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COUNTRY REPORT

INDIA

GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE
DEPARTMENT OF AGRICULTURE & CO-OPERATION
DIRECTORATE OF PLANT PROTECTION QUARANTINE & STORAGE
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COUNTRY REPORT

The Directorate of Plant Protection Quarantine & Storage under the Ministry of Agriculture, Department of Agriculture and Co-Operation is the National Plant Protection organization exclusively devoted to the plant protection services in the country. The major responsibilities of the organization are

1. Exclusion of exotic pests, by regulating the import of plants under Destructive insects and pest Act 1914.
2. Regulating the import, manufacture, storage, sale and use of pesticide under Insecticide Act 1968.
3. Promoting the Integrated pest management approach using environmentally safe Bio control agents in Plant protection and to reduce the use of hazardous chemical pesticides.
4. Enhancing the human resource capability in plant protection.
5. Monitoring, forewarning and controlling the Desert locust incursion in the country.
6. Monitoring the pesticide residues in the fruits and vegetable.

The organization is responsible for facilitating the safe trade of plant materials, accordingly enforce the SPS rules. More than 160 phytosanitary certificate issuing authorities have been notified and established plant quarantine facilities at major entry points.

PLANT QUARANTINE

The Plant Quarantine (regulation to import into India) order, 2003 is operated under the Destructive insect and pest act 1914. The regulation is based on scientific assessment of pest risk associated with the commodity. The regulation is dynamic and has been amended several times, all changes are notified to WTO and all trading countries for comments for at least 60 days before enforcing. The updated regulations are posted in the national plant quarantine web site, www.plantquarantineindia.org

Pest surveillance

Survey and Monitoring Plan for *Bactrocera caryeae* was initiated to detect, monitor and control the incidence of *Bactrocera caryeae* in the selected areas through the operation of a regular fruit fly trapping system and the responsive plan and also to ascertain whether mango is a host for *Bactrocera caryeae*. The main aim of the project was to get market access for Indian Mangoes for export to Japan.

National Integrated Fruit Fly Surveillance Project has been in operation since 2006, the main aim of the project is to develop a sustained system of fruit fly surveillance with a view to establish pest free areas against fruit flies, which are internationally recognized so as to gain market access for export of fresh fruits through sustained fruit fly free productions and quality exports.

Bilateral cooperation

- Indo-China Bilateral Agreement signed to facilitate export of Mangoes, Grapes and Bitter Gourd.
- Export of Mangoes to Japan with Vapor Heat Treatment.
- Bilateral Agreement with China for export of Indian Basmati Rice.
- Bilateral Agreement with Thailand on phytosanitary issues under FTA.
- Framework Equivalency Plan signed with USA for export of mango to US. Operational Work Plan for irradiation agreed upon.

Import and Export Inspections

There is a constant increase in the quantum of plant materials being imported into the country as well as export from the country. During the year 2006 the imports were to the tune of 12.4 million tons and 10 million numbers of plant propagating units. The exports were 9.35 million tons and a total of 137 470 numbers of phytosanitary certificates were issued for export consignments

A number of pests were intercepted in the import consignments and the major ones are *Embellecia alli* on Garlic imported from Malaysia and China. Chrysanthemum rust *Puccinia horriana* on Chrysanthemum cut flower imported from Sri Lanka. *Carryobruchus glisteide* on Sabal palm seeds imported from Germany. Granary weevil *Sitophilus granaries* in wheat imported from Ukraine. Wheat ergot pathogen *Claviceps perpuria* in wheat imported from Australia and Russia. Quarantine weeds *Cenchrus tribuloids, Solanum carolence* from Australia in imported wheat and *Viola arvensis* and *Cynoglosum officinalis* in wheat imported from Russia

Pest Risk Analysis

The plant quarantine (regulation o import into India) order 2003, stipulates that import of new commodity is permitted only after the thorough analysis of the pest risk associated with such imports. The commodities that are regulated under the PQ order 2003 are notified in the schedule VI. The qualitative PRA has been carried out for more than 500 commodities and listed more than 750 regulated pests of concern to India. There is a concerted effort to improve the human resource capabilities in the area of PRA and one PRA work shop was organized in India at Regional Plant Quarantine Station Chennai with the assistance of IPPC and technical input from PRA experts from Canada and United Kingdom during March 2007.

SURVEILLANCE, PEST OUTBREAK

During August, 2006 Migratory Locust emerged as a serious problem in Zanskar and Chanthang valleys of Ladakh region of Jammu&Kashmir State which was controlled effectively by the Locust Warning Organisation of the Dte. of Plant Protection, Quarantine & Storage of Government of India.

