

# IRRI

## INTERNATIONAL RICE RESEARCH INSTITUTE

### Bringing about a Sustainable Agronomic Revolution in Rice Production in Asia by Reducing Preventable Pre- and Postharvest Losses -RETA 6489 (IRRI Ref. No.: DPPC2008-74)

Inception Report of Subcomponent 1

submitted to the

**Asian Development Bank**

February 2008

Contact:

**Dr. Michael T. Jackson**

Director for Program Planning and Communications (DPPC)

Telephone: +63 (2) 580-5600 ext. 2747 or 2513; Direct: +63 (2) 580-5621; Fax: +63 (2) 812-7689 or 580-5699

E-mail address: [dppc-irri@cgiar.org](mailto:dppc-irri@cgiar.org) Mailing address: DAPO Box 7777, Metro Manila, Philippines

Courier address: 10<sup>th</sup> Floor, Suite 1009, Security Bank Center, 6776 Ayala Avenue, Makati City 1226

Telephone: +63 (2) 891-1236, 891-1303



A. Subcomponent 1. **Reducing vulnerability of crops to preharvest losses caused by planthopper outbreaks**

*“Rice Planthopper Project”*

**INCEPTION & CONSULTATION REPORT**

**1. Initiation of Activities**

The RETA is dated 8 November 2008. Work was initiated in November 2008.

**2. Collaborating partners**

Initially, the RETA collaborating partners were China, Indonesia, and Vietnam. However the Indonesian government expressed objection and was replaced by Thailand. The Indonesian collaborators did not attend the inception workshop held in Ho Chi Minh City Vietnam 3-5 November 2008 and a follow up consultation workshop with the new partner, Thailand was held on 19-21 January 2009 in Rice Department Banghken, Bangkok. The no objection letters from the partner countries are in Appendix 1-3)

**3. Inception Workshop 3-5 November 2008.** (Program in Appendix 4)



The inception workshop was inaugurated by His Excellency Dr Bui Ba Bong, Vice Minister of Agriculture and Rural Development of Vietnam. In his speech, he expressed his gratitude to ADB and IRRI for initiating the “Rice Planthopper Project” that will address an urgent solution to an important threat to rice production in Asia and Vietnam, in particular. The planthopper and the virus diseases they transmit caused huge losses in the Mekong Delta in 2006, prompting the government to halt rice exports for three months. The scoping study <sup>1</sup>conducted by IRRI and Vietnamese partners in 2008 and supported by the Australian Agency for International Agricultural Research (ACIAR) showed that managing pests such as the planthoppers requires a broader perspective both in tactics and scale. The application of ecological engineering principles to conserve ecosystem health is appropriate.

Twenty nine persons from China (3), Vietnam (14), IRRI (8) and resource persons from Australia (1), Malaysia (2) and Philippines (1) participated in the workshop. The program and list of participants are in Appendix 4. After the project introduction by the

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<sup>1</sup> Escalada, M.M., Huan, N.H., Heong, K.L. editors 2008. *The Brown Planthopper and Virus Problems in Vietnam – A Scoping Study. Proceedings of the Final Consultation Workshop held in Ho Chi Minh City, Vietnam. 8 January 2008. Ministry of Agriculture and Rural development, Vietnam. CD*

principal investigator, the workshop participants were grouped into four to address the expected outputs, workplan, and milestones of the project.

The International Conference on Rice Planthoppers held in June 2008<sup>2</sup> at IRRI clearly discussed that rice planthoppers are outbreak pests with special ecological adaptability to hostile environments (report in Appendix 5). They are highly mobile and productive, have short life cycles, and robust. The main factor that will keep them from multiplying uncontrollably is the naturally occurring biological control or the pest invasion and regulating ecosystem services. Much of these services get destroyed by prophylactic insecticide applications. In the first green revolution in the 1970s and 1980s, we have witnessed the rise of the planthopper threat. Today this threat seems to have intensified, probably due to a combination of several factors. First is the continuing rise in chemical fertilizer and pesticide use. From 1980 to 2008, China's fertilizer use tripled and pesticide use doubled. Second is the wide spread use of hybrid rice varieties that are usually introduced with prophylactic pesticide spray routines. Some hybrid rice varieties are also found to be favored by the white backed planthopper, a species that has been minor and quite unknown. The third factor might be climate change. In 2005, extraordinary intensive outbreaks occurred in China, Japan, Korea, and Vietnam. Some researchers attributed them to elevated summer temperatures and increase in the number of typhoons that caused mass displacements. Again, much is unknown about how climate change will indeed cause higher vulnerability of crops to pest outbreaks. It seems clear that to tackle this problem will require a broader base ranging from genetic crop improvement to ecological manipulations to sociological and political adjustments.

