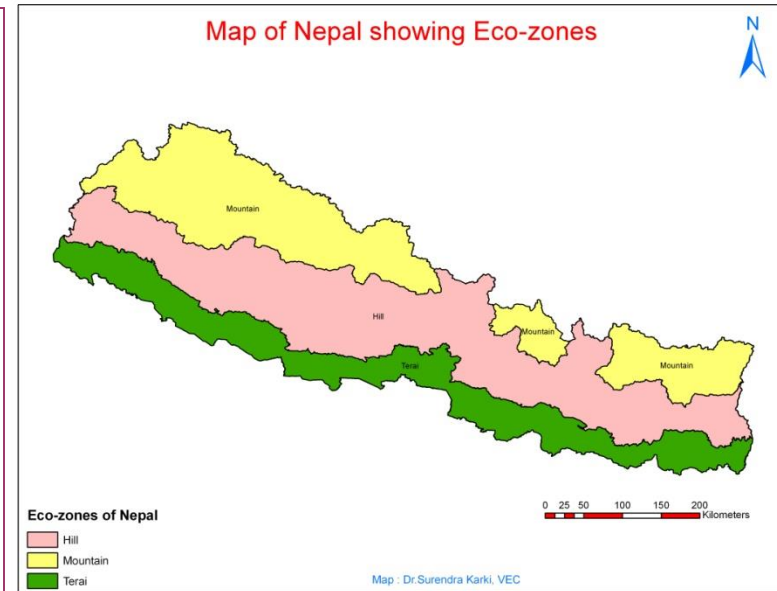
- Covers about 42% area.(300 to 4800 masl.)
- Agro-based livestock industries and horticultural production in the region are the main source of income of the people.

Terai (20 districts)

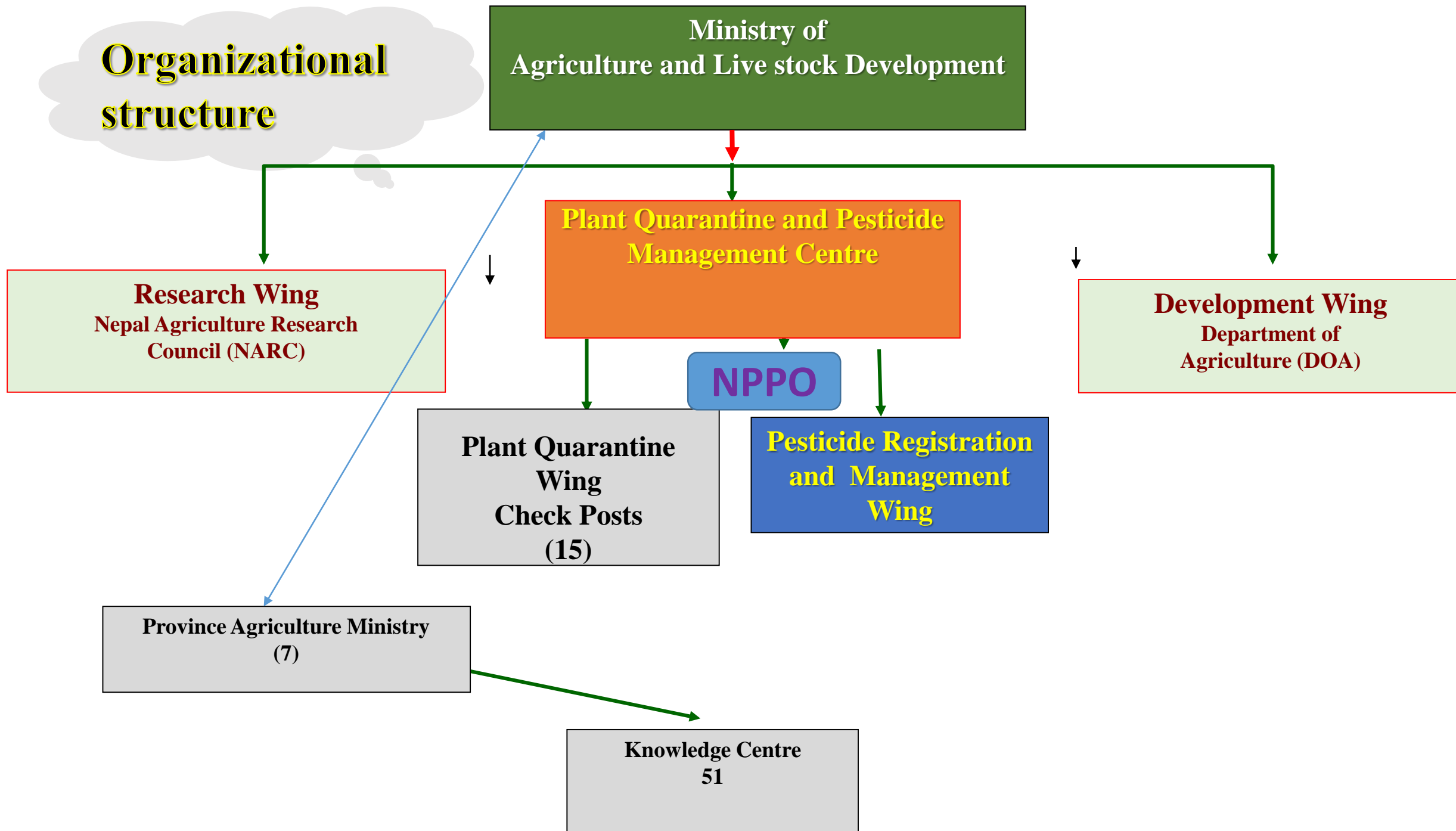
- Covers about 23% of the total area.(<300 masl.)
- This region serves as a main source of food supply to other region of the country.

