

**Report on Training Workshop on  
“Application of Risk Assessment Tools for  
Off-site Migration of Agrochemicals”**

**Days Hotel, Tagaytay City  
The Philippines  
23-25 May 2005**

**Ray Correll, Anu Kumar, Danni Oliver, Ros Miller, Lily Varca, Lorenzo  
Fabro, Lorna Reyes, Mariafe Navarro, Mercy Samia and Teresita  
Narvacan**



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## **Summary**

This report describes the Training Workshop on “**Application of Risk Assessment Tools for Off-site Migration of Agrochemicals**” that was conducted at Days Hotel, Tagaytay City, 23-25 May 2005.

A detailed training module was developed and presented at that workshop. Details of the presentations, manuals and software are supplied on a CD.

Feedback from the participants was recorded and that feedback is documented in this report.

## Table of Contents

Summary .....	2
Table of Contents .....	3
Introduction.....	4
Attendees.....	4
Presentations .....	7
Use of co-presenters.....	9
Hands-on ecotoxicology trial.....	9
Training module.....	9
Feedback from the presentations .....	9
Monday .....	9
Tuesday .....	10
Wednesday.....	10
PCARRD.....	10
EMB.....	11
LLDA.....	11
BSWM .....	11
Appendix 1: Contents of training module CD .....	12
Presentations .....	12
Training Manual (by Danni Oliver).....	12
PIRI files .....	12
Ecotoxicology Excel template .....	12

## Introduction

A workshop on Training Workshop on “**Application of Risk Assessment Tools for Off-site Migration of Agrochemicals**” was conducted at Days Hotel, Tagaytay City, The Philippines over the three days 23-25 May 2005.

This workshop was part of the extension to ACIAR Project LWR1/2000/084 “**Minimising the off-site impact of pesticides from agricultural systems – a risk based approach**”.

The main ACIAR project was recently reviewed. The above project was given a six month extension on the basis of that review. That review made a series of recommendations that should be addressed during the six-month extension.

The workshop was therefore arranged to address some of these recommendations. In particular the workshop aims were to

1. Enhance the environmental risk assessment skills (this addressed R3);
2. Introduce a specific training module for the key stakeholders (this addressed Recommendation 8); and to
3. Provide a higher level of specific training to targeted personnel (this addressed Recommendation R11).

The workshop material is also presented as a training module on CD.

## Attendees

Previous investigation had identified five key stakeholders of the project. These agencies are listed in Table 1.

**Table 1 List of agencies invited to the workshop**

<b>Agency</b>	<b>Abbreviation</b>
Fertilizer and Pesticide Authority	(FPA)
Laguna Lake Development Agency	(LLDA)
Bureau of Soil and Water Management	(BSWM)
Department of Natural Resources	(DNR)
Philippines Centre for Agricultural Research and Rural Development	(PCARRD)

All the stakeholders were contacted and invited to the workshop. All the stakeholders confirmed that they would be sending two representatives to the workshop.

The list of attendees is shown in

Table 2.