The Inception workshop participants in the project formulated activities to address the need to reducing vulnerability of crops to pre-harvest losses caused by planthopper outbreaks. The activities were developed along 5 output areas. Each of these output area was designated a coordinator as follows:

|  |                   |                  |
|--|-------------------|------------------|
| Output 1: Host plant – insect relationships                                    | Dr Finbarr Horgan | IRRI             |
| Output 2: Virology   | Dr I.L. Choi      | IRRI             |
| Output 3: Ecological engineering and ecosystem system service indicators       | Prof Geoff Gurr   | CSU <sup>3</sup> |
| Output 4: Decision making, sociological aspects, communication and scaling up. | Dr M.M. Escalada  | VSU <sup>4</sup> |
| Output 5: Capacity building  | Dr KL Heong       | IRRI             |

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<sup>2</sup> Rice planthoppers strike back. CURRENT SCIENCE, VOL. 95, NO. 4, 25 AUGUST 2008

<sup>3</sup> Professor of Applied Ecology, Charles Sturt University, Orange, NSW Australia

<sup>4</sup> Professor of Development Communication, Visayas State University, Philippines

In addition, the workshop developed a project name (Rice Planthopper Project) and a logo.



To facilitate communication among project participants and other planthopper researchers, a niche blog called Ricehoppers.net was created. The blog is now available and can be accessed at <http://Ricehoppers.net>.



Sample of a page in the Ricehoppers blog.

#### 4. Consultation workshop in Rice Department as new partner

The workshop was inaugurated by Khun Chairit Dumrongkiat, Deputy Director General of Rice Department. He welcomed the initiative by ADB and IRRI to collaborate with Thailand. Being a rice exporter the threat of planthoppers can trigger expert restrictions that might create shortage in the world market. Thailand has suffered planthopper problems in the early 1990s, which was attributed to excessive use of pyrethroids. This outbreak can happen again with the recent rice crisis, stimulating farmers to increase inputs. The DG of Rice Department, Khun Prasert Golsalvitra, who also joined the workshop expressed his full support of the project by the Rice Department.

Dr. Heong presented the project rationale and the project's ecological approach towards tackling planthopper pests which primarily results from disruption of ecosystem services. The project output coordinators presented the outputs. The participants working in groups helped refine and finalize the milestones.

The next day, the project output coordinators, along with Drs. Orapin Watanesk, Wantana Sriratanasak and Manit Luecha of the Rice Department, visited Srisakrabuo subdistrict in Nakhon Nayok province, one of Thailand's central provinces. Nakhon Nayok province covers some 2,130 square kilometers, borders Saraburi and Nakhon Ratchasima provinces on the north, Prachin Buri province on the east, Chachoengsao province on the south, and Pathum Thani Province on the west.

A focus group discussion was conducted with about 20 rice farmers (12 men, 6 women) at the Farmers' Center in Srisakrabuo subdistrict. Farmers believed that the key to successful rice farming is a rice variety with high yield, resistant to pests, and suitable to the weather. Farmers changed rice varieties every few years believing that a new variety will perform better. Likewise, they believe that insecticides, like rice varieties, need to be changed often because insect pests become resistant to chemicals when these are used repeatedly.

To confirm if they have a BPH problem, farmers tap the tillers and count the number of insects dropping into the water. About 20 BPH per tap is their action threshold for using a wide range of chemicals—dinotefuran, endosulfan, parathion, cypermethrin, chlorpyrifos, imidacloprid, fenobucarb, and buprofezin. Farmers apply insecticides twice per cropping season or thrice when there is an outbreak.

To explore farmers' attitudes toward insecticide use, we probed if they would spray the same amount of insecticides on a resistant variety. Some farmers said they would spray them as much as nonresistant varieties; others thought that they would not. To most farmers in the focus group, chemicals remain their main management tool and they know no other way.

The program and list of participants are in Appendix 5. Workshop report also available in <http://ricehoppers.net/>

## 5. Milestones

After the inception and consultation workshops, the outputs agreed upon by the partners are as follows:

**Output 1:** New field resistance screening method and germplasm with durable field resistance to planthoppers and virus diseases identified for incorporation into new elite breeding lines and mega-varieties.