Administrative division

- 7 Provinces
- 77 Districts
- 753 Local Government



Organizational structure



National Legislation and policies on Plant Protection

- Plant Protection Act, 2007.
- Plant Protection Regulation, 2010.
- Pesticide Act-1991
- Pesticide Regulation, 1993
- The Seeds Act, 1988
- Seed Regulation, 2012
- National Seed Policy, 1999
- National Seed Vision, 2013 - 2025

What We have to implement SPS ?

- Strong acts and regulations
- Several national standards including domestic quarantine
- Pest database (generic) prepared on 25 commodities
- Quarantine pest lists of 20 commodities prepared
- Pest maps of all the cultivated crops of Nepal prepared
- Electronic pest database management system to be started soon.
- About 2000 plant protection related human resource to undertake field based survey , posted evenly in all 77 districts.
- More than 200 human resources are involved directly in plant quarantine systems.
- Basic Laboratory infrastructure and equipments in all the plant quarantine check-posts and in regional Plant Protection Laboratories.
- Implementing National IPM program, which can be linked with the Pest surveillance program for database management and risk management

Our Priorities

- ✓ Active and powerful NPPO with comprehensive work plan and aggressive implementation modality to establish direct mechanism for collaboration, coordination among domestic and foreign stakeholders (NPPO as single window)
- ✓ Design several protocols for survey of several specific pests of selected commodities.
- ✓ Field based commodity Specific general pest survey of highly exported commodities.
- ✓ Collaboration with extension, research and education institutes to implement SPS plans.
- ✓ To strengthen the capacity of laboratory processing technologies, infrastructure development, trainings and equipment.

QUARANTINE Check Posts



HIGHLY EXPORTED COMMODITIES

Commodity	Present market	Newly Identified markets
Large Cardamom	India, Pakistan, UAE	Saudi Arab
Ginger	India, USA	Pakistan, Bangladesh
Lentil	Bangladesh, Turkey, UAE, Egypt, Singapore, USA	Srilanka, Algeria, Iran, Saudi Arab
Tea	India, Germany, Netherland, China	Egypt, UAE, Russia, USA, UK, Iran, Pakistan
Medicinal Herbs	India, China, Bangladesh, Pakistan, Japan	USA, France, Germany, Vietnam, Singapore
Coffee	Japan, Korea	Cyprus
Essential oils	India, Thailand , Sweden, Sd. Arab	Singapore, Swt'land, France, Germany, USA

Nepal Trade Integration Strategy (NTIS)

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- 1. Cardamom**
 - 2. Ginger**
 - 3. Honey**
 - 4. Lentil**
 - 5. Tea**
 - 6. Instant noodles**
 - 7. Medicinal herbs and essential oils**

8. Hand made papers and products
9. Silver jewelry
10. Iron and steel products
11. Chyangra pasmina products
12. Wool products
13. Tourism
14. Labour services
15. IT and BPO services
16. Health services
17. Education services
18. Engineering services
19. Hydro electricity

Export Potential

- Exports are mainly confined to primary products.
- In horticulture products, Nepal has certain competitive advantages. Ex Cardamom, ginger, vegetables (tomato, cabbages and cole crops,) tea ,coffee, cut flowers and vegetable seed etc
- Medicinal and Aromatic Products (MAPs)/Herbs.
- WTO regime provides greater opportunity for exports.
- Farmers can benefit from exports of high value products.

