



# Community Monitoring of SAICM Implementation on Pesticide Use and Practices:

## Initial Results of the Community Monitoring and International Advocacy Project in Asia

### INTRODUCTION

Community based monitoring is a tool to document, report, and take concerted action on health and environmental problems caused by pesticides. This report presents the initial results of monitoring gathered through the Community Monitoring for International Advocacy project, an initiative of Pesticide Action Network (PAN) International, carried out by Pesticide Action Network Asia and the Pacific (PANAP) and partners in the Asian region.

The objectives of the project are to highlight the impact of highly hazardous pesticides on the health of communities, with a focus on conditions of use in the field; and to document the ways in which pesticides are distributed and sold in relation to the International Code of Conduct on the Distribution and Use of Pesticides (the Code of Conduct)<sup>i</sup>. These initial results contribute to monitoring progress towards the Overall Objective of the Strategic Approach to International Chemicals Management (SAICM)<sup>ii</sup>: “by 2020, chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment”. The monitoring relates to implementation of activities in the work areas addressing highly toxic pesticides risk management in the Global Plan of Action.

### PROCESS AND METHODS

The community monitoring approach used in this initiative is based on Community Pesticide Action Monitoring (CPAM). CPAM is a tool, developed by PANAP, to document and create awareness of pesticide impacts on human health and the environment. The approach is based on Participatory Action Research. It involves the community members who undertake the research, and encourages organising and action. CPAM aims to empower communities to address their situation themselves and get actively involved in solving their problems, i.e. through policy advocacy at local and national level, driving the changes required to reduce the use of pesticides and stop dangerous practices (such as aerial spraying). CPAM also stimulates the search for and adoption of more ecological agricultural practices. The documentation of the situation of pesticide use, sales, distribution and advertisement is being brought to the international level to contribute to national and international policy.

In Asia, 11 organisations from 8 countries are participating in the project. A Regional Training of Facilitators (ToF) was held in Penang in July 2008, during which participants gave input into the monitoring tools and procedures, were trained in their use and developed local and regional action plans. Participating organisations then translated and, in some cases, adapted the questionnaires for use in their local situation based on a pretest. The monitoring was conducted by partner organisations and communities in their respective countries from August to November 2008. Partners consulted with communities where pesticides are used (at work or otherwise) on their interest in the study objectives and interviewed approximately 100 respondents in each. Partners also endeavoured to survey 10 retail stores. In total, 1306 respondents were interviewed and more than 118 retail stores surveyed, with 55 human health incident reports gathered.

An Operations Manual was also provided, covering objectives, scope and coverage, sampling design and procedures, and ethical considerations. Procedures for gaining consent of all respondents were discussed at the ToF (described above). Respondent selection was based on the characteristics of the community, such as size, resources available and time constraints. For the community interviews, systematic random sampling was chosen where possible, whereas others adopted random, or convenient sampling (where available and willing respondents or those using or exposed to pesticides were interviewed). Retail stores were selected at random, or in locations where interviewed farmers purchase pesticides. All interviews were conducted face-to-face with farmers/workers and retail store staff. **Limitations** in the methods include several levels of translation required, leading to possible error. Also, in retail store interviews, some staff were reluctant to participate in the interview, possibly leading to data gaps. Finally, in some cases the respondent did not indicate how recently a pesticide was used, so it

is possible that some pesticides previously used were included in the reporting.

Initial findings of the monitoring were presented and concerns highlighted at the PAN AP regional Community Pesticide Action Monitoring (CPAM) Partners meeting in Penang, Malaysia, in March 2009. These findings are summarised here, drawing from field observations and interviews, including analysis done by participating organisations, photographic documentation, and some results of focus group discussions (where these were conducted) with the communities. For the highly hazardous pesticides reported here, the active ingredients were verified by PAN AP based on the product names. In instances where the active ingredient data was missing on the questionnaire, reference was made to official registered products lists or other completed questionnaires in which the active ingredient was specified. At the time of writing, the full regional and site-specific analysis of the monitoring data is underway and will be reported in the latter half of 2009.

## THE STUDY SITES

The monitoring was undertaken in the following sites with participating communities:

**Cambodia:** the Centre d'Etude et Développement Agricole Cambodgien (or Cambodian Centre for Study and Development in Agriculture) (CEDAC), worked with Prek Krabrao commune, in Peam Chor district, Prey Veng. This commune produces bean, rice, corn and sesame. According to discussion with the community, mung bean is the main income generating crop.