| Activity 1.1           | Determine key ecological fitness characteristics & chemical basis     | Persons responsible     | 2009 |   |   |   |   |   |   |   |   |   |   |   | 2010 |   |   |   |   |   |   |   |   |   |   |   |
|------------------------|---|-------------------------|------|---|---|---|---|---|---|---|---|---|---|---|------|---|---|---|---|---|---|---|---|---|---|---|
|                        |   |                         | J    | F | M | A | M | J | J | A | S | O | N | D | J    | F | M | A | M | J | J | A | S | O | N | D |
| <b>Milestone 1.1.1</b> | Fitness parameters identified   | Fhorgan/Pvirk           |      |   |   |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| <b>Milestone 1.1.2</b> | Fitness characters measured in lab                                    | Fhorgan/Pvirk           |      |   |   |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| <b>Milestone 1.1.3</b> | Seasonal field records of fitness                                     | Fhorgan/Pvirk/Cuon/Chau |      |   |   |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| <b>Milestone 1.1.4</b> | Fitness of WBPH on hybrids quantified                                 | Heong/Zhu/Lu            |      |   |   |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| <b>Milestone 1.1.5</b> | Planthopper resistance mechanisms reviewed                            | Fhorgan/Pvirk           |      |   |   |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| <b>Milestone 1.1.6</b> | Anatomical traits recorded  | Fhorgan                 |      |   |   |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| <b>Milestone 1.1.7</b> | Phloem chemistry analyzed   | Fhorgan                 |      |   |   |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| <b>Milestone 1.1.8</b> | Proposal for further fine QTL analysis prepared                       | Fhorgan                 |      |   |   |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| <b>Activity 2.2</b>    | <b>Develop improved screening method to identify durable genes</b>    |                         |      |   |   |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| <b>Milestone 1.2.1</b> | Literature review survey of methods                                   | Fhorgan/Pvirk           |      |   |   |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| <b>Milestone 1.2.2</b> | Improved methods evaluated  | Fhorgan/Pvirk           |      |   |   |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| <b>Milestone 1.2.3</b> | New improved screening procedure finalized                            | Fhorgan/Pvirk           |      |   |   |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| <b>Milestone 1.2.4</b> | Genetic variability of viruses in Mekong defined                      | Fhorgan/Pvirk           |      |   |   |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| <b>Activity 1.3</b>    | <b>Screen selected cultivars using seed box and modified seed box</b> |                         |      |   |   |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| <b>Milestone 1.3.1</b> | Cultivars screened and yields determined in Cuulong                   | Pvirk/Cuong/Chau        |      |   |   |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| <b>Activity 1.2.4</b>  | <b>develop isogenic lines, pyramid genes in elite lines</b>           |                         |      |   |   |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |
| <b>Milestone 1.4.1</b> | <b>to be determined after new screening procedure finalized</b>       | Pvirk                   |      |   |   |   |   |   |   |   |   |   |   |   |      |   |   |   |   |   |   |   |   |   |   |   |







## 6. Pilot site visits and selections

Several sites for the implementation of the Rice Planthopper project were selected based on the intensity of the planthopper problems in the area, the availability of working facilities, like laboratory, transport, and human resources. After consultation with partners, the following sites were selected

|          | Location             | Comments  |
|----------|----------------------|---|
| China    | Guilin, Guangxi      | The ministry of agriculture sponsored a planning workshop in October 2008 to develop this site. About 200 ha have been designated for baseline data collection and subsequent ecoengineering interventions. This site has the support of the local government and National Agro-Tech Extension Services Center (NATSEC) and the local government of Guilin.   |
|          | Jin Hua, Zhejiang    | This site started a chemical re engineering initiative in 2005 that made significant changes to pesticide distributions in the county. Supported by the vice mayor, the county has allocated 20 ha for experiments in ecological engineering. Habitat modifications started in April 2008 is available for baseline data collection and ecoengineering interventions. This site is supported by the local government of Jin Hua.        |
| Thailand | Chainat              | The Chainat Research Station has office, field, and lab facilities to support work in the region. The field is about 20 ha and can be used as a demo site for ecoengineering for farmer training.   |
| Vietnam  | Long Dinh Tien Giang | The Southern Plant Protection Center is headquartered in Long Dinh, Tieng Giang province. This station has lab, greenhouses, training halls, offices, and dormitory facilities which can be available to the Rice Planthopper Project. The station is situated in the center of the Mekong Delta, about 2 hours drive from Ho Chi Minh City and close to My Tho. The project has the full support of the province's peoples' committee. |

# Appendix 1. No objection letter from China



Asian Development Bank

22 August 2008

Mr. Mo Xiaolong  
Director, TA Division  
International Department, Ministry of Finance  
Sanlihe, Xichengqu District  
Beijing 100820, People's Republic of China  
Fax No. +86 10 6855 2585

Dear Mr. Mo:

### **Proposed Regional Technical Assistance (RETA) for the Thirteenth Agriculture and Natural Resources Research at International Agricultural Research Centers**

We would like to request your assistance in obtaining a statement of "no-objection"<sup>1</sup> from the Government of the People's Republic of China (PRC) for the financing by the Asian Development Bank (ADB) of prospective activities to be undertaken in the PRC under the proposed umbrella RETA for the *Thirteenth Agriculture and Natural Resources Research at International Agricultural Research Centers*.

The expected impact of the proposed RETA (see attachment) will be increased food availability and reduced poverty in the participating developing member countries (DMCs) while its expected outcome will be increased food production and security through the adoption of appropriate rice technologies and agricultural policies in participating DMCs.

