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## International POPs Elimination Project

*Fostering Active and Efficient Civil Society Participation in  
Preparation for Implementation of the Stockholm Convention*

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# Monitoring of Banned Pesticides in Indonesia

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**Indonesia  
May 2006**

## **About the International POPs Elimination Project**

On May 1, 2004, the International POPs Elimination Network (IPEN <http://www.ipen.org>) began a global NGO project called the International POPs Elimination Project (IPEP) in partnership with the United Nations Industrial Development Organization (UNIDO) and the United Nations Environment Program (UNEP). The Global Environment Facility (GEF) provided core funding for the project.

IPEP has three principal objectives:

- Encourage and enable NGOs in 40 developing and transitional countries to engage in activities that provide concrete and immediate contributions to country efforts in preparing for the implementation of the Stockholm Convention;
- Enhance the skills and knowledge of NGOs to help build their capacity as effective stakeholders in the Convention implementation process;
- Help establish regional and national NGO coordination and capacity in all regions of the world in support of longer term efforts to achieve chemical safety.

IPEP will support preparation of reports on country situation, hotspots, policy briefs, and regional activities. Three principal types of activities will be supported by IPEP: participation in the National Implementation Plan, training and awareness workshops, and public information and awareness campaigns.

For more information, please see <http://www.ipen.org>

IPEN gratefully acknowledges the financial support of the Global Environment Facility, Swiss Agency for Development and Cooperation, Swiss Agency for the Environment Forests and Landscape, the Canada POPs Fund, the Dutch Ministry of Housing, Spatial Planning and the Environment (VROM), Mitchell Kapur Foundation, Sigrid Rausing Trust, New York Community Trust and others.

The views expressed in this report are those of the authors and not necessarily the views of the institutions providing management and/or financial support.

This report is available in the following languages: English

# Monitoring of Banned Pesticides in Indonesia

## 1. Background

The objectives of this project is to detect the circulation of POPs pesticides and other pesticides which are prohibited by the Indonesian government based on the Decree of Indonesian Minister of Farming Letter No. 434.1/Kpts/TP.270/7/2001. This decree prohibits the use of 37 active pesticide ingredients.

Monitoring will be deliberately done to detect the impact of the regulation mentioned above as well as compliance with it. There are concerns that there is limited information regarding the ban of these pesticides. Every year a list of prohibited pesticides is drawn up by the Indonesian Pesticide Committee. The latest restrictions include a list of 37 active pesticide ingredients, with POPs pesticides among them. However, there is no restriction on the importation of these pesticides in Indonesia.

In this project official documents produced by the Pesticide Committee and the Department of Farming, will be studied. Field surveys will also be done in three islands: Java, Sumatra and East Nusa Tenggara. The surveys will involve field visits and discussions with farmers as well as interviews with the Pesticide Committee at the Department of Farming. The written results of the research will become national reports about the current circulation of information regarding prohibited pesticides and POPs pesticides.

## 2. Project Description

According to Ordinance Letter No. 23 Year 1997 of the Environmental Management, and Government Regulation No. 27 Year 1999 on Environmental Impacts Analysis, every activity and effort must be conducted in order to preserve the function of the lifesphere (environment), and to prevent and repair the polluted and damaged lifesphere. This project is in accordance with Ordinance Letter No. 12 Year 1992 of the Plantation Culture System and Government Regulation No. 6 Year 1995 of Plants Protection, which provides for the protection of plants through media and other ways that do not threaten the environment and human safety and health.

The impacts of pesticide use on human health and the lifesphere are caused by failure to follow the technical standard manuals. These include: using banned pesticides (including POPs pesticides), not using pesticides in the appropriate order, expiry of circulating permits, use of pesticides that posing risk to health and the environment, inappropriate use based on standard trading conditions, and inappropriate use according to safety work standards. Based on these, there are 2 main strategies of this project: the study of national regulation

documents and identification of pesticides being used by the community through fieldwork.

Until the present, issues relating to illegal trading and use of banned pesticides still cannot be proved, and there has been no accurate data yet to shed light on the matter. Because of this, it is necessary to identify practices involving the use of banned pesticides, especially in Java, Sumatera, and East Nusa. The sites were chosen based on the intensity of pesticide use and the risk on users. Below are the details of the field identification studies:

### **2.1. Determination of Study Sites**

Study sites were determined using a purposive method based on the criteria of intensive pesticide use, whether for food plants, plantation, animal husbandry, fish culture, or for public health use. Based on this criteria, the identification and mapping of the circulation and use of illegal pesticides were conducted in 3 provinces: Central Java (for food plants, fish culture, and public health), North Sumatera (for plantation, vegetable plants, fish culture, and public health), and East Nusa Tenggara (for animal husbandry, fish culture, and public health).