**China:** the Pesticides Eco-Alternatives Centre worked with vegetable farming communities in Li Ren Village in Kunming, and Xiao Xi village in Chenjiang, Yuxi city, both in Yunnan province.

**India:** the monitoring was undertaken in three states in India. In Andhra Pradesh, SAHANIVASA worked with a farming community in Chittoor district, where mango, paddy, sugarcane and vegetables are planted. Here, pesticides were used mainly amongst those growing cash crops. In Kerala, Thanal was the key partner who worked with a Kole farming community in Thrissur. Kole farming is a rice growing method where the paddy field is submerged from June-November then the water is pumped out. Living Farms worked in Rayagada district in southern Orissa, a major cotton growing area.



Interview in Wonosobo, Central Java (Gita Pertiwi)

**Indonesia:** Gita Pertiwi conducted the monitoring in partnership with the Serikat Petani Wonosobo (Wonosobo farmers association), in Wonosobo, Java, with a potato farming community. Farmer and retailer interviews were complemented with focus group discussions.

**Malaysia:** The Sarawak Iban Dayak Association (SADIA) and PAN AP engaged with indigenous long-house communities in the Bintulu area amongst palm oil plantation workers and a few paddy, vegetable and fruit farmers. In partnership with Tenaganita, a study was done in Teluk Intan, Perak, interviewing workers of palm oil plantations.

**Philippines:** PAN Philippines and a local grassroots organisation, Citizens Alliance Unified for Sectoral

Empowerment in Davao del Sur (CAUSE-DS), worked with farming communities in Digos.

**Sri Lanka:** Vikalpani National Women's Federation undertook the study in three districts, Nuwara Eliya, Badulla, and Monaragala, with paddy and vegetable farmers, in partnership with local grassroots organisations.

**Vietnam:** sites in both the north and south of Vietnam were included in the study. An Giang University led the study

in a rice farming commune in An Giang Province, South Vietnam; and the Research Centre for Gender, Family and Environment in Development (CGFED) worked in Hai Hau District, North Vietnam, also a rice-farming community.

The monitoring deepened the awareness of pesticide use and risks amongst the partner organisations and communities. Significant concerns in these areas are surfacing as a result.

## INITIAL RESULTS

### Highly Hazardous Pesticides in use

For the purposes of the monitoring, PAN AP defined highly hazardous pesticides<sup>iii</sup> as those that have high potential to cause illness, injury or death to humans and animals or damage to the environment. These include pesticides that are acutely toxic or for which there is evidence of carcinogenicity, mutagenicity, reproductive toxicity, immunotoxicity, endocrine disruption, neurological or developmental toxicity.

Preliminary documentation and field observations indicate the use of highly hazardous pesticides. In the study site in Thrissur, Kerala, methyl parathion (WHO Class Ia), triazophos (Ib), carbofuran (Ib) and lambda-cyhalothrin (II) were commonly used insecticides. At this study site, methyl parathion was reported by 51% of respondents, and edifenphos and phosphamidon were also highlighted. In Chittoor, Andhra Pradesh, organophosphates were widely used, with quinalphos and chlorpyrifos recorded. Endosulfan was also reported as an important pesticide in use in both Orissa and Andhra Pradesh. Highly hazardous herbicides,

such as paraquat, were reported in China, Malaysia and Indonesia. Some of the pesticides recorded in the monitoring are banned in their country of use. In Cambodia, 36 of the 101 respondents (36%) reported use (within 6 months before the survey) of pesticides containing monocrotophos, a WHO Class I pesticide that is banned in Cambodia.

### Conditions of Use

Conditions of use of pesticides vary among countries due to technical, social, environmental and economic factors. The conditions of use influence the risk levels and thus the impacts of pesticides. Specific aspects of these conditions highlighted here include the application methods, precautions taken and awareness of hazards amongst users.

### Application of Pesticides and Precautions Taken

Manual backpack spraying was commonly observed in the study sites, although mechanical sprayers were also reported in Prey Veng (motorised mist-blower) and Wonosobo (diesel-powered pump).

