



Swiss Agency for
Development
and Cooperation
SDC



Swiss Agency for
the Environment,
Forests and
Landscape SAEFL

International POPs Elimination Project

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

Overview of the POPs Pesticide Situation in Malaysia

Revathi Ramachandran and Jennifer Mourin
Pesticide Action Network Asia and the Pacific (PAN AP)
P.O. Box: 1170, 10850, Penang, Malaysia
e-mail: panap@panap.net

Malaysia
March 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 Kapor 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

Overview of the POPs Pesticide Situation in Malaysia

What are POPs?

Persistent organic pollutants (POPs) are organic compounds that have long half-lives in the environment and undergo slow physical, chemical, and biological degradation. They are able to pass through ecosystems and can travel great distances, both locally and globally. Examples of POPs pesticides are aldrin, chlordane, DDT, dieldrin, endrin, mirex, heptachlor, HCA and toxaphene. There is also a growing concern over the effects of endosulfan. All of them are organochlorine (OC) compounds used mainly as insecticides.

POPs persist for a very long time in the environment. POPs tend to have high lipid solubility and therefore bioaccumulate in the fatty tissues of living organisms. They too have long half-lives in the body and can be measured several months to several years after exposure. These characteristics mean that they can pose a special threat to the environment and human health. They pose a special risk to human health and the environment. Sometimes, they mimic the function of steroid compounds such as hormones potentially leading to disruption of the endocrine system (IFCS, 1996). Human exposures to POPs occur via diet, occupation, accidents and the indoor environment, particularly in countries where POPs are used in tropical agriculture.

Sources of POPs

In Malaysia, organochlorine insecticides listed as POPs have either never been registered or have been deregistered by the Pesticides Board. Aldrin, chlordane, dieldrin, and DDT were all restricted in usage, but after 1998, their use has been discontinued. The use of lindane was discontinued after January 2000. Endrin, heptachlor, hexachlorobenzene, mirex, toxaphene and chlordecone (kepone) were never registered for use in the country. Even though the usage of most POPs-listed organochlorine insecticides is prohibited, a number of studies on rivers and sediments throughout Malaysia have demonstrated that most of these compounds are present in the aquatic environment (Lee et al, 2003). In most of these studies, the sources of the contamination are not known.

In a separate study to determine the source of contamination, it was found that agricultural areas for rice paddy and vegetable cultivation are the main sources of environmental contamination by most organochlorine insecticides in Malaysia. It appears that the types of insecticide contamination are influenced by the types of agriculture. The residue levels of most organochlorine insecticides are very much higher in said agricultural areas than the levels in river water or sediments from areas that were not involved in paddy or vegetable farming (Lee et al, 2003). Other sources of POPs pesticides contamination could exist, such as those coming from vector control and public health, household insecticides (for example Mirex found in contraband mosquito coils sold at night markets) and structural pest management (office buildings, hotels etc). However, these studies have either not been conducted or are not available, contributing

to large gaps in identifying the actual source of POPs contamination other than in agricultural areas. As well, the Pesticide Board conceded that DDT was used for vector control in the indigenous communities in the Cameron Highlands and residues found are most probably related to the public health use of the insecticide. Hence, monitoring of clean-up measures would not necessarily fall under the Pesticides Board/Ministry of Agriculture purview, necessitating actions from the Department of Environment (DOE) or Department of Health (DOH).

Levels of POPs

Currently, there exist some specific studies carried out by academic institutions to determine levels of POPs in the aquatic environment and breast milk. Via interviews conducted by PAN AP with individuals in some agencies noted below, these officials claimed that studies on pesticides had been conducted by the various government institutions. These included: the Pesticides Board, Department of Agriculture, Health Ministry and the Malaysian Agriculture Research and Development Institute. With respect to specific POPs pesticides, PAN AP's interviews with representatives revealed that research work is being conducted both privately and in collaboration between local universities. These include: USM/Science University of Malaysia (National Poison Control Centre, Doping Control Centre and School of Chemical Sciences), UKM/National University of Malaysia (LESTARI, School of Chemical Sciences & Food Technology), UM/University Malaysia (Department of Pharmacology). However, the findings of these researches are not published and are not made available to the public, contributing towards the scarcity of information at both government and non-governmental level about the actual sources and corresponding levels of POPs in Malaysia.

