



a toxics-free future

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## International SAICM Implementation Project (ISIP)

In 2010, in an effort to demonstrate SAICM implementation via IPEN Participating Organizations, IPEN launched an International SAICM Implementation Project, also known as ISIP. ISIP aims to mobilize resources for initial enabling activities pertaining to national priorities, in keeping with the work areas set out in the strategic objectives of section IV of the SAICM Overarching Policy Strategy.

In particular, the ISIP supports the Governance objective of SAICM's Overarching Policy Strategy paragraph 26, which calls for enhanced "cooperation on the sound management of chemicals between Governments, the private sector and civil society at the national, regional and global levels."

In addition, ISIP builds on the 2008-2009 Global SAICM Outreach Campaign to raise awareness about SAICM and strengthen collaboration among the public interest, health and labor sectors.

### ISIP Objectives

ISIP's four objectives include:

- Promoting the need for sound chemicals management
- Advancing National SAICM Implementation
- Promoting global SAICM implementation by global civil society
- Building capacity among NGOs developing countries and countries with economies in transition

**Title of activity:** Community Action Monitoring and Education Campaign on Highly Hazardous Pesticides in Davao del Sur

**NGO:** Citizens Alliance Unified for Sectoral Empowerment Davao del Sur (CAUSE-DS) & Pesticide Action Network Philippines

**Country:** Philippines

**Date:** February 2011

### Elements of SAICM Covered:

Promote substitution for highly toxic pesticides including effective non-chemical alternatives (27); Provide training in alternative and ecological agricultural practices, including non-chemical alternatives (51); Encourage industry to extend product stewardship and to voluntarily withdraw highly toxic pesticides which are hazardous and cannot be used safely under prevalent conditions (30); Promote integrated pest and integrated vector management (29); Establish programmes for monitoring chemicals and pesticides to assess exposure (66)

### Description of:

### **The highly hazardous pesticide(s) registered/sold and/or in use in your country:**

There are 156 pesticide active ingredients registered in the Philippines and among these, 106 (66%) are highly hazardous pesticides. A pesticide is considered to be highly hazardous by Pesticide Action Network if it has one of the following characteristics:

- high acute toxicity (including inhalative toxicity) and/or,
- long-term toxic effects at chronic exposure (carcinogenicity, mutagenicity, reproductive toxicity, endocrine disruption) and/or,
- high environmental concern either through ubiquitous exposure, bioaccumulation or toxicity, and/or
- known to cause a high incidence of severe or irreversible adverse effects on human health or the environment

### **Alternatives and/or bio pesticides available, if any:**

Yes, there are alternatives available, including biopesticides but they are few and not readily known or available to most users of pesticides. Organic farming groups and other practitioners of sustainable, ecological agriculture are the main users of alternatives (including non-chemical alternatives) in pest management and control.

### **Health and environmental effects of the pesticides:**

Most pesticides are acutely toxic and can cause death, disability, organ dysfunction, incapacitating symptoms, and various other illnesses. Immediate effects may include dizziness, headache, nausea and vomiting, abdominal pain, difficulty of breathing, palpitations, weakness, and many other symptoms which, very often, may not be readily recognized as pesticide poisoning. Depending on the degree and circumstances of the exposure, the health effects may be mild, moderate or severe.

In pesticide applicators, dizziness, headache, abdominal pain, and difficulty of breathing are a common occurrence. People predisposed to asthma are in greater risk of developing acute respiratory symptoms after exposure to pesticides. Difficulty of breathing may occur even with very little exposure in predisposed individuals. Weakness and tingling sensation in the extremities are also common symptoms observed in occupationally exposed individuals. These symptoms occur usually upon exposure to the organophosphate and carbamate pesticides.

Skin irritation, allergic reaction, and other skin ailments occur when there is direct contact with the pesticide. Fungicides and certain herbicides like paraquat are the more likely culprits although most other pesticides can cause ailments.

Eye irritation and blurring of vision more commonly occur with organophosphates and carbamates. These are usually transient in nature but in certain instances, like with the triphenyltin compounds or paraquat, permanent damage to the eye leading to blindness may occur.

It is not only the acute or immediate effects that make pesticides dangerous. The adverse effects of pesticides may manifest only after months or years of exposure. These chronic or long-term effects may occur even with low levels of exposure. The weight of scientific evidence show that even low levels of exposure to pesticides can cause serious immune and metabolic disorders, neurologic effects, reproductive anomalies, cancer and other chronic diseases in animals and in humans. Death rates of people are higher in areas with high pesticide usage compared to those living in areas with low pesticide usage. The higher number of deaths is not only caused by a higher rate of acute pesticide poisoning but also by a higher rate of chronic debilitating diseases.

