Report of
the Joint FAO-IRRI

Consultation and Planning Workshop: Rice Planthopper Problems and Insecticide Use – Developing Sustainable Interventions, Structures and Policies

March 15 – 16, 2011
Bangkok, Thailand

Rice Planthopper Project

Consultation and Planning Workshop

Rice Planthopper Problems and Insecticide Use - Developing sustainable interventions, structures and policies

ADB IRRI FAO

March 15-16, 2011
Grand Mercure Fortune Hotel,
Bangkok, Thailand

DAY 1: MARCH 15, 2011

A "Consultation and Planning Workshop: Rice Planthopper Problems and Insecticide Use – Developing Sustainable Interventions, Structures and Policies" was held at Grand Mercure Fortune Hotel, Bangkok, Thailand from March 15 to 16, 2011. The objectives of the meeting were to bring together an interdisciplinary, multinational group of agricultural policy makers and develop a framework for analyzing the pesticide supply chain; to understand insecticide use and rice planthopper problems in rice production; to gather data and critically appraise the problem and related economic, social, structural and political issues; and to develop sustainable interventions addressing the issues. The workshop was jointly sponsored by Food and Agriculture Organization of the United Nations (FAO) and the Asian Development Bank (ADB). Dr. KL Heong was convener of the meeting. Thirty (30) participants attended the meeting from Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Thailand and Vietnam. Khun Prasert Gosalvitra, Director General of the Rice Department (Thailand), delivered the welcome speech. Dr. Peter Kenmore and Ms. Marjon Fredrix represented FAO. The program is in Appendix I.

Participants of the workshop

OPENING CEREMONY

WELCOME REMARKS

Khun Prasert Gosalvitra, Director General, Rice Department, Thailand, gave the welcome remarks during the opening ceremony. He expressed his appreciation to FAO and the International Rice Research Institute (IRRI) for organizing the workshop and supporting the follow up research. He stated that this workshop will be a good opportunity to discuss policies and structures affecting the problem of pesticide misuse. Through the sharing of experiences and cross-country learning, he expects productive results from this meeting as well as commitments from the participants towards continued collaboration.

OVERVIEW

Thought starter for FAO FAO-IRRI Workshop on rice planthoppers (P Kenmore)

Dr. Peter Kenmore explained the objectives of the workshop, discussed the causes of planthopper outbreaks, and emphasized that data needed to be gathered to establish and present the arguments in an engagement series of policymakers in countries in South East Asia.

SESSION 1: INTRODUCTORY PAPERS

Rice pesticides, pests and policies (KL Heong)

Dr. KL Heong discussed the planthopper outbreaks in Asia, implications to the sustainability of rice production in Asia and cited examples of pest storms in China that led to production losses. He explained the "yin and yang" positive and negative forces involved in rice planthopper management and how biodiversity can best balance the forces and benefit farmers. He emphasized the need for review and modifications in pesticide regulations to establish better control of marketing to avoid oversupply of pesticides and misleading promotional advertising of products which lead to misuse.

Pesticides policies and regulation (A Sivapragasam)

Dr. Sivapragasam highlighted the current legal frameworks (Acts/Regulations/Rules), the issues in operational and control mechanisms and presented some recommendations at the policy, structure and operational levels.

Using the supply chain approach to address planthopper problems and insecticide misuse (L Wong)

Dr. Larry Wong presented the supply chain approach, the supply chain mapping, in particular. He used the rice supply chain in Malaysia as an illustration. The map identifies the flow of goods and information, strengths and weaknesses which allows a thorough analysis of the system as a tool to guide research and data gathering and for the policymakers in formulating solutions.

SESSION 2: SHARING COUNTRY EXPERIENCES

Each country team presented their own experiences/scenarios that stirred discussions among all participants. Titles of presentations were:

Rice planthopper problems and insecticide use in Indonesia
Enriching paradigm
Pesticide use in Laos
Pesticide control in Malaysia
Current Status of hopper and pesticides management in Myanmar
The Philippines country report
Thailand: pesticide status and use
Pesticides outlook in Vietnam

HIGHLIGHTS OF DISCUSSIONS

- At the policy level there is need to consider providing farmers with incentives as enablers to use sustainable practices.
- Ecosystem services concepts are relative new. There is need to communicate to policymakers at the national level the opportunities and benefits in protecting them.
- In most ASEAN countries (except Malaysia) distribution and marketing of pesticides are unregulated. Pesticides, even though they are highly poisonous are being sold a fast moving consumer goods (FMCG) and thus promoted like soap, perfume and soft drinks. Marketing of FMCG focuses

on emotional buying, no need for information and brand recalls, which are completely contradictory to IPM principles.