### **2.2. Scope of the Study**

The study was conducted using the survey method to reveal practices of illegal circulation and use of pesticides in Indonesia. The meaning of “illegal” is based on the following:

- Banned pesticides (Minister of Farming Regulation Letter, Stockholm Convention on POPs)
- Expired circulation permit on pesticides (Minister of Farming Regulation Letter)
- Using pesticides for purposes other than its intended use (Minister of Farming Regulation Letter)
- Limited Use Pesticides (Minister of Farming Regulation Letter)
- Pesticides that pose risks on health and environment (Long-Range Transboundary Air Pollution [LRTAP], Pesticide Action Network [PAN] Listings)
- Pesticides that do not conform with standards/conditions of circulation [label, packs, etc] (Minister of Farming Regulation letter)
- Using pesticides that are not in the appropriate dosage and concentration suggested (*Commision of Pestisida*)
- Using pesticides that are not appropriate with safe work conditions (Minister of Farming Regulation Letter)

### **2.3. Method of Collecting Data**

The study was conducted using the survey method. Research samples were composed of two groups: parties that circulate/distribute pesticides (distributors and retailers, including KUDs or village cooperatives) and users of pesticides (farmers, cattle raiser, fishermen, and health officials). The numbers of respondents determined for each site were as follows: 5-10 respondents for the trader group, and 30 respondents for users (farmer/fisherman). At least 3 sampling sites were chosen in each area, whether they were for plantations, agriculture, or fish culture. Data was collected by using a questionnaire.

### **2.4. Method of Analyzing Data**

Data was analyzed descriptively by identifying the type of illegal pesticides that were circulated and used. The data was then mapped. The legality of pesticide use was determined based on present ordinances such as the Minister of Farming Regulation Letter No. 434.1/Kpts/TP.270/7/2001 of Conditions and Manner of Pesticides Listing, Minister of Farming Regulation Letter No. 473/Kpts/TP.270/6/ 1996 of Listing and Permit Stoppage for Use on Plants Managing, Minister of Farming Regulation Letter No. 251/Kpts/TP.120/5/2000 of Fixed Listing and Permit of Pesticides; some international conventions (PIC; Stockholm Convention on POPs; LRTAP), and Pesticide Action Network listings (such as the PAN Dirty Dozen).

## **3. Findings & Results**

From the field study results, the following were data were obtained:

### **3.1 Pesticide use by consumers**

**3.1.1** For food plant (rice) farmers, the survey was conducted in two regencies (Regency of Purworejo and Kebumen) of Central Java Province. Most of the farmers (85 %) used one kind of pesticide to control plant diseases, while for herbicides they used more than two (2) kinds and would then just mix them together. Fungicides were rarely used for rice plants. There was no mention of POPs pesticides used. The dosages and intervals used showed that the users did not follow the specified levels and intervals of use for the pesticides. Instead, farmers based dosages and intervals of use on plant disease level in the fields. When more plant diseases were present, the dosages of pesticides used were higher.

The spraying instruments used by the farmers were the simple sprayers (hand sprayers). While using the spraying instruments, none of the respondents wore complete safety equipment (face mask, hand socks, boot shoes, closed clothes). 3.3 % of the respondents wore long/short pants with no shirts while spraying. The other 96.7% of respondents wore only a shirt and long pants.

All of the respondents dumped bottles with leftovers/residues of pesticides at any place, mostly at the nearest gutter, irrigation channel, or river.

- 3.1.2** For intensive plantation farmers (e.g. palm, cacao), the study was conducted at the Regency of Serdang Badagi, North Sumatera and the Regency of Manggarai and Flores, East Nusa Tenggara.

In Serdang Badagi, the respondents were labor workers in a coconut palm plantation (PT Sucfindo). These workers use particular kinds of pesticides and dosage levels that are determined by the company. They themselves do not change the kind and dosage of pesticides. The workers use insecticides (Decis, Furadan, Marshall) to wipe out caterpillars and *wangwung*, while they use herbicides (Gramoxone, Noxone), on a limited basis. These insecticides and herbicides are used by the workers freely, who have had no training on their use. They do not wear any protective/safety clothing while using the products. Moreover, when they use it for a palm tree that has grown very high, they spray it by using a punting pole, so they practically they get bathed with the pesticides. There was no mention of POPs pesticides.