Some of the problems faced by the government task team focusing on POP pesticides included difficulties in obtaining data on usage of unregistered, banned and smuggled pesticides; and user attitudes and awareness of pesticide risks. The Malaysian Pesticide Board has a system of monitoring of the four pesticides (aldrin, chlordane, dieldrin, and DDT) that have been deregistered. The remaining five pesticides are not included in the monitoring system as they have never been registered for use in the country.

In order to find out more in-depth information, problems and recommendations pertaining to the POPs pesticide policy and research for this report, PAN AP sent out questionnaires (see Annex 1 and 3) to various academic, research and governmental institutions. The attempt to gather more information over the course of 4 months was not successful because no responses were obtained from any of the institutions mentioned above, even after several attempts to contact representatives.

However, PAN AP's own literature review and internet research uncovered a study by Agus et al. (2004) that showed that residue levels of organochlorines (OCs), particularly DDT in breast milk, were higher in developing and former Soviet countries, including Malaysia, than those in developed countries. It indicates that the usage of DDT was, until very recently, used for both agricultural and human health purposes. In addition,

chlordan compounds were also highest among Asian developing countries such as Malaysia, suggesting that existing sources of pollution by these persistent OC pesticides are found widely in the general population of Malaysia.

Damage caused by POPs

General damage caused to humans and other species by POPs is well-documented and includes an acknowledged (ever-growing) list of effects. There are many examples of far-reaching consequences of POPs, such as endocrine disruption, reproductive and developmental damage, neurotoxicity, increased morbidity rates, and others. In Malaysia at present, no data about damage caused by POPs (neither official nor non-official) is available for public viewing. The information gap could be attributable to two factors. First, the general population was unaware of the existence of POPs until only a few years ago. Secondly, because of the multiple exposures and multiple characteristics of pesticides, the range of diseases caused by pesticides is difficult to diagnose. This is why it is important to study the relationship between pesticide use (especially organochlorine pesticides) and public health in the country. Doctors should be sensitized to the acute as well as chronic effects of pesticide poisoning in order to be able to accurately diagnose the incidents.

The Consumers' Association of Penang (CAP) has reported that the cancer rates in the country have been increasing steadily over the years. The report shows that Malaysians have among the highest rates of nasopharyngeal, laryngeal and cervical cancers in the world (CAP, 2005). This situation could also be connected to the damages contributed by the accumulative past exposure of citizens to POPs pesticides.

Laws currently regulating POPs pesticides

Pesticides Act, 1974 -The Pesticides Act is designed in order to ensure the registration of pesticides before these are marketed in Malaysia. The active substances in the pesticides have to be evaluated according to an environmental assessment, health assessment and efficacy specifications. A pesticide registration has to be renewed every three years and new scientific knowledge and/or strengthened criteria can result in a refusal, i.e. deregistration.

Environmental Quality Act 1974 – Environmental Quality (Scheduled Wastes) Regulations 1989- This act regulates the responsibilities and procedures related to storage, handling, transport and disposal of scheduled hazardous wastes. The act also states that scheduled waste can be stored, recovered or treated within the premises of the waste generator, but cannot be incinerated or disposed. Proper labeling, containers and storage areas as well as prohibition of storage of incompatible waste are also required by law.

State of Stockholm convention ratification and the national implementation plan (NIP)

Malaysia is one of twelve countries selected to participate in a GEF/UNEP-funded project on the “Development of National Implementation Plans (NIP) for the Management of Persistent Organic Pollutants (POPs) in Malaysia”. The overall objective

of this project is to assist Malaysia in preparing a NIP for the management of POPs and to identify actions at the national level to control, minimize, and finally eliminate POPs.

The Department of Environment (DOE) (under Ministry of Natural Resources and Environment) is the main focal point to coordinate and prepare the National Implementation Plan (NIP) that Malaysia is responsible for submitting to the COP within two years of the date on which the Stockholm Convention enters into force (by 17 May, 2006) (UNEP/World Bank, 2003). The department has also formed a National Coordinating Committee (NCC) to coordinate project implementation followed by the creation of six task teams to address the following components of the NIP:

- Development of National Profile and Assessment of POPs Management Infrastructure
- POPs Pesticide Production and Use Assessment
- Polychlorinated Biphenyls Assessment
- Unintentionally Produced Chemicals Assessment
- Socio-economic Analysis of POPs Use
- Awareness Raising on POPs