Recent studies have shown that certain pesticides can disrupt the human endocrine system, which includes the glands that control the release of hormones in our bodies. There are also pesticides that can actually "mimic" hormones found in the human body. Such pesticides are commonly found in several countries of the South. In the Philippines, for example, countrywide surveys reveal that pesticide residues of these "hormone mimickers", some of which are already "banned" in developed countries, are found in a wide range of vegetables and fruits. One such pesticide found in food is endosulfan. This pesticide belongs to a chemical group called "organochlorines". Such chemicals can "mimic" the hormones in our bodies and

have been associated with higher incidences of breast cancer, testicular and prostate cancer, reduction in male fertility, and defects in male sex organs.

One of the more serious long term effects of pesticides on people's health is cancer. Several pesticides are already known to cause cancer in humans. Others may not have direct evidence of causation but have shown to be associated with increased cancer incidence. Many others have been shown to cause cancer in animals but evidence of causation in humans is non-conclusive or lacking. Many more have not been shown to cause cancer, mainly because they have not been studied well. Many pesticides exhibit similarities in chemical structure and actions as other chemicals previously shown to cause cancer. Many other indirect evidences, for example, steroid-like effects, production of by-products indicating cellular damage, and disruption of intercellular communication point to the carcinogenic effects of pesticides. Indication of genetic damage, like mutations and chromosomal aberrations, as well as embryotoxicity and immunotoxicity, are also commonly associated with exposure to pesticides. Practically all pesticides are potentially cancer producing or at least cancer promoting. Even the so-called "Green Label" pesticides are potentially cancer-producing.

Many of these pesticides being "poured" into this planet by the pesticide industry consist of pollutants that resist physical, biological, and chemical degradation. They are called "persistent organic pollutants". They accumulate as they are taken up in the food chain and their concentrations are increased tremendously in certain tissues, like the liver. Their chemical characteristics enable them to move long distances through the atmosphere and are deposited even in areas very far away from the actual area of application. Thus, even the arctic seas are contaminated with these "persistent organic pollutants". Examples of these "persistent organic pollutants" are DDT, endrin, lindane, endosulfan, and many other organochlorines.

Pesticides contaminate the environment in many ways. Widespread application of pesticides leads to drifting and contamination of land and waterways adjacent to target fields. Pesticide residues in soil contaminate crops subsequently grown on the same land. Pesticides in contaminated crops used as animal feeds eventually are found in meat and dairy products. Pesticides in the soil eventually also contaminate ground water, which is a source of drinking water.

A consequence of environmental contamination is the widespread killing of non-target organisms, including wildlife, cattle, birds, fish, bees, and pest's natural enemies. This leads to loss of biodiversity and upsets the delicate balance in various ecosystems in various areas. This is made worse by the vicious cycle of pesticide-resistance. Eventually, pesticides become ineffective because of the inevitable emergence of resistant pests and crop losses ensue. This leads to the creation of new and more toxic pesticides which again eventually become ineffective because resistance will again emerge. The effect of this vicious cycle is the increasing number and amount of highly toxic pesticides in our environment leading in turn to greater loss of biodiversity and increased exposure risks to people.

### **Information on pesticide levels in the environment, in food, or in people:**

In 2006, a study done by the Department of Health, National Poison Control Center and the Philippine Society of Clinical and Occupational Toxicology to assess the health and environmental effects of pesticides in the village of Kamukhaan, Davao del Sur, Philippines, revealed that blood ETU (ethylene thiourea), a biomarker for the fungicide Mancozeb, were elevated in 34.3% of the residents. Blood RBC cholinesterase levels, a biomarker for exposure to organophosphate and carbamate pesticides, were abnormal in 57.1% of the sampled residents.

In 2007, a study done by IDIS, Ateneo de Davao University, Bureau of Plant Industry Davao, and PAN Philippines entitled "Pesticide Monitoring in Selected Surface and Ground waters of Panigan-Tamugan and Talomo-Lipadas Watersheds in Davao City" showed that :

- Eight of the 10 water stations monitored were positive for pesticide residue at least once during the monitoring period and usually when there is rain.
- Pesticides were commonly detected in Stations 5, 6, 7, and 9.
- Except at the control stations, all sampling stations are near to either banana or pineapple plantations that are known to use lots of pesticides.
- There were only 2 occasions where not even one pesticide was detected.

