POLICY AND LEGAL FRAMEWORKS TO SUPPORT EFFECTIVE ECOSYSTEM CONTROL *of Insect Pests in Asian Rice Production Systems*

NECESSITY OF PESTICIDES POLICY AND LEGAL ANALYSES

Integrated Pest Management projects in South-East Asia have been very successful in reducing use of pesticides. Solid evidence has been presented in many rice-growing countries of Asia that natural control of insect pests, and minimised, strategic use of pesticides can substantially contribute to rice yields. As evidenced in Figures 1&2 excessive use of pesticides may lead to more pests. Yet excessive use of pesticides has returned as an issue of concern in Asia in spite of successful Integrated Pest Management (IPM) achievements, certainly as a consequence of changes in the policy arrangement.

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POLICY ARRANGEMENT APPROACH AND APPLICATION TO THE PHILIPPINES CONTEXT

In this brief, pesticide use and management in the Philippines is featured, as an indication of where further attention is needed. In the Philippines, IPM was adopted as the national crop protection policy and total use of pesticides drastically decreased from 1990 to 2006. But in recent years a majority of farmers have reverted to non-IPM practices. To place these changes in context, a Policy Arrangement Approach (PAA) was used, as an analytical tool to identify policy gaps at various levels including:

1. Current policy discourses, which refer to the views and narratives of the actors involved in terms of norms and values, the definition of problems, and approaches to solutions;
2. Actors and coalitions involved in the policy domain;
3. Institutions seen as the set of rules (both formal and informal) currently in use, that guide and constrain the behaviour of individual actors;
4. Their resources (money, knowledge, skills, competences, power).

Comparisons were made between the IPM period (1990 - 2006) and the period where major shift from IPM was observed in the Philippines (2006 - Present). The policy analysis was complemented by a legal analysis of pesticides related regulations.

Actors involved in pesticide policy development

In the Philippines three major groups of actors are involved in pesticides policy development:

1. National Government
   - Department of Agriculture (DA) through its Bureau of Plant Industry, Fertilizer and Pesticide Authority (FPA), KASAKALIKASAN-IPM and Policy Research Service;
   - Department of Environment and Natural Resources (DENR) through the Environment Management Bureau;
2. Civil Society (NGOs);
3. Private sector.

While actors within each group may vary from one country to another, the three groups remain the same in most of the countries. Some, if not all, of the policy arrangement gaps and recommendations highlighted below for the Philippines may be relevant for other Asian countries where there is excessive use of pesticides in rice production systems.

Fig. 1 **Comparison of brown planthopper (*Nilaparvata lugens*) numbers in insecticide-treated and unsprayed rice.**