ACTION:

FAO and IRRI can lead the implementation of work programs on ecological biodiversity, pesticide and information supply chains. In addition FAO/IRRI can lead in initiating both international and in country policy engagement workshops to review pesticide regulatory systems and processes. FAO will re visit the Pesticide Code of Conduct and look into ways to factor in ecosystem services in the next Code of Conduct meeting.

- One indicator of pesticide supply is the rate of licensing: how many licenses country issues to pesticides companies/dealers in a year.
- In Indonesia, it was speculated that the 3 main causes of planthopper outbreaks might be: global warming (too much water); soil has very low nutrient level and lack of natural enemies.
- In Cambodia, one factor for planthopper outbreak is the planting time. Cambodian farmers plant when Vietnam harvests its rice crop. Farmers follow calendar spraying as instructed by pesticide dealers. Leaffolder, stemborer are treated as main problems and thus receive numerous sprays, especially with pyrethroids which tend to cause resurgences. Besides, there is no trade law for pesticides supply in operation. The national IPM program is established to train farmers to reduce pesticide use and Rice Dept works with CARDI to develop rice varieties resistant to BPH and diseases. However these activities lack impact because of the overwhelming influence of the pesticide market. Formalizing the law to regulate pesticide and fertilizer supply is on-going, and currently at the Ministry level, and hopefully to be completed in 2 years. Final draft is now with the Ministry of Agriculture.
- Suggestions to link agrobiodiversity with aquatic biodiversity. There are many species that Cambodian farmers can harvest for food and market. A link of aquatic fauna loss with pesticide use may be a way to show impact.
- Corruption in pesticide trade in many ASEAN counties remains a big issue. Dr. Wong advised to exercise caution in dealing with these people, in the sense that the focus should not be on the personal side, but on the benefits of the decrease in pesticide use: health benefits, restoration of ecosystem services, etc.

- China is the world's largest pesticide main exporter. The leading importers are Vietnam, Thailand, Malaysia (although some are re exported).
- Rice pest management practices in many ASEAN countries have deteriorated with escalating imports of pesticides and a lot of these are being used in rice. It is time to work together with a common voice in several international for a, such as the International Rice Commission (FAO will look into this).

ACTION:

FAO will take initiatives in:

- Holding meetings on the code of conduct every year. Peter Kenmore will discuss with the group and ensure that ecosystem risk with special reference to rice be part of the discussion in that meeting. Peter is also involved in organizing the next meeting of IRC (in Rome).

DAY 2, MARCH 16, 2011

BRAINSTORMING

- Larry Wong guided the workshop the use of the supply chain approach and illustrated it with the diagram of Generalized Rice Pesticide Supply Chain. Participants analyzed the flow of the goods, how they reach the countries, looking for dominance and not necessarily on the quantity.
- The flip side of this diagram is the information flow.
- Necessary adjustments to the systems by policymakers will then be apparent.
- Two outputs policy engagement might be needed. Historical data on
    1) Ecological impact of insecticides on planthoppers
    2) Supply chains of pesticides and information flow.
- To farmers IPM will remain a "product" among the choices of "medicines" that he/she can use to "kill" pests in the market place. Pesticides are being sold as FMCG and thus require no knowledge for decision making and to be used mainly based on emotions. IPM however is knowledge intensive and based on rationale decision making.

- Pesticide is a fast moving consumer good (FMCG) in the market in many countries. And this policy creates createspesticides the more favored option rather than sustainable practices.
- As part of the analysis, one factor that needs to be captured is the way government makes decision, because the decision-makers are not usually technical people, and they do not consult the technical guys in passing regulations. Malaysia was cited, that the staff from the Pesticides Control Division are not being consulted so they are not involved in the decision-making process. Rather, there is a Committee that makes the decision.
- FAO/IRRI will need to take the initiative to engage policymakers in discussions for change.

ACTION:

A policy dialogue is being planned for Vietnam (November 2011). Drs. KL Heong and Dr. N.H. Huan will work on the details. Another forum where this can be discussed is the AMAF Agricultural Ministers' Forum.

WORKSHOP OUTPUTS.