Based on the UNEP Semi-Annual Progress Report (Report 6, covering 3 months: 1 July 2003 – 31 December 2003) for the GEF/UNEP project, the project implementation in Malaysia appears to be at least 5 months behind schedule. Only Step 1 (Determination of coordinating mechanisms and organization of process) has been completed. Dr. Krisztina Kiss (UNEP Chemicals, Project Manager, noted on Mar. 8, 2004 that the immediate “target is to bring Malaysia in Step 2” (Establishment of a POPs inventory and assessment of national infrastructure and capacity) (GEF/UNEP, 2003). Originally it was expected that Malaysia, by the end of July 2004, would have completed up to Step 3 (Priority setting and determination of objectives) and be in the process of completing Step 4 (Formulation of a prioritised National Implementation Plan and specific Action Plans on POPs with cost estimates). The progress report states that one area in which Malaysia needs to improve is in strengthening the involvement of civil society, NGO, women groups’ in the development of the NIP.

On May 2005, the second NCC and multi-stakeholders workshop on development of NIP for the management of POPs was held. The objective of this meeting was to present the Draft NIP as well as to get endorsement from the NCC and multi-stakeholders for the management of POPs in the country.

Recent information obtained from the Pesticide Board via telephone in April this year confirms that the DOE has finalized the NIP and the complete report is due to be submitted to UNEP soon.

NGOs and POPs

There are a number of different non-governmental organisations in Malaysia that work on environmental issues. Several years ago there were practically no NGOs working on POPs issues, but now there are several.

The Centre for Environmental Technologies and the MENGO Support Unit, as part of their activities for the Awareness Raising on POPs Task Team for the Malaysian NIP (National Implementation Plan), has suggested activities. These include media outreach and coverage on POPs (e.g. articles and advertisements), training, modules, courses, conferences / seminars / workshops / talks / dialogues / roundtables and many more. The current focus of the MENGO Support Unit is on PCBs, while pesticides are not given much attention owing to the fact that all nine POPs pesticides list by the Stockholm Convention are not in use in the country anymore or were never allowed in the first place. However, PAN AP has highlighted concerns over residue and persistency problems, and also the importance of having monitoring mechanisms of new POPs pesticides. These concerns were communicated not only to the government institutions but also to local NGOs such as MENGO.

In terms of advocacy on POPs pesticides, only PAN AP has been actively involved, as pesticides are the basis of the organisation's core programme. PAN AP's involvement is not exclusively at the Malaysian level but predominantly at the regional and international levels. PAN AP has also noted that while POPs-related pesticide issues have been on occasion raised by organisations such as CAP, these are not their main focus. PAN AP was not able to obtain information about the specific involvement of the NGOs in MENGO's 'POPs team' due to lack of responses from said organisations. Questionnaires (see Annex 2) were sent out to all these organisations to obtain more information pertaining to the issue of POPs pesticides, but only one response was obtained. This exercise was also part of PAN AP's plan to disseminate more information on POPs pesticides to the groups, and follow up with them on the progress of the proposed activities.

Before the IPEP project began, PAN AP was not as much involved in the issues and progress of the NIP as well as the action plans pertaining to the ratification of the Stockholm Convention in the country. We were also not as aware of the multi-stakeholders involved in the NIP for the country. Upon undertaking the IPEP project, we have been able to focus more keenly in the issues pertaining to POPs in Malaysia. The project has also helped us identify the gaps and understand the critical things needed for monitoring POPs. The project also managed to highlight some general problems faced when doing research at the national level. The two prominent problems that surfaced during the research process were lack of information and also difficulties in retrieving information from research people. All the new contacts made throughout the project period will be useful for PAN AP in the future should we need their cooperation to work on issues pertaining to POPs pesticides in Malaysia.

The level of awareness among Malaysian society is absolutely unsatisfactory. The main reason is the insufficient level of information dissemination to address the problems of POPs pesticides. The Malaysian mass media does practically nothing to present the information on problems related to chemical pollution and poisoning related to POPs. This could be due to the fact that official feedback on the currently listed POPs pesticides states that they were either never registered for use (e.g. heptachlor, hexachlorobenzene,

mirex, toxaphene, chlordecone and endrin) or have been banned (lindane), and are therefore not an issue.