In Manggarai and Flores, East Nusa Tenggara, respondents were plantation owner-farmers of cacao and coffee. Approximately 87.1% of the respondents mixed one (1) kind of insecticide with a fungicide and the rest (12.9%) used only one (1) kind of pesticide. They use pesticides without safety equipment, and adjust dosages only according to field conditions. Furthermore, used bottles with pesticide residues were dumped at any place that was deemed convenient.

- 3.1.3** For vegetable plant farmers in Regency of Simalungun, North Sumatera, there was quite a high level of use of pesticides. All respondents mixed more than six (6) kinds of

insecticides and more than two (2) kinds of fungicides for their plants (potato and cabbage). They also only had a 2 to 5-day interval time for spraying. Herbicide (Noxone or Gramoxone) use was limited, and interval times of spraying was once in 3 months. All the respondents added adhesive materials such as washing soap or porcelain cleaner to the insecticides, fungicides, or herbicides. This was done to minimize the loss of pesticides and protect them from the rain and wind. No POPs pesticide was mentioned.

- 3.1.4** In the Regency of Cilacap, Central Java and the Regency of Serdang Badagi, North Sumatera, there were no fishermen respondents who used pesticides, whether for maintaining fish or drying.

## **3.2. Circulation of Pesticides**

All the pesticide shops surveyed sold other products together with the pesticides, such as chemical fertilizer, seeds, farming equipment, cattle feed, and human food. There was no strong partition between the pesticides and the other products for sale. All the shops sold pesticides that were re-packed in small parcels (usually in solid/powder form) with no clear labels, such as Furadan, Temix, Applaud, etc. There were 8 pesticides found that had expired circulation permits: Rizotin (20 Jan. 2004), Confidor 350 WS (11 Nov. 2005), Corsair 100 EC, Lindomin (3 Nov. 2005), Metafuron 20 WP (3 Nov. 2005), Roundup 486 AS (3 Nov. 2005), Sidabas 50 EC (3 Nov. 2005) and Regent 50 EC (8 May 2005). One pesticide that was no longer licensed by the government, Temik (Aldicarb), was also available in the shops. Pesticides that were only for limited use (Noxone, Gramaxone, Supretox 276 AS and Supracide 40 EC) were freely sold. These pesticides were even promoted by putting up big posters on shaded trees at the edge of the road, and by posting street banners. Again, there was no mention of POPs pesticides.

- 3.3** The study results show that current practices are in breach of regulations of pesticide use and circulation:

- 3.3.1** The Minister of Farming Regulation Letter No. 434.1/Kpts/TP.270/7/2001 and the Commission of Pesticides Regulation Year 2004 of Conditions and Manner of Pesticide Use Listing, regulates certain pesticides for limited use only (e.g., Gramoxone/Noxone with paraquat as its active ingredient, and Supracide/Supretox with methidathion as its active ingredient). Limited use pesticides can only be used

by persons/institutions who have had official training and who also have a license. However, these pesticides can actually be used by anyone without these official requirements. Furthermore, some of these pesticides are among the PAN Dirty Dozen (such as paraquat).

- 3.3.2** There are pesticides that are sold freely even though its circulation permit has been expired, or are not in the government list of licensed pesticides. This practice goes against the Minister of Farming Regulation Letter No. 280/Kpts/UM/9/1973 (Pesticides Application List and Permit Procedures) and the Minister of Farming Regulation Letter No. 473/Kpts TP.270/6/1996 on the Listing and Permit Stoppage for Use on Managing Plants.
- 3.3.3** The sale of locally packaged pesticides without any label is also against the Minister of Farming Regulation Letter No. 429/Kpts/TP.270/9/1973 on the Standard Conditions on Pesticides Packaging and Labeling.
- 3.3.4** The sale of pesticides along with other products (farming tools, cattle feed, human foods/drinks) without any partition poses a danger to the safety of human health and the environment. Without any partition, pesticides can contaminate the other products.

#### **4. Constraints / Problems**

Dissemination of study results for the community and publication of results will be done on May 17 and June 2006, respectively. Some reasons for the delay include technical problems on the analysis of the data, and the willingness of resource persons to participate in discussions with stakeholders at the National Forum.

#### **5. Conclusions & Action Plan**

##### **5.1 Conclusions**

###### **5.1.1 Regulations**

There are still many violations of regulations on the listing, circulation, and use of pesticides, whether by producers, retailer/distributors, or consumers. This is because there is less monitoring and enforcement by a competent institution. Furthermore, there are no direct sanctions for violations of the regulations.