**Table 2 List of participants at training workshop, Tagatay, 23-25 May 2005**

Name	Office	Office Address	Tel. No.	Cellphone No.	E-mail Address
Belina P. Pajarito	BSWM	Bureau of Soils and Water Mgt., Corner Visayas Ave., Elleptical Rd. Diliman, Quezon City	29204378	9164993293	
Esperanza V. Dacanay	BSWM	Bureau of Soils and Water Mgt., Corner Visayas Ave., Elleptical Rd. Diliman, Quezon City	29204378	9184141729	
Anu Kumar	CSIRO	CSIRO Land and Water PMB2, GlenOsmond, South Australia AUSTRALIA 5064	61883038597	61400284334	<a href="mailto:anupama.kumar@csiro.au">anupama.kumar@csiro.au</a>
Danni Oliver	CSIRO	CSIRO Land and Water PMB2, GlenOsmond, South Australia AUSTRALIA 5065	61883038434		<a href="mailto:danni.oliver@csiro.au">danni.oliver@csiro.au</a>
Ray Correll	CSIRO	CSIRO Land and Water PMB2, GlenOsmond, South Australia AUSTRALIA 5066	61883038769		<a href="mailto:ray.correll@csiro.au">ray.correll@csiro.au</a>
Ella S. Deocadiz	EMB	Environmental Management Bureau Laboratory, DENR Cpd., Visayas Ave., Diliman, Quezon City	24264340	9178437808	<a href="mailto:gellamini@yahoo.com">gellamini@yahoo.com</a>
Ma. Fatima R. Molina	EMB	Environmental Management Bureau Laboratory, DENR Cpd., Visayas Ave., Diliman, Quezon City	24264339	9279247800	<a href="mailto:mfarm_emb@yahoo.com">mfarm_emb@yahoo.com</a>
Ferdinand Alcantara	LLDA	Rizal Provincial Capitol Cpd., Pasig City	26356683	9279758894	<a href="mailto:fmarkalcantara@yahoo.fr">fmarkalcantara@yahoo.fr</a>
Leo L. Pagdingalan	LLDA	Rizal Provincial Capitol Cpd., Pasig City	26356683	9173754343	<a href="mailto:leo_pagdingalan@yahoo.com">leo_pagdingalan@yahoo.com</a>
Annabelle Tapere	NPCPC	National Crop Protection Center, U.P. Los Baños, College, Laguna 4040	495362231		
Cristy Bajet	NPCPC	National Crop Protection Center, U.P. Los Baños, College, Laguna 4032	495360959	9175456130	<a href="mailto:cmbajet@laguna.net">cmbajet@laguna.net</a> cmbajet@yahoo.com
Dalisay Lopez	NPCPC	National Crop Protection Center, U.P. Los Baños, College, Laguna 4036	495360959		
Godofredo A. Peralta	NPCPC	National Crop Protection Center, U.P. Los Baños, College, Laguna 4038	495360959	9176052858	<a href="mailto:godofredoperalta@yahoo.com">godofredoperalta@yahoo.com</a>
Lily Varca	NPCPC	National Crop Protection Center, U.P. Los Baños,	495360959	9175014214	<a href="mailto:lmvarca@laguna.net">lmvarca@laguna.net</a>

Name	Office	Office Address	Tel. No.	Cellphone No.	E-mail Address
		College, Laguna 4031			lmvarca@yahoo.com
Lorenzo Fabro	NCPC	National Crop Protection Center, U.P. Los Baños, College, Laguna 4033	495360959	9175017494	
Lorna Reyes	NCPC	National Crop Protection Center, U.P. Los Baños, College, Laguna 4035	495360959		
Mariafe Navarro	NCPC	National Crop Protection Center, U.P. Los Baños, College, Laguna 4034	495360959	9198244482	<a href="mailto:fen@laguna.net">fen@laguna.net</a>
Mercy Samia	NCPC	National Crop Protection Center, U.P. Los Baños, College, Laguna 4037	495360959	9164576903	<a href="mailto:mercy_quizon@yahoo.com">mercy_quizon@yahoo.com</a>
Teresita Narvacan	NCPC	National Crop Protection Center, U.P. Los Baños, College, Laguna 4039	495360959		
Ma. Teresa Agarrado	PCARRD	Paseo de Valmayor, Los Baños, Laguna	495360014	9189064415	<a href="mailto:t.agarrado@pcarrd.dost.gov.ph">t.agarrado@pcarrd.dost.gov.ph</a> <a href="mailto:agarrado@yahoo.com">agarrado@yahoo.com</a>
Ramon Bonifacio	PCARRD	Paseo de Valmayor, Los Baños, Laguna	495360017		<a href="mailto:rbonifacio@pcarrd.dost.gov.ph">rbonifacio@pcarrd.dost.gov.ph</a>

## Presentations

A series of presentations was given over the three days. The timetable is shown below.