Some Performance

Survey Surveillance: 5 guidelines prepared

- ✓ Five medicinal herbs Kutki, Kurilo, Chiraito, Reettha and Timur (*Picrohiza Kuroa*, *Asparatus racenosus*, *Swertia Chirayita*, *Sapindus mukorossi*, *Zanthoxylum alatum* respectively) survey is on going.
- ✓ Survey protocol prepared for fruit fly, citrus canker, citrus greening (HLB) and *Diphorina citri*.
- ✓ National Standards, PRA for some of the major imported crops (Apple, Citrus, Potato, Ginger, Garlic, Banana, Coffee, Gerbera, Carnation, Cabbage, Cauliflower, Hot Chili, Large Cardamom, Tea Cucumber, Pumpkin, Radish, Bitter gourd, Paddy and Maize) has been done.
- ✓ Recently internal online e-phyto system has been established and going to be operating very soon.
- ✓ Prepared guidelines for internal quarantine system .
- ✓ Prepared pest detection manual for major exportable commodities.

Achievements of Plant Quarantine Program last year

1. Approval of Internal Plant Quarantine Directive, 2073(2016)
2. Preparation and Publication of following manuals for Quarantine Pest Identification
 - ✓ Pest Identification Manual of Lentil Crop in Nepal
 - ✓ Identification Manual for Quarantine pests of Maize, Lentil and Rice, 2017
 - ✓ Identification Manual for Quarantine pests of Garlic, Large Cardammom, Potato and Tea, 2016.
3. Contributed in preparing SOP for PH3 Fumigation
4. Establish fumigation chamber at Kathmandu.
5. Computerization of quarantine e-phyto activities.
6. Success to restructured and upgraded NPPO parallel to Department of Agriculture direct under the Ministry.

The Strategic Framework of NPPPO/Nepal

- ☐ Phytosanitary and plant quarantine matters,
- ☐ Invasive plant species management,
- ☐ Prevention of pest outbreaks and new and alien invasive pests,
- ☐ Pesticides management,
- ☐ Legal aspects,
- ☐ Capacity Development,
- ☐ Food safety
- ☐ Preservation of biodiversity and
- ☐ IPM

Plant Quarantine Activities

- ▶ Providing Phytosanitary inspection services and certification for the import and export of plant commodities
- ▶ Supervising Phytosanitary treatments for the import and export of plant commodities
- ▶ Undertaking domestic and post entry quarantine procedures
- ▶ Conducting pest risk analysis ([PRA](#))
- ▶ To implement the approved Act/regulation.
- ▶ Conducting research and development activities in plant quarantine area :
 - Treatment for fruit flies
 - Joining research with importing countries to treat fruits by standards.
 - Survey and surveillance
 - Diagnosis of disease/pest.
 - Eco-friendly management option

Status of National phytosanitary standards

- 33 Different NSPMs are Endorsed. Many notified, Few under notification
- **Directive on domestic quarantine** has been approved and it is in the process of implementation.
- 500 pests of 19 commodities are declared as QPs, and regulated with pursuant to Plant Protection Act of Nepal; [L][SEP]
- PRA for needed commodities are going on. [L][SEP]
- Pest Identification Manuals of the quarantine pests of Apple, Banana, Citrus, Coffee, [L][SEP]Zinger, Tea, Large Cardamom, and Garlic prepared and published

Challenges faced on SPS areas

- Lack of well trained human resource in laboratory procedures, pest risk analysis, appropriate fumigation Limited market access for some of exportable commodities.
- Inadequate capacity to comply with stringent measures in risk assessment.
- Small farm sizes and enterprises make difficulties in meeting the SPS requirements.
- Inadequate existing facilities for quality testing, certification, and accreditation.
- High input cost for food production.
- Country find difficulties to export their products mainly because of the higher standard of the developed countries.
- No accreditation of the SPS reference laboratories.
- Very few trained manpower is available on the area of SPS.
- No any or very few research activities in SPS areas.
- Recognition of certification.