### **5.1.2. Community**

The use of pesticides is still the preferred method for plant culture. Users do not consider the appropriateness of the kind and dosage of the pesticides that they apply. They further have no concern about the labels and do not use any safety equipment when applying pesticides. Pesticides are aggressively promoted in the community, whether through electronic or publishing media. In addition, users are given gifts for using the pesticides.

## **5.2. Action Plan**

### **5.2.1. Regulations**

Further pesticide policy advocacy is needed to decrease the number of pesticides permitted for circulating, trading, and production. The aim is to decrease and/or eliminate illegal pesticides and regulatory violations in the fields by companies producing pesticides.

The competency of the Pesticides Commission to control pesticide circulation and distribution needs to be improved from the national to the local levels. There is also a need to apply strong sanctions for violations of regulations on pesticide use and circulation.

### **5.2.2. Community**

Capacity building for the consumers and the community is needed, and this includes farmers and other consumers such as home consumers.

## **6. Information Dissemination Activities**

### **6.1 Workshop on Mapping Results for Trading and Using of Illegal Pesticides.**

- Time and Place: Wednesday 24 May 2006, Agriculture Faculty of Sebelas Maret University (UNS) Surakarta, Central Java.
- Material: Mapping Results for Trading and Using of Illegal Pesticides (by Setiyawan of Gita Pertiwi).
- Moderator : Titik ES (Gita Pertiwi)
- The following inputs were given:
  - a. For illegal pesticides trading and the role of pesticides commission (Ir. Otto Marwoto, MP, officer of pesticides commission of Central Java)

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- b. For impacts of using illegal pesticides on environment and health (Dr. Supriyadi, MS from UNS Faculty of Agriculture).
- Participants : 85 persons, as representatives of farmers, officer of Agriculture Department, Commission of Pesticides, Pest and disease observers, University, NGOs, and Mass Media
- Output :
  - a. National reports of trading and use of illegal pesticides were reported to the Department of Agriculture head office and to the National Commission of Pesticides.
  - b. There are suggestions from the participants/society to take off the trading permission and remove illegal pesticides from the market (8 brands of pesticides)
  - c. Exhorted the Commission of Pesticides at the province level to propose to the National Commission of Pesticides to take action on producers and traders of illegal pesticides
  - d. Reports of survey results were sent to the regent of each surveyed regency/district and so he/she can give sanctions to producers and traders of illegal pesticides
  - e. Improved role of PHP (Pest and Disease Observers) in regency and sub-district level on the monitoring of trade and use of pesticides
  - f. The Commission of Pesticides was willing to publicizing monitoring results of trade and use of pesticides every 6 months through mass media.

## **6.2 Press release**

The press release of Mapping Results for the Trading and Use of Illegal Pesticides on mass media (local, national) was done on 23 and 26 May 2006. The press release appeared in publications 3 times: 23 May 2006 on “Kompas” (national level newspaper), 26 May 2006 on “Solo Pos” (local level newspaper) and 27 May 2006 on “Solo Pos”. The article discussed the monitoring results conducted by Gita Pertiwi and included the perspective of civil society and the Department of Agriculture on the sanctions given to producers and traders of illegal pesticides.

## **6.3 Dissemination of national reports**

National reports were arranged and sent to the National Commission of Pesticides about survey results on the trade and use of pesticides in Indonesia on 5 June 2006.

## **6.4 Farmer information dissemination**

Information disseminated about 8 illegal brands of pesticides to 10 farmer groups in 2 regencies (Wonogiri of Central Java, and Ngawi of

East Java). It improved farmers' knowledge about the risk of pesticides.

## **6.5 Information dissemination activity impacts**

- 6.5.1 There was an improvement in consumers' awareness, especially farmers, so that they are willing to reduce pesticides that they use in plantations. It was shown that more farmer groups used natural pesticides in the period of June – July 2006.
- 6.5.2 Distinct sanction was given to home pesticides that contained dangerous active materials by Commission of Pesticides. Home pesticides (mosquito repellent) branded "Hit" type of 2,1 A and 17 L pulled out from the market from 7 June 2006 to 7 August 2006 because it contained dangerous materials of the type "Diklorovos" that can have adverse effects on health i.e. cancer of liver and abdomen.

**Appendix**



Figure 1. Labor workers in a plantation, who were victims of pesticides



Figure 2. A farmer sprays his farmland without any safety equipment





Figure 3. Different kinds of pesticides for use in dried land



Figure 4. Pesticides used on vegetables



Figure 5. Pesticide spraying