The proposed RETA will have two components, both of which will contribute toward the strategic objectives of ADB's policy on agriculture and natural resources research (ANRR): sustainable management of natural resources, increased agricultural productivity, and poverty reduction. ADB will be the executing agency, and the implementing agencies will be as follows:

| Component  | Implementing Agency                                  |
|--|--|
| Component 1: Bringing about Sustainable Rice Production in Asia by Reducing Preventable Pre- and Post-harvest Losses | International Rice Research Institute (IRRI)         |
| Component 2: Improving Agricultural Policies for Ensuring Food Security  | International Food Policy Research Institute (IFPRI) |

The proposed RETA will be implemented over a period of 24 months. Subject to each Government's no-objection, the proposed RETA will be implemented in Bangladesh, Cambodia, India, Indonesia, Pakistan, PRC, and Viet Nam.

The total cost of the proposed RETA is estimated at \$3.21 million. ADB is expected to finance \$3 million, comprising \$2 million for Component 1 and \$1 million for Component 2. IRRI will contribute \$0.12 million equivalent to cover the costs of staff time, research operations and supplies, and administrative and support services; while for Component 2, IFPRI will contribute \$0.09 million equivalent to cover the costs of staff time, research operations and supplies, and administrative and support services. Component 1 will employ a multistakeholder participatory

<sup>1</sup> Pursuant to ADB's Charter, Article 14 (iii), ADB shall not finance any undertaking in the territory of a member if that member objects to such financing.

6 ADB Avenue, Mandaluyong City  
1550 Metro Manila

Tel +63 2 632 4444  
Fax +63 2 632 4444

[information@adb.org](mailto:information@adb.org)  
[www.adb.org](http://www.adb.org)

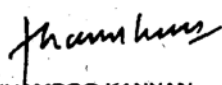
PRC

multistakeholder participatory process in planning, reviewing, and monitoring of project outputs in Cambodia, Indonesia, PRC, and Viet Nam. Component 2 aims at improving agricultural policies for ensuring food security and will focus on South, Southeast, and East Asia region with case studies in Bangladesh, India, Indonesia, Pakistan, PRC, and Viet Nam. The draft RETA paper is attached for your reference.

Through this letter, we would like to seek the Government's no objection for ADB's financing of the RETA activities that will be undertaken in the PRC. Kindly have a copy of this letter countersigned on the behalf of the Government on the space indicated below to indicate the Government's no objection. Please return the signed copy of the letter to the undersigned preferably on or before 5 September 2008. You may retain one copy of this letter for your records. We will send you a copy of the final TA paper upon its approval by ADB.

As Director of Agriculture, Natural Resources, and Environment Division, East Asia Department of ADB, I will be responsible for all matters pertaining to the implementation of the proposed RETA. All communications on this matter may, therefore, be addressed to me.

Yours sincerely,




KUNHAMBO KANNAN  
Director

Agriculture, Environment, and Natural Resources Division  
East Asia Department

No-objection confirmed:

On behalf of the Government

 (Mo Xiaolong)  
Name

PRC

Director, TA Division  
Designation

Sept. 18, 2008  
Date

cc: Ms. Corinta Quijano-Guerta, Head, Program Planning and Coordination, International Rice Research Institute (IRRI), Fax +632 580 5699

Mr. Ashok Gulati, Director in Asia, International Food Policy Research Institute (IFPRI)  
Fax +91 11 2584 8008

Country Director, PRCM

## Appendix 2. No objection letter from Thailand

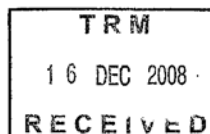
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P.02



Asian Development Bank



20 November 2008

**KHUN PONGPANU SVETARUDRA**  
Director General  
Public Debt Management Office  
Ministry of Finance  
Rama VI Road, Bangkok, Thailand

Dear Mr. Svetarudra :

**Subject: RETA 6489: Thirteenth Agriculture and Natural Resources Research at International Agricultural Research Centers**

We would like to request your assistance in obtaining a statement indicating "no-objection"<sup>1</sup> from the Government of Thailand to the financing by the Asian Development Bank (ADB) of prospective activities to be undertaken in Thailand under the umbrella regional technical assistance (RETA): *Thirteenth Agriculture and Natural Resources Research at International Agricultural Research Centers*.

The impact of the RETA will be increased food availability and reduced poverty in the participating developing member countries (DMCs). The outcome will be increased food production and security through the adoption of appropriate rice technologies and agricultural policies in participating DMCs.

The RETA have two components, both of which will contribute toward the strategic objectives of ADB's policy on agriculture and natural resources research (ANRR): sustainable management of natural resources, increased agricultural productivity, and poverty reduction. ADB will be the executing agency for this RETA, and the implementing agencies will be as follows:

| Component  | Implementing Agency                                  |
|--|--|
| Component 1: Bringing about Sustainable Rice Production in Asia by Reducing Preventable Pre- and Post-harvest Losses | International Rice Research Institute (IRRI)         |
| Component 2: Improving Agricultural Policies for Ensuring Food Security  | International Food Policy Research Institute (IFPRI) |

The RETA will be implemented over a period of 24 months. Subject to each Government's no-objection, the RETA will be implemented in Bangladesh, Cambodia, Pakistan, People's Republic of China (PRC), Philippines, Thailand, and Viet Nam.