- A total of thirteen 13 pesticides were detected, seven (7) of which were detected from sediments and six (6) from water.
- Seven (7) banned organochlorine pesticides were also detected namely; 4,4 DDT, endosulfan II, endrin ketone, dieldrin, heptachlor, and gamma chlordane, all from the sediment samples except heptachlor which was detected from water.

### **Existing pesticide legislation in your country:**

Presidential Decree No. 1144, the law that created the Fertilizer and Pesticide Authority of the Philippines, provides the regulatory framework within which the government exercises control over pesticide. The law states that:

- *“No pesticide x x x shall be exported, imported, manufactured, formulated, stored, distributed, sold or offered for sale, transported, delivered for transportation or used unless it has been duly registered with the FPA x x x”*
- *“No person shall engage in the business of exporting, importing, manufacturing, formulating, distributing, supplying, repacking, storing, commercially applying, selling, marketing of any pesticide x x x except under a license issued by the FPA”.*

Registration is required "To ensure that pesticide products meet the prescribed standards before they are imported, manufactured, formulated, distributed and sold in the country".

Registration standards are set by the FPA and cover the following aspects:

- Quality and suitability of the active ingredients and the formulated products
- Bioefficacy
- Safety to handlers
- Safety to consumers
- Safety to the environment
- Handling, packaging, labeling and disposal

Pesticide regulation is under the Department of Agriculture which is production oriented and not health or environmental protection oriented. Nevertheless, it is the responsibility of the government, through the Department of Health and the Department of Environment, to ensure that health and environment are not compromised in the use of pesticides for agricultural production.

### **Use of IPM and ecological agriculture:**

In May 3, 1993, former President Fidel V. Ramos issued Memorandum Order No. 126 implementing Kasaganaan ng Sakahan at Kalikasan (KASAKALIKASAN), the National Integrated Pest Management Program. KASAKALIKASAN purportedly aimed at making IPM the standard approach to crop husbandry and pest management in rice, corn and vegetable production in the country. KASAKALIKASAN claimed to have trained almost 200,000 farmers in more than 6,000 season-long Farmer Field Schools in sixty-eight provinces and three cities nation-wide. At the field level, the Program claimed to have a training force of some 2,650 IPM trainers from local government units and non-government organisations. A two-year study on the evolution of practices among IPM Farmer Field School (FFS) graduates conducted by SEARCA, the Institute of Policy Studies of the University of the Philippines at Los Banos and the FAO concluded that:

1. Total variable costs incurred by FFS farmers are significantly lower than non-FFS farmers due to technical and allocative efficiencies resulting from training. Average cost savings per hectare were estimated at Ps. 500 per season.
2. FFS farmers have more knowledge of nutrient and pesticide management; had more positive attitudes with respect the use of certified seed, water management, organic fertiliser and farm safety.

Very recently, the Philippine government promulgated the Republic Act 10068 or the "Organic Agriculture Act of 2010" meant for the development and promotion of organic agriculture in the country. The RA 10068, signed into law by President Gloria Macapagal-

Arroyo earlier in April, 2010, stipulates that it is a state policy to promote, propagate, and further develop the practice of organic farming in the Philippines. The new law establishes a comprehensive National Organic Agricultural Program (NOAP) which will promote, commercialize and cultivate organic farming methods through farmers' and consumers' education. The program will be carried by the by NOAB, a policy- making body that will provide the direction and general guidelines for the implementation of the national program. The NOAB will also identify funding sources to expand organic agriculture, monitor and evaluate the performance of programs for appropriate incentives. It will also promulgate rules and regulations and exercise other necessary powers and functions to effectively carry out the objectives of RA 10068.

### **Conditions of work:**

Over the last two-three decades pesticide use in the Philippines, especially in plantation areas. The three important crops using pesticides in the Philippines are vegetables, banana and rice. While the total use of pesticides in rice is the largest (due to a large area under rice production) pesticides are most intensively used in banana plantations and vegetable crops. Pesticide usage patterns in the Philippines show that insecticides are the most commonly used group. Although there has been an increase in the number of practitioners of ecological agriculture and some growers are changing to less toxic pesticides, the large majority are still using highly hazardous pesticides. Most of the users are not knowledgeable about conditions of exposure and the toxic effects of pesticides. In most cases, applicators do not wear protective clothing or equipment, especially under conditions of use in the rural areas where educational level and safety awareness are very low. In banana plantation areas, aerial spraying of pesticides results in exacerbate exposure to pesticides of workers and of nearby communities. Poor occupational safety conditions are common, especially in plantations where workers are not unionized.