The Code of Conduct recommends users to wear PPE, defined as "any clothes, materials or devices that provide protection from pesticide exposure during handling or application... it includes both specifically designed protective equipment and clothing reserved for pesticide application and handling". For manual spraying, the most essential items are boots or covered shoes, a long-sleeved upper garment and garment that covers the legs, and a hat (if spraying high crops). Also, gloves and eye protection must be worn when pouring, mixing or loading pesticides, and there may be additional items required in certain circumstances<sup>iv</sup>. For many highly hazardous pesticides, far more stringent requirements are necessary to protect the



Three brands of monocrotophos found in Cambodia (CEDAC)



Female farmer diluting pesticides before spraying in Hai Hau, Vietnam (CGFED)



Mixing granular pesticides with bare hands, Thrissur, Kerala



Pesticide spraying in An Giang, Vietnam (An Giang University)



Farmer mixing three types of pesticides in Prek Krabrao, identified as Lannate (methomyl), Hopsan 75ND (phenthoate + fenobucarb) and Anvil 5SC (hexaconazole) (CEDAC)

user. For example, for methyl parathion, in the United States, strict engineering controls must be followed. Mixers and loaders must use a closed system, and applicators must be in a closed cab. They must also wear PPE: “mixers, loaders, and applicators using engineering controls must wear: long-sleeved shirt and long pants, shoes plus socks in addition, mixers and loaders must wear chemical-resistant gloves and a chemical resistant apron”. Handlers performing tasks for which engineering controls are not feasible (e.g. spill clean-up), must wear “coveralls over long-sleeved shirt and long pants, chemical-resistant gloves, chemical-resistant shoes footwear [sic] plus socks, chemical resistant headgear if overhead exposure, chemical-resistant apron if exposed to the concentrate”, and a respirator with specifically approved prefilter<sup>v</sup>.

The lack or inadequacy of PPE is a concern highlighted by all groups participating in the study. In Chitoor, Andhra Pradesh, no special equipment (e.g. gloves, spectacles, overalls, face-mask, shoes) were used. In the Yunnan study sites, “while 80-90% were using boots, long sleeved shirt and pants ... most didn’t use proper PPE”,

for example, not all boots were waterproof and could prevent exposure. In Cambodia, 38% of users wore ‘normal clothes’ (cotton). In Thrissur, Kerala (where methyl parathion was reported as being used by over half of the respondents) 53% claimed to be wearing PPE, but Thanal reported that “none of the farmers used the conventionally recommended protective clothing”. Thrissur farmers “have to roll up their pants till knees as their feet sink deep in the slush in paddy fields” while they spray pesticides. In the study site in Sri Lanka, users were observed as wearing only trousers and t-shirts, and Chandra Hewagallage of Vikalpani explained that “after 5-10 minutes of spraying, especially in heavy wind, the clothing is already wet” (pers comms).

A lack of availability of PPE was highlighted in Thrissur, Kerala, where only 2 stores out of 9 stocked PPE, and they do not advise the farmers to use the PPE while spraying. PPE was not available at the surveyed retail stores in Chitoor. In Yunnan, PPE were not sold

in pesticide stores surveyed, but were distributed in different local retail stores such as pharmacy (mask can be found), hardware store (gloves can be found), supermarket (apron can be found).

Applicators also expose others involved in farm work simultaneously or through re-entry to treated fields, such as when weeding. This was observed in the study sites in Prey Veng, Cambodia, and An Giang, Vietnam.

Some users experienced spillages of pesticides and other forms of direct contact with pesticides. For example in Thrissur, Kerala, 65% of respondents reported having pesticide spilled on them. Users were reported as using their bare hands to mix or pour pesticides, for example in Hai Hau, Vietnam, and Kerala, India.

Regarding the availability of washing facilities (for hands and body), in some instances the facilities were used for multiple purposes, contributing to contamination of the water supply. For example, in Thrissur, washing facilities are canals flowing near the fields where applicators also wash their equipment. Thus washing in the canals exposes the local population to pesticides. Pesticides are often applied as a mixture, or 'cocktail'. In the study site at Prey Veng, Cambodia, farmers were observed mixing between 3 and 8 pesticides before spraying to kill insect pests on their crops.