### May 23, 2005

9:00-9:30am	Arrival of Delegates/Registration	
9:30- 10:00am	Coffee Break	
10:00-10:15am	Opening Ceremony	
10:15-11:15am	Risk Assessment Concepts	Dr. Ray Correll
11:15-12:00 am	Inter-active exercise on Risk assessment	Dr. Ray Correll & Mr. Larry Fabro
12:00-1:00pm	Lunch Break	
1:00-2:00pm	Initiation of Ecotox trial	Dr Anu Kumar & Ms. Cristy Bajet
2:00-3:00pm	Pesticide and Water Quality	Dr. Anu Kumar
3:00-3:15pm	Coffee Break	
3:15-4:15pm	Pesticide Environmental Fate and Behaviour Concepts	Ms. Danni Oliver
4:15-5:15pm	Inter active exercises on Pesticide properties	Ms. Danni Oliver
5:15-6:00pm	Discussion/Open Forum	

## **May 24, 2005**

8:00-8:45am	Ecotoxicological Concepts	Dr. Anu Kumar
8:45-9:45am	Ecotoxicological Findings	Ms. Cristy Bajet
9:45-10:00am	Coffee Break	
10:00-10:30am	Monitoring Data	Dr. Lily Varca
10:30-12:00am	Interactive Exercise on Monitoring Data	Dr. Ray Correll & Dr. Lily Varca
12:00-1:00pm	Lunch Break	
1:00-2:00pm	Introduction and Review of PIRI	Ms. Danni Oliver
2:00-4:30pm	Hands on Session on PIRI Demo using an example from ACIAR project site	Dr. Ray Correll & Mr. Larry Fabro & Mr. Godofredo Peralta

## **May 25, 2005**

8:00-9:00am	Practical Application	Dr. Ray Correll & Mr Godofredo Peralta
9:00-9:45am	Assessing Results of Ecotox Trial and Assessing EC 50	Dr. Ray Correll & Dr Anu Kumar
9:45-10:00am	Coffee Break	
10:00-11:00am	Application PIRI to local data	Mr. Godofredo Peralta
11:00-11:30am	Discussion	Mr. Larry Fabro & Mr. Godofredo Peralta
11:30-12:00am	Trouble Shooting	Dr. Ray Correll
12:00-1:00pm	Lunch Break	
1:00-2:30pm	Final Discussion	Dr. Ray Correll
2:30-3:00pm	Distribution of Certificates	Dr. Ray Correll
3:00-3:30pm	Closing	

## ***Use of co-presenters***

Where possible these sessions were made as interactive as possible. This was facilitated by the inclusion of staff from NCCP as co-presenters. For example, the first talk was given jointly by Dr Ray Correll from CSIRO and Mr Larry Fabro from NCCP. This led to good understanding of the content of the presented material by the attendees.

## ***Hands-on ecotoxicology trial***

A further innovation was an attempt to undertake an ecotoxicology trial during the workshop. This was naturally limited by the facilities, but even so a realistic experimental situation was simulated. The test organism used was the duckweed *Lemna minor*, and the toxicant was common salt. The concepts were described in a presentation by Cristy Bajet.

Results of the trial were manipulated to simulate results that might have occurred after 7 days. These data were then analysed as a group using the spreadsheet template as supplied in the training module.

## **Training module**

The sessions in the training module are documented as a series of PowerPoint presentations. These presentations are presented on a CD and give an outline of all the talks.

A special training manual was prepared by Ms Danni Oliver for the workshop. A copy of that manual is also included on the CD. This manual describes in detail how the various facilities in PIRI can be used.

A specially written Excel template for ?? has been developed by Mary Barnes (CSIRO Adelaide). This spreadsheet was demonstrated and warmly received by the participants. A copy of the template(s) is available at Mary Barnes's web site ([www.cmis.csiro.au/Mary.Barnes](http://www.cmis.csiro.au/Mary.Barnes)).

Details of the contents of the CD are given in Appendix 1.