Emerging Pests and Diseases

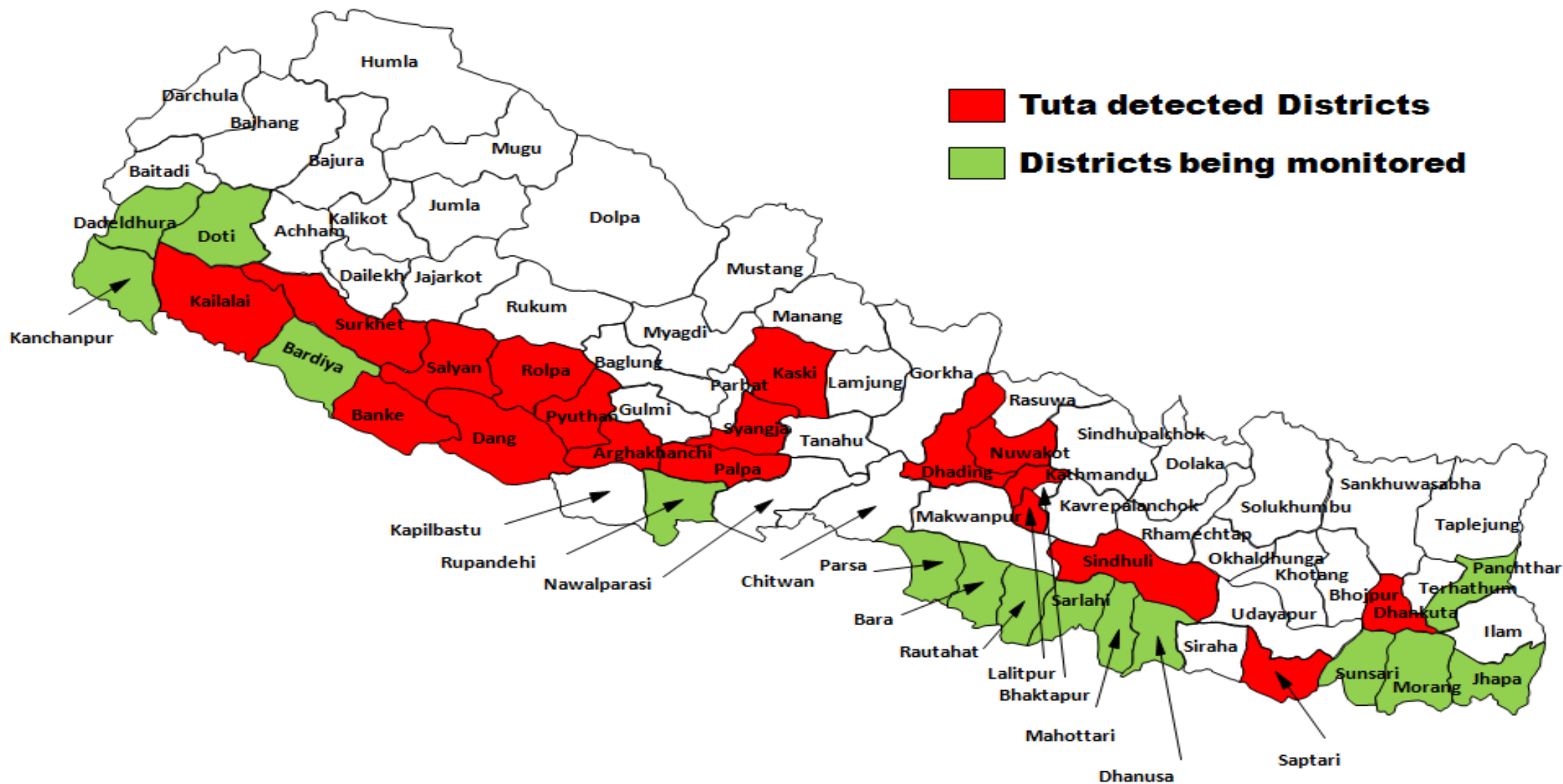
- **South American Leaf Miner (*Tuta absoluta*)** : It was reported in the [May of 2016](#) for the first time in Nepal. It's easy establishment and spread especially the mid-hills region of Nepal has been creating a serious problems.
- **Coffee Leaf Rust (*Hemelia vestatrix*)** : This disease was officially [identified in October of 2015](#). Now it has been reported from many coffee growing areas of the country.
- **Citrus Fruit Fly (*Bactrocera minax*)** : Citrus fruit fly was first reported from eastern part of the country and now it has been spreading towards west. Citrus fruit like Lime, Junar and sweet orange are very much susceptible for this pest.
- **Rice Neck Blast (*Pyricularia oryzae*)** : Rice is the major crop and is periodically get affected by this diseases in different locations especially in hilly regions of the country.
- **Army worm (*Mythimna separata*)** : A serious attack of army worm on Maize, rice, finger millet has been reported from different parts of the country.
- **Water lettuce (*Pistia stratiotes*)** : Many rice growing areas are affected with this weed. Recently introduction of this weed into new district has been reported.
- **Citrus decline (Complex)** : Due to the complex reasons like Citrus greening, Citrus Tristeza virus, foot and root rot disease, citrus nematode and other management factors are causing the citrus decline throughout the citrus growing regions.
- **Wilt complex of solanaceous crops**: Solanaceous crops including Brinjal, Tomato, Chillies are seriously affected with the Bacteria, Fungus and Nematodes. Often Nematodes and Bacteria are associated to cause a serious wilt.