The total cost of the RETA is estimated at \$3.21 million. ADB is expected to finance \$3 million, comprising \$2 million for Component 1 and \$1 million for Component 2. IRRI will contribute

<sup>1</sup> Pursuant to ADB's Charter, Article 14(ii), ADB shall not finance any undertaking in the territory of a member if that member objects to such financing.

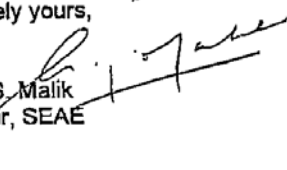
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\$0.12 million equivalent in-kind in the form of staff time, research operations and supplies, and administrative and support costs; while for Component 2, IFPRI will contribute \$0.09 million equivalent in the form of staff time, research operations and supplies, and administrative and support costs. Component 1 will employ a multistakeholder participatory process in planning, reviewing, and monitoring of project outputs in Cambodia, PRC, Philippines, Thailand and Viet Nam. Component 2 aims at improving agricultural policies for ensuring food security and will focus on South, Southeast, and East Asia region with case studies in Bangladesh, Pakistan, PRC, and Viet Nam. The RETA is attached for your reference. Please note that for Component 1, Indonesia declined and in lieu of that Thailand and Philippines are considered.

Through this letter, we would like to seek the Government's no objection for ADB's financing of these activities that will be undertaken in Thailand under the RETA. Kindly have a copy of this letter countersigned on behalf of the Government on the space indicated below to indicate the Government's no objection. Please return the signed copy of the letter to the undersigned preferably on or before **15 December 2008**. You may retain one copy of this letter for your records.

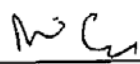
Mr. Katsuji Matsunami, Advisor, Regional and Sustainable Development Department of ADB will be responsible for all matters pertaining to the implementation of the RETA. All communications on this matter may, therefore, be addressed to him.

Sincerely yours,

  
Urooj S. Malik  
Director, SEAE

No-objection confirmed:

On behalf of the Government

  
\_\_\_\_\_  
Name  
Prawit Sarakitprija  
Public Debt Advisor  
Acting Director-General  
\_\_\_\_\_  
Designation

December 16, 2008

\_\_\_\_\_  
Date

cc: Ms. Corinta Quijano-Guerta, Head, Program Planning and Coordination, International Rice Research Institute (IRRI), Fax +632 580 5699  
Mr. Ashok Gulati, Director in Asia, International Food Policy Research Institute (IFPRI)  
Fax +91 11 2584 8008  
Country Director, TRM

To: Mr. Điền



**STATE BANK OF VIETNAM**

47-49 Ly Thai To Street, Hanoi  
Tel: (844) 934 3364; Fax: (844) 825 0612  
E-mail: [adbsbv@hn.vnn.vn](mailto:adbsbv@hn.vnn.vn)

Date: October 22, 2008

To: Mr. Urooj Malik  
Director  
Agriculture, Environment and Natural Resources Division  
Southeast Asia Department  
Asian Development Bank  
Fax: (63-2) 636-2231

**Subject: Proposed RETA: Thirteenth Agriculture and  
Natural Resources Research Centers  
- No-Objection to Inclusion in the RETA**

Dear Mr. Malik,

With reference to your fax dated 20 August 2008 concerning the captioned RETA, please be informed that we have no-objection to inclusion in this RETA.

In this connection, we would like to inform you that (i) the Ministry of Agriculture and Rural Development will be the counterpart agency for implementation of the RETA; and (ii) the following official has been nominated as contact person:

Dr. Chu Van Chuong, Manager, International Cooperation Department, Ministry of Agriculture and Rural Development. Tel: 84-4-4592140/8459671; Mobile: 84-989-891118; Fax: 84-4-7330752. E-mail: [chuongcv.htqt@mard.gov.vn](mailto:chuongcv.htqt@mard.gov.vn).

Thank you for your kind cooperation and assistance.

Yours sincerely,

Le Minh Hung  
Director General  
International Cooperation Department

c.c: Mr. Ayumi Konishi, Country Director, VRM, Fax: 9331373



Asian Development Bank

Southeast Asia Department

20 August 2008

Mr. Le Minh Hung, Director General  
International Coordination Department  
State Bank of Viet Nam  
47-49 Ly Thai To Street, Hanoi, Vietnam  
Fax No: +844 825 0612

Handwritten notes and signatures: 11/3/08, 29/8, K. H. Tu, 29/8/08

Dear Mr. Le Minh Hung:

**Subject: Proposed RETA: Thirteenth Agriculture and Natural Resources Research at International Agricultural Research Centers**

We would like to request your assistance in obtaining a statement indicating "no-objection" from the Government of Vietnam to the financing by the Asian Development Bank (ADB) of prospective activities to be undertaken in Vietnam under the proposed umbrella regional technical assistance (RETA): *Thirteenth Agriculture and Natural Resources Research at International Agricultural Research Centers*.