### **Awareness of hazards**

The initial monitoring results indicate that users are not always aware of the specific identity and hazards of the pesticides that they use. Most teams interviewing said that respondents faced difficulty completing a 'product identity' table, reporting that respondents were only able to complete specific sections (such as product name, target crop, and frequency and duration of application), and the monitoring team was required to gather the other details (such as active ingredient, concentration, type of formulation) from the label. The Group Leader of the monitoring in Bintulu-Miri (Sarawak) noted that "generally, the community is not particularly concerned on the manufacturer, active ingredients, concentration, type and formulation of pesticides. Their main concern was whether the pesticides are effective and efficient to totally destroy the weeds in the longrun." CEDAC (Cambodia) also observed that farmers do not know the name or the action of the pesticides, stating that the farmers "just started use improperly without information or training". In some cases, such as in Teluk Intan, Malaysia, plantation workers are not present when the pesticide cocktail is mixed, so they do not know what they are being exposed to.

Sources of information include neighbouring farmers, shopkeepers, and labels (where it is possible to read them given literacy level and when available in local

language). However, these sources of information are not always reliable. In Kerala, 90% of respondents indicated that they had access to labels, however "almost all the labels have data written in English or Hindi and instructions in the local label (Malayalam) is missing". In Cambodia, labels are commonly found in foreign languages<sup>vi</sup>. Sometimes users do not follow manufacturer's directions. For example in Wonosobo, Indonesia, "the dosage [is] not as mentioned on label, because if they use as suggested on label, the pests and diseases will not die. The label is small and they never read it just use their intuitions".

### **Disposal of Containers**

Industry has product stewardship responsibilities under the Code of Conduct in relation to the disposal for pesticides and used containers (3.4.5). Government and Industry should also co-operate to establish services to collect and safely dispose of used containers (5.3.3). Through observations and discussions, monitoring teams also gathered information about disposal of pesticides in relation to the Code of Conduct.

It was reported that pesticide containers were disposed of using various methods. Examples cited from field observations in Vietnam Hai Hau and An Giang study sites, pesticide containers and packaging were disposed of directly into the open field. This was also a common practice in Thrissur, Kerala, where 70% of respondents indicated the use of this disposal method. Users collect, bury or burn the pesticide containers at the study site in Chittoor, Andhra Pradesh, while in Wonosobo, Indonesia, some farmers throw the container on the field although sometimes the containers were collected to be buried or burned. In Yunnan, China, it was observed that in Li Ren Village of Kunming, where a government programme on Integrated Pest Management is running, there was higher awareness about container disposal than in Xiao Xi: in Li Ren, villagers were collecting containers and sending them to a government agency for disposal rather than throwing them in the field or ditches.



*Rubbish disposal including pesticide packages in open field  
- Hai Hau, Vietnam (CGFED)*

## HEALTH EFFECTS

Some of the partner groups have conducted an analysis of the symptoms reported by respondents. In Cambodia, 98% of respondents reported ever having experienced one or more acute symptoms<sup>vii</sup> when using pesticides or being exposed to them. In Thrissur, Kerala, 54% of respondents reported ever having experienced one or more acute symptoms when using pesticides or being exposed to them.

In the palm oil plantations of Teluk Intan, Malaysia, some of the workers were aware that they were sick but accept that they have to continue to do this type of work as they do not have alternative sources of income. The monitoring team also noted that they reported that “doctors or health assistants within the plantations also do not take an interest in the health hazards related to their work and sick workers who seek medical treatment are not given proper medical examination and care”. Some expressed that “they no longer wanted to do spraying work”. Others had expressed an interest to “learn more and to help share the information [on pesticide hazards] with their friends”.

### Women's health

Women's exposure to pesticides can differ from men's, as they often perform different agricultural tasks. Pesticides also affect women's health in different ways. The monitoring highlighted some of these exposure factors and impacts.

In some sites, women are taking a greater role in pesticide application. Field observations from the study site in Hai Hau, North Vietnam, showed that women are taking a greater role in production. In Prey Veng, Cambodia, the monitoring team noted that, as a result of deteriorating health of male farmers (attributed to spraying pesticides), women are often replacing men

in farming tasks. Also, for female farmers in Prey Veng, typical farming tasks included transplanting, weeding and harvesting. Unfortunately, these tasks commonly occur after pesticides have been sprayed on a crop, resulting in their exposure to the pesticides. In Wonosobo, Java, Indonesia, focus group discussion revealed that while men decide what pesticides to use, women often help in spraying them, impacting on their health. For example, in an incident that occurred in Wonosobo, a woman experienced a miscarriage after spraying a mixture of pesticides (insecticides and a fungicide) in 2004. However they could not show evidence of this as she did not go to the doctor and only drunk young coconut water and milk, and and took a rest.