### **Project Outcomes:**

#### **Description of the activity conducted to reduce the threat posed by highly hazardous pesticides and advance this SAICM aim.**

##### **1. Social Preparation and Community Organizing**

At the beginning of implementation of the project, community organizers of CAUSE-DS visited target villages to conduct consultations and investigations within the communities involved and affected. Earlier information gathered regarding demographic profile, methods of farming and use of chemicals and alternative practices for pest control were validated. Most of the farmers are dependent on the use of chemicals in controlling pests in the rice field.

##### **2. Forum**

There were 50 participants who attended the forum. Many of them shared their experiences how they were exposed to the pesticides that they were using in their respective rice fields. The participants also raised questions in relation to the diseases that they may acquire due to their exposure to the chemicals. There were positive responses coming from the participants on the suggestion that further steps should be taken on how to minimize or stop using highly hazardous pesticides in their respective rice fields.



##### **3. Film Showing**

Fifty participants attended the film showing activity which showed the film entitled "LASON", meaning "poison". The film portrayed their neighboring communities in Sitio Kamukhaan, Aplaya, Hagonoy, Davao del Sur which were gravely affected by highly hazardous

pesticides used by the adjacent banana plantation. From the participants feedback, it was realized that the portrayed community was very much adversely affected and they too would be affected if they use and are directly exposed to pesticides.



### **Impact on target groups:**

The two target villages, namely Sinayawan, Hagonoy, Davao del Sur and Igpit, Digos City were covered and one organizing group in each village composed of 7 members were set-up by CAUSE-DS. These community organizers are tasked to undertake follow-up visits, data gathering, information dissemination and conduct other community activities regarding the adverse health and environmental effects of highly hazardous pesticides. The groups have formally built core groups in the community, elected officers and have made specific plans and actions regarding community pesticide monitoring and public awareness campaign on highly hazardous pesticides.

### **Impact on target policies:**

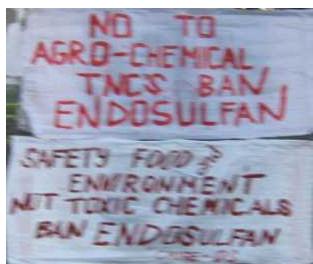
The target policy changes are: a ban on aerial spraying of pesticides in banana plantations, ban or restriction of highly hazardous pesticides of concern in the community, and promotion and support for chemical-free ecological agriculture.

### **Outreach to stakeholders:**

The stakeholders involved were mainly the farmers. Other community members, especially the women, local village officials and sectoral partners of the NGO CAUSE-DS were also involved. Yes, the relationships with various stakeholders are being cultivated and follow-up meetings and consultations are included in the community organizing plans.

### **Deliverables, outputs and/or products:**

One hundred thirty five pieces of magazine type material titled "Hilo sa Komunidad" (Poison in the community) have been distributed in the communities and in the series of community meetings. This helps them in understanding the effects of pesticides through examples in the magazine and since it is in the local dialect, the community members can easily comprehend the ideas presented in the said publication. CAUSE-DS has also distributed 40 pieces of video compact discs titled "LASON" (Poison). One hundred pieces of streamers were hung in different populated places which can be seen by many passersby. The streamers carried many slogans such as "No to Agro-chemicals, No to Pesticides" and others.



### **Communication Efforts:**

CAUSE-DS conducted radio hopping in the local radio stations in Davao del Sur. The radio stations who acceded to the requests were "Radyo Ukay" and "Charm Radio". CAUSE-

DS also sent press statements twice thru email in the tri-media (print, radio and tv). In addition, a farmer leader was interviewed by the media from GMA TV Station in Davao City and the farmer was able to articulate their experiences regarding the adverse health and environment effects of chemical use in their communities and the failure of improvement in their economic conditions despite decades of chemical farming.



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**NGO Recommendations for next steps:**

1. Finish household survey on health and pesticides in Sinayawan village.
2. Conduct a similar household survey in Igpit village.
3. Continue public awareness campaign and media advocacy after collation and analysis of household survey in both villages is finished.
4. Continue advocacy and lobbying at the local and national government levels using results of household survey and other relevant information gathered.
5. Conduct additional Community Pesticide Action Monitoring (CPAM) for community organizers and CAUSE-DS members.