The impact of the RETA will be increased food availability and reduced poverty in the participating developing member countries (DMCs). The outcome will be increased food production and security through the adoption of appropriate rice technologies and agricultural policies in participating DMCs.

The proposed RETA will have two components, both of which will contribute toward the strategic objectives of ADB's policy on agriculture and natural resources research (ANRR): sustainable management of natural resources, increased agricultural productivity, and poverty reduction. ADB will be the executing agency for this RETA, and the implementing agencies will be as follows:

| Component  | Implementing Agency                                  |
|--|--|
| Component 1: Bringing about Sustainable Rice Production in Asia by Reducing Preventable Pre- and Post-harvest Losses | International Rice Research Institute (IRRI)         |
| Component 2: Improving Agricultural Policies for Ensuring Food Security  | International Food Policy Research Institute (IFPRI) |

The proposed RETA will be implemented over a period of 24 months. Subject to each Government's no-objection, the proposed RETA will be implemented in Bangladesh, Cambodia, India, Indonesia, Pakistan, People's Republic of China (PRC), and Viet Nam.

The total cost of the proposed RETA is estimated at \$3.21 million. ADB is expected to finance \$3 million, comprising \$2 million for Component 1 and \$1 million for Component 2. IRRI will contribute \$0.12 million equivalent in-kind in the form of staff time, research operations and

<sup>1</sup> Pursuant to ADB's Charter, Article 14(ii), ADB shall not finance any undertaking in the territory of a member if that member objects to such financing.

Agriculture, Environment and Natural Resources Division

6 ADB Avenue Mandaluyong City  
1550 Metro Manila Philippines  
www.adb.org

Tel: (632) 636-6234  
Fax: (632) 636-2231

supplies, and administrative and support costs; while for Component 2, IFPRI will contribute \$0.09 million equivalent in the form of staff time, research operations and supplies, and administrative and support costs. Component 1 will employ a multistakeholder participatory process in planning, reviewing, and monitoring of project outputs in Cambodia, Indonesia, PRC, and Viet Nam. Component 2 aims at improving agricultural policies for ensuring food security and will focus on South, Southeast, and East Asia region with case studies in Bangladesh, India, Indonesia, Pakistan, PRC, and Viet Nam. The draft RETA paper is attached for your reference.

Through this letter, we would like to seek the Government's no objection for ADB's financing of these activities that will be undertaken in Vietnam under the RETA. Kindly have a copy of this letter countersigned on the behalf of the Government on the space indicated below to indicate the Government's no objection. Please return the signed copy of the letter to the undersigned preferably on or before 3 September 2008. You may retain one copy of this letter for your records. We will send you a copy of the final TA paper upon its approval by ADB.

Mr. Kunhamboo Kannan, Director, Agriculture, Natural Resources and Environment Division, East Asia Department of ADB will be responsible for all matters pertaining to the implementation of the proposed RETA. All communications on this matter may, therefore, be addressed to him.

Sincerely yours,

  
Urooj S. Malik  
Director

No-objection confirmed:

On behalf of the Government

  
LE MINH HUNG  
Name

Director General, International Cooperation Dept., SBY  
Designation


02 October 2008  
Date

cc: Ms. Corinta Quijano-Guerta, Head, Program Planning and Coordination, International Rice Research Institute (IRRI), Fax +632 580 5699  
Mr. Ashok Gulati, Director in Asia, International Food Policy Research Institute (IFPRI)  
Fax +91 11 2584 8008  
Country Director, VRM





Appendix 4. Inception workshop program

**Bringing about a Sustainable Agronomic Revolution in Rice Production  
in Asia by Reducing Preventable Pre- and Postharvest Losses**



Subcomponent 1  
**Reducing vulnerability of rice  
crops to pre-harvest losses caused  
by planthopper pest outbreaks**



 **Inception and Planning Workshop**  
3- 5 November 2008  
Kim Do Hotel  
Ho Chi Minh City, Vietnam

**IRRI**  
**ADB**

## Introduction

Between 2004 and 2007, several countries in Asia suffered heavy losses caused by outbreaks of planthopper pests and virus diseases they carry. Rice production in Vietnam particularly in the Mekong Delta, suffered an estimated loss of ~ 400,000 tons (or 1.1 % of Vietnam's total). In China, the planthopper problems are persistent incurring annual losses of about a million ton and in 2005 about 2.8 million tons loss was reported. Also in 2005/06, extensive outbreaks of the brown planthopper (BPH) occurred in Korea, Japan and Vietnam bringing about yield losses of more than 3 million tons.

Rice ecosystems have a rich habitat biodiversity that can conserve natural biological control services and enhance pest invasion resistance. BPH was a threat to rice production in the Green Revolution when routine insecticide applications were packaged into rice intensification programs. These programs encouraged farmers to apply prophylactic sprays which disrupted ecosystem services. The introduction of integrated pest management (IPM), insecticide reduction media campaigns and farmer training helped reduced insecticide use in most areas, except in China, Korea and Japan to < 1 spray per season. Between 1995 and 2000, rice farmer's insecticide use in many parts of Asia has steadily reduced from > 4 to < 1 spray/ season. In the recent 5 years, when IPM training and insecticide campaigns slowed, farmers in some areas have increased their insecticide use. The most noticeable change is in the Red River Delta of Vietnam, where farmers' insecticide sprays have increased from < 1 to > 3 sprays/season. This is due partly to the adoption of hybrid rice where higher chemical input regimes are recommended as standard operating procedures.