1. It was agreed that policy engagement at the national level policy makers will be an effective means to communicate pesticide misuse problems. These engagement would need to involve agriculture/environmental sector, trade sector, private sector, farmers, extension workers. FAO and IRRI can help facilitate the process.
2. Understanding the Pesticide and Information Supply Chains and SWOT analyses will provide important information on gaps, disconnections and identify opportunities in each country. The country teams agreed to do the surveys and FAO, through IRRI, will provide funds for these.
3. Country surveys – workplans for the country surveys were developed by the country teams. The consolidated pesticides survey workplan is attached to this report (Appendix II).

NOTES BY: M.A. QUILLOY

APPENDIX I : PROGRAM

INTRODUCTION

The causes of the current planthopper problem are well understood, but the context in which it is occurring now is different from 20-30 years ago. In the '70-80s pesticide use in rice was driven mostly by foreign donor money and government subsidies. Now we are dealing with developing markets and oversupply in Asia that push pesticide use in rice in an unprecedented way – dubbed the "pesticide tsunami".

Today China's increased production and export of pesticides is the major driver for increased use in the region. Europe's aim to cut pesticide use will also contribute to the increase in pesticide supply. Ultimately this is a case of market failure - in the short term increasing pesticide use benefits those individuals selling pesticides, but not those buying it - the farmers - for whom pesticide overuse results in induced pest outbreaks, production losses, destruction of ecosystem services, health problems to both man and wildlife, and pollution.

If China is the source of much pesticide being sold in East and Southeast Asia, then the main solution to the problem may lie within China. The Chinese justification for pesticide use in rice can be seen in most rice growing areas, especially in the Guangxi region, for example, where regular calendar sprays in rice are being recommended to farmers, in order to keep planthopper populations low, so they will not migrate to the more temperate rice belt where rice is planted later in the season. However, this strategy is likely to actually enhance planthopper populations highly resistant to insecticides which will then migrate elsewhere.

In the Red River Delta in Vietnam insecticide use in rice has gone up drastically (about 3-4 folds) in recent years; prophylactic calendar spray and seed treatments are recommended. This will of course help build up planthopper populations that are insecticide resistant in the area that then migrate up north to China. One way to break the pattern would be to work with policy makers in Southeast Asian countries, but most notably Vietnam, to instigate a wide area alternative to pesticide use, by enhancing natural enemy populations and ecosystem services, and document the impact at a large scale.

Since planthopper outbreaks are due to insecticides destroying ecosystem services, practices that restore these services used to be advocated. These practices may include those that restore predator biodiversity, like increasing band floss. At the same timer, insecticides should ONLY be applied as a last resort, based on IPM principles.

Governments will need to re examine their pesticide regulatory processes and conduct reforms to develop and strengthen implementation controls. The ultimate protection citizens, farmers and consumers, the environment and biodiversity are likely to get from the pesticide misuse will be good implementation of regulations and proper licensing of dealers. The demos may also convince the Chinese to re-examine their own policy, and ultimately apply pressure to their own manufacturers to phase out inappropriate products, or clamp down on inappropriate use and exports.

A second line of argument concerns climate change. Increasing temperatures affect rice pest populations and natural enemy complexes. Kiritani has documented some of these processes in Japan in recent years, suggesting that rising temperatures might favour natural enemy populations in temperate zones more than they do pests. This phenomenon is likely to increasingly affect the more temperate rice production region in China, approaches to pest control based on ecosystem services (natural predation) will be more sustainable. In 2005 elevated summer temperatures coupled with continuous high use of insecticides had apparently caused BPH outbreaks resulting in a loss of 2.8 million tons of rice

In summary, there is a need to document what is going on with the pesticide and information supply chain, the factors that contributed to high misuse; how it influences planthopper and natural enemy populations and why these is need to explore for options to reverse the situation in the region. There is a need to move beyond analysis, and deliver a bold message to policy makers. Such a bold message could be that we need to create natural enemy corridors or "walls", and geographic bands of natural enemies that cover a large rice production area. For example a Natural Enemy "Wall" (or "Moat" or "Band") stretching from across the Red River Delta, that would keep planthopper populations locally in check, and also reduce migration of the north. Other "walls" can go up in other rice production zones.

The workshop

The workshop

The workshop provides an opportunity to discuss such ideas, and to develop new strategies to address the problem of pesticide misuse. The session will start with a small number of introductory papers from FAO, IRRI and others, but the majority of the time will be devoted to brainstorming and discussion, identifying information needs, data gathering activities and means of fostering policy engagements.