At the study site at Chitoor, Andhra Pradesh, it was observed that women are suffering a lot because of their involvement in pesticide related agriculture work. Many were reporting irregular menstrual cycles. These women expressed that they had never given much importance to their health. They explained that family financial burdens were also affecting their health, and there was a lack of availability of medical specialists for women.



*Woman with child in Wonosobo (with pesticide sprayer and advertisement in the background), Java, Indonesia (Gita Pertivi)*

## ENVIRONMENTAL EFFECTS

While the study focussed on human health impacts of pesticides, concerns about the the impacts of pesticides and their containers on the environment were also highlighted. As noted above, pesticide containers are disposed of into open fields; and burying and burning occurs in some sites. Pesticide containers and equipment are often rinsed in

the local canals or streams. These practices pose a risk of environmental contamination. For the communities in Sarawak, Malaysia; Thrissur, Kerala; and the study sites in Sri Lanka, the streams and canals where residues end up constitute the local water supply used for many different purposes.

## RETAIL STORES

According to the Code of Conduct, at the retail level, industry should ensure that persons involved in the sale of pesticides are trained adequately, hold appropriate government licences (where such licences exist) and have access to sufficient information, such as material safety data sheets, so that they are capable of providing buyers with advice on risk reduction and efficient use (8.2.7). Pesticides are to be physically segregated from other products and should be clearly marked as hazardous materials if appropriate. The Code also emphasises that every effort should be made to publicise the dangers of storing foodstuffs and pesticides together (5.1.8).

Initial results indicate varying store conditions amongst the study sites:

- In Yunnan, the surveyed stores were licensed and the store keepers related general knowledge of PPE, storage, and regulations, from a routine government training course. However, they received no product related training from the manufacturer.
- In Sarawak Malaysia, the surveyed stores were licensed (although only some licenses were prominently displayed). Some retailers explained that training is a prerequisite of licensing, although not all employees had attended the training, and some reported that due to language difficulties, not all of them understood the material or skipped classes.
- In Perak, a retailer at one surveyed store expressed to the monitoring team that pesticides are not hazardous as long as they are not consumed, a misconception that can be passed on to buyers.
- In Chittoor, surveyed shops were licensed but it was reported that no shopkeeper had studied the written material available to them. Some literate respondents explained that they cannot read as it is in English language. It was also reported that while they were told about usage, ratio, dosage, and precautions, no trainings were given by the Government.
- In Thrissur, Kerala, it was reported that “the storekeepers give advice on which pesticides should be used for controlling specific pests but do not warn about the hazards pesticides cause. None of them know what risks are posed by specific pesticides... the store owners do not read labels to understand the precautions and neither do they encourage this habit with their buyers”. At one store in Thrissur town, the store owner was himself coordinating two farmers mixing pesticides by hand, watched by the representatives of a company. Further, one store was located in the middle of a fruit and vegetable market.
- In Prey Veng, 15 formulations of 10 banned active ingredients (all Class I) were found on display at a local market.

## ADVERTISEMENTS AND INCENTIVES

The Code of Conduct states that guarantees or implied guarantees, such as “more profits with...” or “guarantees high yields” (11.2.11), should not be given in the absence of definite evidence. Advertisements and promotional activities should not include inappropriate incentives or gifts to encourage the purchase of pesticides (11.2.18).

Specific examples of advertisements violating the Code of Conduct were observed during the monitoring. In Kerala, India, an advertisement for the insecticide Fax, says that it nourishes the paddy, produces more roots, more ripening and even protects the environment. Also in Kerala, the producer of ‘Kritap’ advertises its product as something that will give a field full of golden grains.

In Wonosobo, Java, shops are described as the ‘centre of information for farmers on dosage, brands and how to use them’. In Keajar district, Wonosobo, shops are in resident’s homes, and “merchants also hold meetings sponsored by chemical companies to promote new brands and mapping of chemical needs of farmers”. Merchants offer prizes to farmers who attend the meetings. The agricultural shops of Wonosobo district offer an annual prize if farmers buy more than Rp 60 000, with the prizes of electronic home appliances, motorcycle and even a ticket for a couple to go to Hajj (Muslim pilgrimage to Mecca). This is an example of an inappropriate incentive to purchase pesticides.