Planthopper outbreaks may be attributed to the lack of "system resistance" and breakdown in ecosystem services, thus making the crop vulnerable to shifts in climate and cropping patterns. The outbreaks in China in 2005 had been attributed to the slight rise in summer temperatures of 2 °C and abnormal number of south-west typhoons that carried the pest immigrants from the south.

In April 2008, as a response to the rice crisis, ADB invited IRRI to submit a proposal that will help reduce losses, both pre and post harvests under the 13<sup>th</sup> RETA (Regional Technical Assistance) program. The proposal entitled "**Bringing about a Sustainable Agronomic Revolution in Rice Production in Asia by Reducing Preventable Pre- and Postharvest Losses**" (IRRI Ref. No.: DPPC2008-74) is composed of two sub-components:

- A. Subcomponent 1. Reducing vulnerability of crops to preharvest losses caused by planthopper outbreaks.
- B. Subcomponent 2. Reducing postharvest losses and increasing income by producing better-quality rice.

This workshop will focus on Subcomponent 1 and the purpose is to brainstorm for ideas to develop research and training activities in the five output areas:

- A.1. New field resistance screening method and germplasm with durable field resistance to planthoppers and virus diseases identified for incorporation into new elite breeding lines and mega-varieties.
- A.2. Strategies to manage virus spread in rice fields developed and implemented in pilot sites.
- A.3. Ecologically based management of outbreak pests, such as planthoppers, developed and key sustainability indicators of pest outbreaks monitored.
- A.4. Management practices integrating durable resistance and ecological methods evaluated by farmers, communicated through policy dialogues, and up-scaled using communication media in pilot sites.
- A.5. NARES partners' research and extension capacities in plant resistance, ecological management of outbreak pests, insecticide resistance research and communication enhanced.

## Program

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### 02 November 2008 (Sunday) Arrival of participants

### 03 November 2008 (Monday) – Day 1

|      |  |   |
|------|--|---|
| 0800 | Registration   | Secretariat   |
| 0830 | Opening session  |   |
|      | Introductions  | K.L. Heong  |
|      | Welcome address  | Dr. Bui Ba Bong<br>Vice Minister of Agriculture<br>and Rural Development, Hanoi |
| 0900 | Why do planthopper outbreaks occur?<br>Five-year workplan towards developing<br>sustainable strategies to prevent outbreaks                              | K.L. Heong  |
| 0945 | Project expected outputs and monitoring  | C. Guerta   |
| 1000 | Group photo and coffee/tea break   |   |
| 1030 | Brainstorming sessions<br>Expected outputs in details<br>Participants will work in 4 groups to develop<br>research and training activities for 12 months | K.L. Heong  |
| 1200 | Lunch  |   |
| 1300 | Group session continue   |   |
| 1600 | Plenary reporting session<br>Discussions   |   |
| 1830 | Welcome dinner hosted by Dr. Bui Chi Buu   |   |

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### 04 November 2008 (Wednesday) – Day 2

|      |   |  |
|------|---|--|
| 0830 | Plenary session<br>Reporting on where we are  |  |
| 0930 | Working groups continue<br>Complete work plans  |  |
| 1200 | Lunch   |  |
| 1300 | Plenary session<br>Final reporting<br>Combine workgroup activities<br>Develop review and planning schedules<br>Develop common activities and project logo |  |

1500 Coffee/tea break

1600 Finalize workplan  
Closing

Evening Free

### 05 November 2008 (Tuesday) – Day 3

0700 Depart for field trip  
  
Briefing from Director, Southern Plant Protection Center  
  
Visit with Peoples' Committee of Tien Giang  
  
Visit farmers and fields

1200 Lunch  
Return to HCMC

Evening Free

### 06 November 2008 (Thursday)

Departure of participants

## Participants

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### Resource persons

*Dr. Monina M. Escalada* Visayas State University, Baybay, Leyte, Philippines  
*Professor Geoff Gurr* Charles Sturt University, Orange, NSW, Australia  
*Dr. Keng Hong Tan* Retired Professor, University Sains Malaysia  
Penang, Malaysia  
*Dr. Mohd Norowi Hamid* Strategic Resource Research Division, MARDI  
Serdang, Malaysia

### China

*Dr. Yang Puyun* Deputy Director, Division of Pest Control  
National Agro-Tech Extension & Service Centre  
Ministry of Agriculture, Beijing  
*Dr. Zhong Xian Lu* Deputy Director, Plant Protection Institute, Zhejiang Academy of Agricultural Sciences,  
Hangzhou, Zhejiang  
*Dr. Zeng-Rong Zhu* Institute of Insect Sciences, Zhejiang University  
Hangzhou, Zhejiang