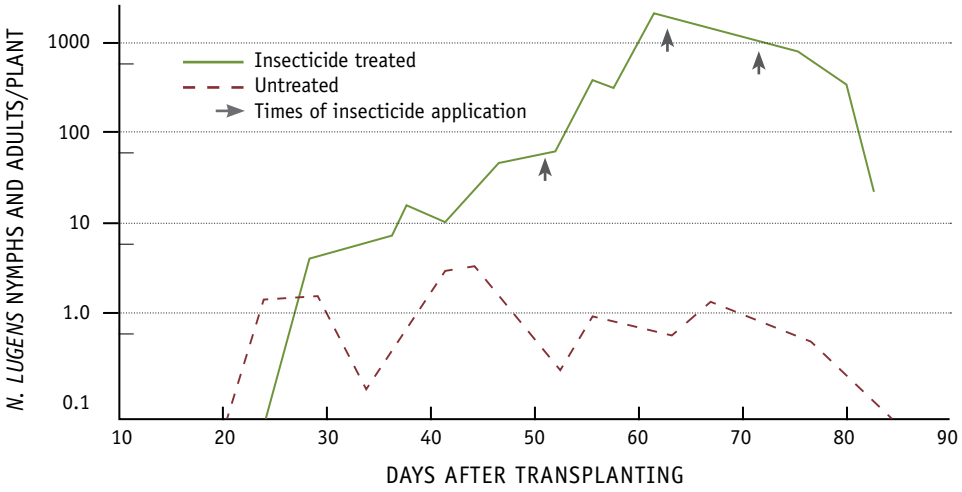

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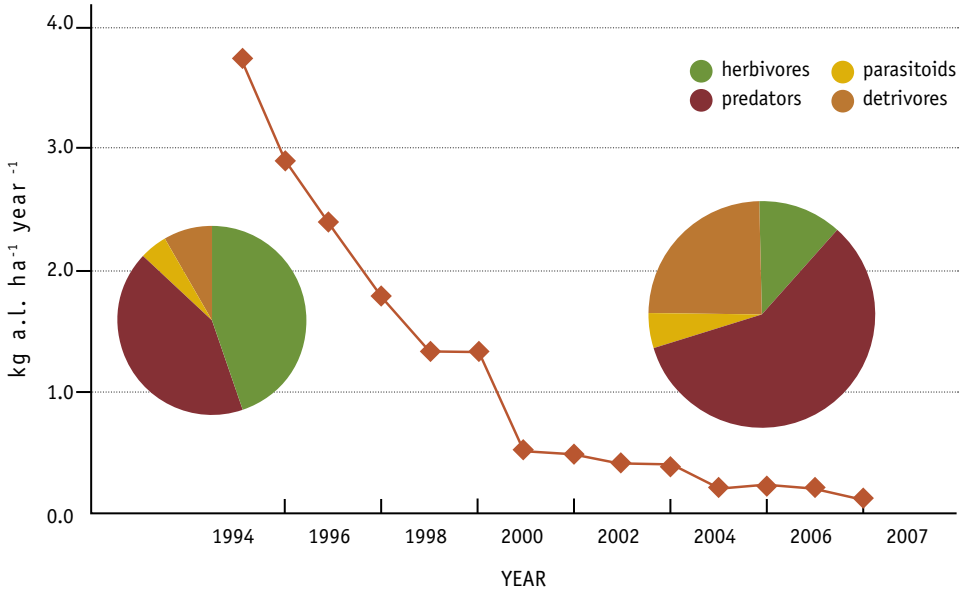
Fig. 2 **Reductions in insecticide use use (trend line) on the International Rice Research Institute farm in the Philippines with changes in relative abundance of faunal groups from 1989 (left pie chart) and 2005 (right pie chart): reduced abundance of herbivores and increased numbers of predators, parasitoids and detritivores**



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Gaps in Policy Discourse

Though sustainable development remains a key concept among all the actors in the pesticide policy domain, government priorities are shifting because of more pressing demands to be internationally competitive, and at the same time self-sufficient. Policies for agriculture to be more productive are linked to higher application of agricultural inputs, ignoring ecological realities of secondary pests (e.g Brown Plant Hopper) as well as evidence that higher inputs result in lower yields and higher cost

Gaps in Actors and Coalitions

There was a strong collaboration between government and civil society ensuring the success of the IPM in the period 1990 – 2006. The power of government was dominant during that period, with civil society support in providing the needed assistance to government especially in terms of adopting IPM, and the promotion of sustainable agricultural practices. The power of the government subsequently weakened in the shift of priority to increased productivity. More recent interactions between private sector and government are surfacing, especially with the priority program towards self-sufficiency and increased productivity.

Gaps in Institutions

National governments such as the Philippines have increasingly devolved authority to local governments, but pesticide management and policy rarely is given a priority in local development agendas. As a result the effectiveness of some agricultural service functions, such as pesticide regulation has not been adequately supported under decentralization. Furthermore, with the high turnover of Local Government Units leadership after each local election, sustainability of the IPM program remained fragile.

Gaps in Resources

In the IPM period, following reductions in pesticide subsidies and changes in pesticide regulations, wide-area season-long trainings for IPM were instituted. Farmers could effectively apply such trainings to the changing policy environment, and succeed in maintaining or increasing yields while reducing pesticide applications. But transfer of this knowledge to a new generation of farmers seems limited, as the pesticide regulatory and policy framework has shifted while investment in farmer training has not been sustained. At the same time resources have also limited the ability of either the Fertilizer and Pesticide Authority (FPA) and Civil Society to gather reliable information on the monitoring of pesticide distribution, with a consequent increase in pesticide smuggling.

Pesticide dealers in the rural areas have gradually assumed the technical extension functions which should have been the responsibility of government agriculture personnel. Pesticides have become a fast-moving consumer product, easily accessible and purchased as soap and toothpaste in local consumer stores. Information and the marketing strategy of aggressive promotion, as a resource by the private sector, has become a powerful resource since farmers rely on these for guidance in the consumption of pesticides for their crops.


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Gap in Legal Framework

Specific national laws and administrative issuances exist that promote holistic forms of production such as organic agriculture and integrated pest management. At the same time, however, the focal law regulating pesticide use in the country i.e P.D. 1144, expressly acknowledges the importance of increasing the productivity of agricultural crops without expressly stating a policy on environmental sustainability and the need to adopt non-conventional agricultural systems involving IPM.

RECOMMENDATIONS

- A formal articulation of IPM principles and effective approaches to pest control should be integrated into pesticide policy and its implementing rules and regulations, or as an amendment to the national pesticides law;
- The existing national pesticides law could be revised to consolidate all pesticide-related legislation into one single pesticides law, where the provisions on registration, post-registration, occupational safety, training, implementation and enforcement are strengthened;
- IPM and other effective low toxicity pest management methods should be related not only to the discourse of sustainable agriculture but also to the discourse of climate change adaptation and mitigation;
- In order to be sustainable IPM should be linked to issues that matter to farmers, for example, better access to market, lower production costs, lower health costs, etc.
- University and extension training curriculum should reflect effective IPM management systems including case studies;
- A multi-stakeholder committee in charge of implementing and monitoring practices related to sustainable agriculture, health and environmental safety should be created at the municipality level;
- Technical capacities of involved agencies should be reviewed and updated;
- Existing penalties found in pesticide-related laws for commission of prohibited acts should be increased.

WAY FORWARD

The history of pesticide use and regulation in rice production systems provides a strong example of the contribution of ecosystem services to sustain pest control and rice yields. But equally it illustrates how important it is to have supportive and harmonised policy environments and investment in knowledge management on multiple levels, to ensure that collective lessons learned endure through time.


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