OBJECTIVES

1. To bring together an interdisciplinary, multinational group of agricultural policy makers and develop a framework for analyzing the pesticide supply chain;
2. To understand insecticide use and rice planthopper problems in rice production;
3. To gather data and critically appraise the problem and related economic, social, structural and political issues; and
4. To develop sustainable interventions addressing the issues

14 March 2011 (Monday)

Arrival of participants

15 March 2011 (Tuesday)

0800-0900	Registration	
0900-0930	Opening Session	
	Welcome Remarks	Mr. Prasert Gosalvitra Director General Rice Department
	Thought starter, workshop purpose, objectives	Dr. Peter Kenmore FAO
0930-1000	Introduction of Participants	
1000-1030	Coffee/Picture Taking	
1030-1300	**Session I – Introductory papers**	
1030-1130	Rice planthopper problem and pesticide management in ASEAN: Issues and Opportunities	Dr. K. L. Heong IRRI
1130-1200	Pesticides Policies and Regulation – Overview	Dr. Sivapragasam CABI
1200-1300	Introduction to the supply chain approach – *mapping 'flows' of rice pesticides and related information*	Dr. Larry Wong ISIS
1300-1400	Lunch	
1400-1700	**Session II – sharing country experiences** – existing supply chains, level of use (misuse), current interventions, structure and policies – opportunities for sharing and shoring	
1900	Workshop Dinner	

16 March 2011 (Wednesday)

0830-1230	**Session III – Brainstorming** – aimed at developing the analytical framework and determining factors that contributed to high misuse of pesticides; identifying information needs and data gathering activities; and means of fostering policy engagements
1230-1400	Lunch
1400-1700	**Session IV – Workshop to develop work plans, timelines and budgets**
1700-1800	Final plans and timelines adopted/ Closing
1800	Session closed

17 March 2011 (Thursday)

Departure of participants

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Appendix II: Workplan

B. Pesticide Survey

ACTIVITIES	Persons responsible	Months (Mar2011-Feb2012)										
		M	A	M	Jn	Jl	A	S	O	N	D	J	F
1. Mapping supply chain													
1a Pesticide/insecticide													
-Cambodia	Ngin Chhay												
-Laos	Mr Phoumy												
-Indonesia	FIELD		X										
-Malaysia	Subramaniam		X										
-Myanmar	San San Win			X									
-Philippines	Wilma	X											
-Thailand	Kukiat			X									
-Vietnam	Dung		X										
1b. Information													
-Cambodia	Ngin Chhay												
-Laos	Mr Phoumy												
-Indonesia	FIELD		X										
-Malaysia	Subramaniam		X										
-Myanmar	San San Win			X									
-Philippines	Wilma	X											
-Thailand	Kukiat			X									
-Vietnam	Dung		X										
2. Refine map with data													
-Cambodia	Ngin Chhay				X								
-Indonesia	FIELD				X								
-Laos	Mr Phoumy				X								
-Malaysia	Subramaniam				X								
-Myanmar	San San Win				X								
-Philippines	Wilma				X								
-Thailand	Kukiat				X								
-Vietnam	Dung				X								
3. Translate questionnaire													
-Cambodia	Ngin Chhay												
-Indonesia	FIELD		X										
-Laos (to be arranged)	Mr Phoumy												
-Malaysia	Siva		X										
-Myanmar	San San Win			X									
-Philippines	Wilma		X										
-Thailand	Kukiat		X										
-Vietnam	Dung					X							
4. Conduct survey													
-Cambodia	Ngin Chhay												
-Indonesia	FIELD				X	X							
-Laos (to be arranged)	Mr Phoumy												
-Malaysia	**Siva**												
-Myanmar	**San San Win**				**X**	**X**							
-Philippines	**Wilma**		**X**	**X**									
-Thailand	**Kukiat**				**X**	**X**							
-Vietnam													
North (not det)						**?**							
South	**Dung**					**X**							
5. Process data (1 mo after survey)													
-Cambodia	**Ngin Chhay**												
-Indonesia	**FIELD**						**X**						
-Laos	**Mr Phoumy**												
-Malaysia	**Siva**												
-Myanmar	**San San Win**						**X**						
-Philippines	**Wilma**				**X**								
-Thailand	**Kukiat**						**X**						
-Vietnam - North													
- South	**Dung**						**X**						
5. Reporting Activity										**X**			
(all countries)										**X**			
6. Synthesis workshop													
All countries										**X**			