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DEPARTMENT OF AGRICULTURAL ENGINEERING

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UNIT : IV Harvesting and Plant Protection Machinery

TOPIC 9 – Farmers' perception on plant protection in India and Nepal: a case study





Abstract

Participatory rural appraisal was undertaken in 70 villages in India and Nepal, covering 1185 farmers to generate baseline information on the current plant protection practices.

The study revealed that 93% of the farmers in India and 90% in Nepal had adopted chemical control for the management of various insect pests in different crops; however, less than 20% of the farmers expressed confidence on their efficacy.

In India, 52% of farmers get their plant protection advice from pesticide dealers, while in Nepal, the majority of the farmers (69%) make their plant protection decisions through agricultural officers.

A majority of the farmers (73% in India and 86% in Nepal) initiate the plant protection based on the first appearance of the pest, irrespective of their population, crop stage and their damage relationships.



About 50% of the farmers in India and 20% in Nepal were not using any protective clothing while spraying.

Health problems associated with the application of plant protection chemicals were reported by farmers.

The cost of plant protection on various crops ranged from 7 to 40% of the total crop production cost. Though integrated pest management (IPM) has been advocated for the past two decades, only 32% in India and 20% in Nepal were aware of IPM practices.

IPM implementation in selected villages brought a 20–65% reduction in pesticide use in different crops. The vegetable samples analysed for pesticide residues revealed the presence of residues.



Introduction

- Asian agriculture is heterogeneous with a multitude of crops and growing conditions. Agricultural research has made considerable progress in addressing the issue of food security, but agriculture related health aspects have largely been ignored.
- For example, in studies from Anupgarh, Rajasthan, India, where intensive agriculture was taken up, farmers adopted huge amounts of pesticides to boost their crop productivity



Methodology

- Participatory rural appraisal (PRA) was undertaken in 50 villages in India and 20 in Nepal to generate information on existing plant protection practices and elicit farmers' views related to IPM approaches during 2005–2007.
- In India, these studies were conducted in collaboration with the State Department of Agriculture (Andhra Pradesh), Centre for World Solidarity (Hyderabad, Andhra Pradesh), Banaras Hindu University (Varanasi, Uttar Pradesh), Indian Institute of Pulses Research (Kanpur, Uttar Pradesh), Community Action for Rural Development (Maharashtra) and other NGO partners.
- In Nepal, these activities were organized in collaboration with Nepal Agricultural Research Council, National Grain Legumes Research Program and an NGO – Forum for Rural Welfare and Agricultural Reforms for Development.



Results and Discussion

The interactive samples represented 93% males in India and 82% in Nepal. The majority of the farmers (56% in India and 95% in Nepal) possess ,2 ha of rainfed land, and 25% in India and 5% in Nepal had 5–10 ha of holdings.

The proportion of rainfed land holdings in Nepal was relatively smaller than in India. Among various groups of farmers, 28% in India and 22% in Nepal were illiterates, only 25% in India and 5% in Nepal had completed high school education and very few graduates were involved in farming.

These data also covered farmers from 1 to .50 years of experience, of which about 40% had 11–25 years of farming experience.



Conclusions

This study brought out the status of adoption levels of different plant protection options by the farmers in India and Nepal.

Lack of farmers' knowledge and their dependence on pesticide dealers made chemical control the most adopted strategy among the farmers.

Several farmers reported the side effects of pesticide application, but have neither adopted the full protective clothing nor paid attention in appropriate disposal of empty pesticide containers.

Though IPM implementation resulted in substantial reduction in pesticide application, the issue of pesticide residues needs to be addressed.



Thank You