## CONCLUSION AND RECOMMENDATIONS

While full analysis of the results are underway, these initial findings indicate that highly hazardous pesticides are being used at diverse sites throughout Asia. The monitoring indicates that precautions taken, especially PPE, are lacking and awareness of specific pesticides and hazards is low, putting users at risk. It indicates that knowledge and information is not reliably passed on from retailer to user (via retailers' advice) or from manufacturer to user (via labels). Finally, some pesticide advertisements and retail store practices were documented that are in violation of the Code of Conduct. The findings reveal that a huge effort needs to be made to implement the work areas of the Global Plan of Action in order to meet the 2020 goal.

Based on these initial findings, PANAP recommends the following actions are taken in order to alleviate the worst pesticide problems in developing Asian countries:

- **governments and industry ensure that pesticides that require PPE are not registered, sold or used in developing countries in which the conditions of use are such that these pesticides cannot be used safely, in particular because of a lack of, or inadequacy in, or inability to purchase PPE;**
- **governments ensure systematic health monitoring of those exposed to pesticides;**
- **governments ensure that all retailers of pesticides are trained, licensed and able to advise on how to use them; and that there is systematic compliance monitoring of all pesticide retailers;**
- **governments ensure health workers are trained in diagnosing and treating pesticide poisoning;**
- **SAICM ensures that sufficient funding is made available to achieve the above recommendations in developing countries and those with economies in transition.**
- **develop a global partnership to rapidly reduce and eliminate highly hazardous pesticides;**

- i Food and Agricultural Organisation of the United Nations, 2002. International Code of Conduct on the Distribution and Use of Pesticides. <http://www.fao.org/DOCREP/005/Y4544E/Y4544E00.HTM>
- ii United Nations Environment Programme, 2006. Strategic Approach to International Chemicals Management. [http://www.saicm.org/documents/saicm%20texts/SAICM\\_publication\\_ENG.pdf](http://www.saicm.org/documents/saicm%20texts/SAICM_publication_ENG.pdf).
- iii A full list and definition of highly hazardous pesticides is provided by PAN International in its document: PAN International List of Highly Hazardous Pesticides (PAN List of HHP). [http://www.pan-germany.org/download/PAN\\_HHP-List\\_090116.pdf](http://www.pan-germany.org/download/PAN_HHP-List_090116.pdf).
- iv Guidelines for Personal Protection when Working with Pesticides in Tropical Climates, FAO, 1990. <http://www.bvsde.paho.org/bvstox/i/fulltext/fao14/fao14.pdf>.
- v United States Environmental Protection Agency, 2006. Reregistration Eligibility Decision for Methyl Parathion. Washington, DC. [http://www.epa.gov/oppsrrd1/reregistration/REDs/methyl\\_parathion\\_red.pdf](http://www.epa.gov/oppsrrd1/reregistration/REDs/methyl_parathion_red.pdf).
- vi A 2008 label survey showed that 95% of pesticides found in Cambodia were in foreign languages (CEDAC, 2008), with the most common being Vietnamese (52.4%), Thai (36.5%), English (4.4%) and Chinese (1.3%). This study was conducted by project staff, key farmers and community investigators. The survey included a total of 606 trade names (products) of pesticide made from 147 common names (active ingredients).
- vii Symptoms included dizziness, headache, blurred vision, excessive sweating, hand tremor, convulsion, staggering, narrow pupils/miosis, excessive salivation, nausea/vomiting, sleeplessness/insomnia, difficulty breathing, skin rashes, diarrhoea, irregular heartbeat, or 'other'.

*Project partners:* PAN AP in collaboration with CEDAC, PEAC, SAHANIVASA, THANAL, Living Farms, Gita Pertiwi, SADIA, PAN Philippines, Tenaganita, PAN Philippines, Vikalpani National Women's Federation, An Giang University, and CGFED.

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*About PAN AP:* Pesticide Action Network (PAN) Asia and the Pacific is one of the five regional centres of PAN, a global network working to eliminate the human and environmental harm caused by pesticides, and to promote biodiversity based ecological agriculture. We are committed to the empowerment of people. We are dedicated to protect the safety and health of people, and the environment from pesticide use and genetic engineering. We believe in a people-centred, pro-women development through food sovereignty, ecological agriculture and sustainable lifestyles.



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