## **Feedback from the presentations**

All attendees at the workshop were given an opportunity to discuss the presentations while the three Australian presenters (Correll, Oliver and Kumar) were absent from the room. This discussion lasted for approximately one hour. The key points of the discussion were

### ***Monday***

#### **1. Use of pesticides in aquaculture**

- Cyanide is as a toxicant in aquaculture;
- Pesticides are used for stunning fish and yabbies;
- No pesticides are registered for aquaculture;
- Technically all aquaculture uses of chemicals is illegal;
- Can we use PIRI for aquaculture situation?

#### **2. How important is kang-kong?**

- Young shoots collected every two days by farmers growing kang-kong in rice paddies;
  - Pesticides are also sprayed to protect kang-kong from insects and other pests;
  - The extent of kang-kong cultivation and gathering was unclear, but it is commonly available vegetable; there would appear to be no official records.
- 3. Water quality guideline information**
    - The workshop was given the web-site address for the Australian Water Quality Guidelines (AWQG);
    - The participants indicated the need local guidelines.
  - 4. Atrazine application rate and its implication in their based on current EDC potential of atrazine**

## **Tuesday**

- 1. AWQG website**
  - Further interested was expressed in the AWQG;
  - Are there guidelines for Philippines?
- 2. Interest in Ecotoxicology work**
  - There is a need for methods on marine species, e.g. shrimps;
  - QA/QC is needed in local ecotoxicology studies;
  - Reference toxicant data on local species is required.
- 3. Toxicant Identification and Evaluation (TIE)**
  - The TIE approach was briefly described;
  - Different manipulations of and their use;
  - Different results from field versus laboratory work were discussed;
  - The use of the TIE approach will reduce the effort required in analysing for all the potential chemicals of potential concern: that would be an expensive approach.
- 4. Mixtures and their impacts**
  - The need for considering the effects of mixtures in the Philippines, and its implication on monitoring were discussed;
  - Interest was expressed in finding out which combinations are a potential problem in the Philippines.
- 5. Protocols written up on the native species**
  - Other organisation can follow-up on this aspect.
- 6. Testing on other ecologically relevant frogs, other fish, beetles**
  - Ecotoxicological studies are required on these.

## **Wednesday**

Comments from the workshop participants were obtained without the Australian scientists present. The following is based on notes taken by Fe and Cristy.

### **PCARRD**

- PIRI is a good tool for technology dissemination. When it is verified and all the minor problems rectified, Ramon can help to disseminate information nationwide.
- Pilot testing is a very important aspect before promoting a product like PIRI

- Identify stakeholders for training in PIRI and then regular application: Municipal Agricultural Officer (MAO) are not under the umbrella of the Department of Agriculture and all MAOs are functional under the local government body, hence they need to be contacted individually. This makes things difficult.
- Sustainability of PIRI: It is very important to make sure all changes are communicated among users.
  - Strategy: Suggestion of changes to PIRI should be returned to coordinating agency

## **EMB**

- Validation of PIRI needs to be done with actual data analyses;
- Need to fix some issues related to program running-PIRI;
- Development of criteria and standards for water quality and toxicity testing needs to be addressed from Filipino environment aspect;
- Crop map of HOT SPOTS will be useful.

## **LLDA**

- PIRI is user friendly;
- PIRI is not conclusive but helpful for LLDA as a pro-active agency not reactive;
- PIRI will be helpful in monitoring programs;
- Ecotoxicology studies should be on Bangus as it is a more sensitive bio-indicator than Tilapia.

## **BSWM**

- PIRI would be useful in watershed project in BOHOL as screening tool, since they have problem in laboratory analyses of pesticides;
- Fear of CD program not working;
  - Need to fix problems like not running on all computers,
  - Not saving information;
- Availability of pesticide per region-risky and not so risky products available;
- BSWM will support in providing soil data;
- Formation of technical working group for PIRI's sustainability is required.

**Speakers:** The participants found the speakers very good and supportive.

## **Appendix 1: Contents of training module CD**

### ***Presentations***

#### ***Training Manual (by Danni Oliver)***

#### ***PIRI files***

English Version

Filipino Version

#### ***Ecotoxicology Excel template***