### Vietnam

*Dr. Bui Ba Bong* Vice Minister of Agriculture and Rural Development  
Hanoi  
*Dr. Bui Chi Buu* Director, Institute for Agricultural Sciences  
Ho Chi Minh City  
*Mr. Nguyen Huu Huan* Vice Director General Plant Protection Department  
Ho Chi Minh City  
*Mr. Phan van Tuong* Director, Southern Pesticide Testing & Control Center Ho Chi Minh City

|                             |  |
|-----------------------------|--|
| <i>Mr. Ho van Chien</i>     | Director, Southern Plant Protection Center (SPPC) Long Dinh, Tien Giang  |
| <i>Mr. Le van Thiet</i>     | Deputy Director, Southern Plant Protection Center (SPPC), Tien Giang     |
| <i>Dr. Nguyen van Huynh</i> | Professor & Entomologist, Can Tho University<br>Can Tho Province         |
| <i>Dr. Ngo Loc Cuong</i>    | Entomologist, Cuulong Rice Research Institute, Omon, Can Tho Province    |
| <i>Dr. Le Cam Loan</i>      | Plant Breeder, Cuulong Rice Research Institute<br>Omon, Can Tho Province |
| <i>Mr. Pham van Quynh</i>   | Director, Department of Agriculture<br>Can Tho Province                  |
| <i>Dr. Pham van Du</i>      | Deputy Director General, Department of Crop Production, Ho Chi Minh City |
| <i>Dr. Pham van Lam</i>     | Entomologist, National Institute of Plant Protection (NIPP), Hanoi       |
| <i>Dr. Luong Minh Chau</i>  | Entomologist, Cuulong Rice Research Institute, Omon, Can Tho Province    |
| <i>Mr. La Pham Lan</i>      | Researcher, Institute for Agricultural Sciences<br>Ho Chi Minh City      |

**IRRI**

|                              |   |
|------------------------------|---|
| <i>Mr. Rogelio Cabunagan</i> | Plant Breeding, Genetics and Biotechnology Division |
| <i>Dr. Il-Ryong Choi</i>     | Plant Breeding, Genetics and Biotechnology Division |
| <i>Dr. Parminder Virk</i>    | Plant Breeding, Genetics and Biotechnology Division |
| <i>Dr. K.L. Heong</i>        | Crop and Environmental Sciences Division            |
| <i>Dr. Finbarr Horgan</i>    | Crop and Environmental Sciences Division            |
| <i>Ms. Nonnie Bunyi</i>      | Crop and Environmental Sciences Division            |
| <i>Ms. Corinta Guerta</i>    | Project Planning and Communications                 |
| <i>Ms. Zenaida Huelgas</i>   | Social Sciences Division                            |





## Participants

### Thailand

|                            |  |
|----------------------------|--|
| Mr. Prasert Golsalvitra    | Director General   |
| Mr. Chairit Dumrongkiat    | Deputy Director General                                  |
| Ms. Dara Chettanachit      | Consaltant, Rice Department                              |
| Mr. Wirat Pianvithaya      | Director of Bureau of Rice Policy & Strategy             |
| Ms. Samlee Boonyawiwat     | Director of Bureau of Rice Research & Development        |
| Miss Orapin Watanesk       | Head of Research Group, BRRD                             |
| Dr. Waree Chaitep          | Director of Pathum Thani Rice Research Center            |
| Mr. Somsak Thongdeethae    | Director of Chai Nat Rice Research Center                |
| Mr. Surapol Chatuporn      | Director of Phra Nakhon Si-Ayyuthya Rice Research Center |
| Dr. Poonsak Mekwatanakan   | Director of Ubol Ratchathani Rice Research Center        |
| Dr. Jirapong Jairin        | Ubol Ratchathani Rice Research Center                    |
| Ms. Wantana Sriratanasak   | BRRD, Rice Department, Bangkok                           |
| Miss Sukanya Tepundung     | BRRD, Rice Department, Bangkok                           |
| Mr. Witchuda Rattanakarn   | BRRD, Rice Department, Bangkok                           |
| Mr. Kasem Soontrajarn      | Pathum Thani Rice Research Center                        |
| Dr. Patchanee Chaiyawat    | Phra Nakhon Si, Ayyuthya Rice Research Center            |
| Dr. Apichart Lawanprasert  | Pathum Thani Rice Research Center                        |
| Mr. Wichit Sirisantana,    | BRRD, Rice Department, Bangkok                           |
| Miss Nalinee Chiengwattana | Chai Nat Rice Research Center                            |

### Rice Planthopper Project output leaders

|               |                                      |
|---------------|--------------------------------------|
| F. Horgan     | IRRI                                 |
| R. Cabunangan | IRRI                                 |
| M. Escalada   | VSU                                  |
| K.L. Heong    | Project Principal Investigator IRRI. |