Tuta Absoluta, Leaf Minor – A Brief

- Exotic pest from Brazil
- Detected in 2016 with major outbreaks around Kathmandu valley
- Expand across the terai and mid-hills
- Potential for devastating loss \$50 million+/year
- Major impact smallholders



Monitoring and Distribution of *Tuta absoluta*



Coffee leaf rust outbreak in Nepal, 25-27 December 2015

- Devastating to susceptible coffee plantations
- ***Hemileia vastatrix***.
- Coffee serves as the obligate host of coffee rust, that is, the rust must
 - As the disease is new for Nepal.
 - Coffee technicians do not have knowledge and experience of working with this devastating disease.
 - Urgent need is the seeking expert advise i.e. expert with experience of working in the CLR management needs to be brought to Nepal for planning and implementing immediate as well as long term activities.
 - Now we succeed to manage the rust but even though it may out break when climate is favorable.



CABI warns of rapid spread of crop-devastating Fall Armyworm across Asia



<https://www.cabi.org/news-and-media/2018/cabi-warns-of-rapid-spread-of-crop-devastating-fall-armyworm-across-asia/>

Asian countries and neighboring countries of India need urgent technical support for development of contingency and response plans to enable a rapid and effective response if the Fall Army Worm did invade.

FAO website on FAW <http://www.fao.org/food-chain-crisis/how-we-work/plant-protection/fallarmyworm/en/>

FAO's guide for FAW management: <http://www.fao.org/farmer-field-schools/overview/fall-armyworm/en/>

Way Forward

- ❖ Strengthening Plant Quarantine Institutions (HRD and Laboratories)
- ❖ Infrastructural development (offices, fumigation chambers and PEQF)
- ❖ Practical implementation of various provisions
- ❖ Develop traceability capability at grass root levels
- ❖ Support to industries that substitute imports and promote exports
- ❖ Install and Implement e-Phyto certification system.
- ❖ Enhance the research support on SPS areas.
- ❖ Identify, declare and notify pest free area, area/site of low pest/disease prevalence, endangered area and adapt Phytosanitary measures accordingly.
- ❖ Linkages with potential international markets.

Summary

- Nepal is working with full effort in the SPS sector.
- Good bilateral trade relationship prevails with India and Bangladesh.
- Have some problems in trade facilitation and need some adjustment.
- In the long run further areas of mutual support for strong and safer trade relationship can be identified.
- Lack of research on SPS issues.
- Capacity building of Plant Quarantine program is crucial.

Benefit of the One Belt One Road

- Implementation of One Belt, One Road will greatly contribute to reduce the time and cost of international trade.
- It will open up more economic opportunities for several countries.
- It will open up more doors for business, tourism and cultural exchanges also.
- Nepal should take benefit from both neighboring countries. It promote connectivity and it is very important for international trade.
- China's One Belt, One Road vision actually stands for good connectivity with trading partners for safe, sustainable and economic trade.
- Development of infrastructure in Nepal under the One Belt, One Road could help to expand trade connectivity and provide wide market. Which will ultimately benefit our economy.

Thanks!