30 numbers Micro ULVA (15 each at Zanaskar and Changthang Valley) and 39 numbers of trained manpower from Locust Warning Organisation (LWO) of the Directorate of Plant Protection, Quarantine and Storage, Government of India were deployed for controlling the Locust infestation in the above said valleys A total of 1000 ha in Zanskar Valley and 300 ha area in Changthang Valley was covered in these control operations.

INTEGRATED PEST MANAGEMENT

IPM is an eco-friendly approach for pest management encompassing cultural, mechanical, biological and need based use of chemical pesticides with preference to use of bio-pesticides, bio-control agents and indigenous innovation potential. The main objectives of IPM are

- Maximize crop production with minimum input costs.
- Create awareness among farming community about beneficial and harmful insect pests and diseases & their management.
- Minimize environmental pollution in soil, water and air due to pesticides;
- Minimize occupational health hazards due to chemical pesticides.
- Preserve ecosystem and maintain ecological equilibrium.
- No or less use of chemical pesticides for minimum pesticides residues.

There are 31 Central integrated pest management centers (CIPMCs) in 28 States . During the period 1994- 2006 a total of 93.44 lakh ha has been surveyed for pest monitoring and a total of 23,700 million bio-control agents have been released. Organized 39 season long training programme and 9851 farmers field schools on IPM

To promote IPM, Directorate of PPQ&S has developed 77 IPM package of practices on major Agriculture / Horticulture crops and the same have been circulated to all states for translation in to their local /vernacular languages. These packages have also been posted on Directorate web site www.dacnet.nic.in for the use of beneficiaries.

A total of 318 bio-control laboratories have been established and granted temporary registration for bio-pesticides used in agriculture. The consumption of bio-pesticide has increased from 123 MT in the year 1994 to 1920 MT in the year 2006 consequently the use of chemical pesticide which was 61397 MT in 1994 was reduced to 39773 MT in the year 2006

The Impact of IPM approach resulted in

- Overall consumption of chemical pesticide in the country reduced from 61397MT) during 1994 to 39,773 MT. The crop yield increased from 6.72 – 40.14% in rice and 22.7-26.63% in cotton in IPM fields compared to non-IPM fields.
- Chemical pesticide sprays reduced to the extent of 50-100% in rice and 29.96 to 50.5% in cotton.
- Use of bio-pesticides / plant based pesticides increased from 123 MT during 1994-95 to 1920 MT during 2005-06

PESTICIDE MANAGEMENT

India is signatory to FAO code of conduct on the distribution and use of pesticide and is implementing its provisions. The insecticide act 1968 and the rules framed thee under regulates the import, manufacture, sale transport , distribution and use of pesticides with a view to prevent risk to the human beings and animals. As per the act any pesticide to be imported/manufactured for use in the country require compulsory registration by the registration committee, The committee registers the pesticide only after satisfying itself regarding the efficacy of the pesticide and its safety to human health and animals. The act and the rules take care of by and large all the provisions of the code of conduct except for the environment.

REGISTRATION COMMITTEE

Registers pesticides under Section 9 of the Act after verifying their efficacy and safety to human beings and environment:

- Provisional registration under Section 9(3B) for 2 years for Data Generation
- Regular registration under Section 9(3)
- Repeat registration under Section 9(4)

A STATUTORY LABORATORY ESTABLISHED UNDER SECTION 16 OF THE INSECTICIDES ACT 1968- Central Insecticide Laboratory

- To analyze such samples of insecticides sent to it under the Act by any officer or authority and submission of certificates of analysis to the concerned authority;
- To analyze samples of materials for insecticide residues under the provisions of the Act;
- To carry out such investigations as may be necessary for the purpose of ensuring the conditions of Registration of Insecticides;
- To determine the efficacy and toxicity of insecticides**;**

Monitoring the pesticide residue

A central sector scheme on Monitoring pesticide residue at national level has been initiated during the year 2006 and a total of 26 laboratories have been identified and provided with the required equipment and resources to generate the data on the level of pesticide residue in vegetables and fruits.

The Scheme envisages collection, compilation and collation of data on pesticide residues, being undertaken by various laboratories and Departments across the country both in the Government and outside. The Scheme aims at synthesizing the data and information being generated by various agencies to create a national repository of such data to enable policy initiatives for focused Integrated Pest Management (IPM), GAP etc. interventions in regions/ commodities where results show high presence of pesticide residues. The Scheme is being implemented through a Steering Committee comprising representatives from several Ministries/Departments connected with residue monitoring. A Technical Committee, primarily comprising of technical experts and scientists provides the scientific and technical inputs for the Scheme.