Many NGOs simply do not have the resources or the human-power / capacity to work consistently and in-depth on POPs pesticide issues. More funds and resources should be obtained from the government to carry out research and documentation pertaining to, for example, POPs pesticide contamination ‘hotspots’ in the country. From our point of view, we see this as an opportunity for the NGOs in Malaysia to play a crucial role in helping to assess the POPs problem at a local level, in order to hold consultations on possible solutions. Local knowledge is vital as the groups and communities are often more aware of the local situation and are in the unique position to be able to provide the authorities with information. This would, in return, help to widely distribute information about POPs and the Stockholm Convention among the local population, an activity which local authorities do not normally organise.

For the activists from NGOs working on anti-toxic issues, it has also been noted that the authority’s and academe’s/scientific fraternity’s attitude toward NGOs is often far from ideal. This may be one of the reasons why many Malaysian environmental NGOs prefer to focus on very general issues, like environmental education or sustainable development. Thus avoiding working on environmental problems that may lead to a conflict with the authorities, private research establishments and the pesticide industry.

Current level of NGO communication and coordination (nationally, regionally, and internationally) on POPs

The general level of communication and co-ordination of NGOs in Malaysia can only be considered as inadequate. The quantity of information about POPs produced and disseminated by NGOs before the government’s signing on to the Convention and the course of the IPEP project, was insufficient. Local NGOs, such as CAP and PAN AP have produced leaflets about POPs. In our role as a regional organization working on pesticide issues, PAN AP has produced a number of information materials about POPs, and specifically the pesticide endosulfan. These were disseminated among authorities, educational institutions, NGOs and local citizens.

Internationally, PAN AP has been very active within the International POPs Elimination Network (IPEN), and actively attends and provides input in meetings related to the Stockholm Convention. Strategically, there is a focus on the pesticide endosulfan, which many environmental scientists, health personnel’s and people’s organisation have strongly argued and put forward recommendations that endosulfan has POPs characteristics based on their research, and also poisoning incidents that have impacted their community. The campaign, which began regionally, is being expanded to other regions. PAN AP has produced many related papers, posters and other materials for distribution. PAN AP had been in contact with the Malaysian Pesticides Board regarding endosulfan, and was very supportive of their decision to ban it in 2005.

Currently, PAN AP also has an electronic version of a bi-monthly newsletter called Pesticide Monitor that covers chemical safety and pesticides issues, including POPs. It is

distributed via internet among a wide range of subscribers, including environmental NGOs, government officials, scientists, educational institutions and the wider media.

Efforts to deal with POPs

At present, the Malaysian Pesticide Board is conducting a monitoring process of the four POPs pesticides that were deregistered. As for the registration of new pesticides, the Board has an embedded policy that looks into some important criteria such as the environmental fate of the pesticide and toxicological aspects of it. Under the criteria of environmental fate, aspects such as the persistency, mobility, bioaccumulation and leaching capacity of the pesticides are assessed and monitored. A pesticide that shows any of these criteria is immediately barred from registration for use in the country. The Pesticide Boards should be applauded for their sensitivity and vigilance in incorporating policies as above because these criteria are deemed suitable to monitor any new POPs entering the country as well. This is because all four characteristics tested under the environmental fate protocol are undeniably the most prominent characteristics of POPs pesticides. Through this embedded policy, there is some level of assurance that it will be difficult for newer POPs to penetrate into the country for use in any sector.

Levels of POPs pesticides in agricultural locations are not measured regularly despite having studies showing that these areas are implicated and contribute to concerns over POPs contamination. During a telephone interview conducted by PAN AP with the members of the Pesticide Board, the recommendation that POPs pesticide residue hotspot should be monitored was welcomed by the Board. Unfortunately they are currently working under a very limited fund and have limited capacity to conduct monitoring of the pesticide residue. The Pesticide Board welcomed PAN AP's recommendation at the second NIP meeting to help them build their research and capacity to assess the current recommendation. Their current focus only involves the four pesticides that have been prohibited and their scope of elimination does not include clean up measures of the hotspot and also pesticides residue.

Environmentally hazardous substance (EHS) project

Current efforts undertaken by the government on the issue of POPs and other chemical substances in the country include the Environmentally Hazardous Substance (EHS) project. The EHS project is a component of the Malaysian-Danish Environmental Cooperation Programme (ECP). The programme is designed to strengthen a selected number of line ministries in their capacity to integrate environmental issues as a cross-cutting theme to be addressed in national and sector development planning. Specific implementation strategies include:

- Formulation of policies, strategies and action plans for the management of EHS and chemicals
- Creation of a National register for all chemicals
- Capacity building and infrastructure enhancement
- Education and public awareness programmes
- Monitoring and evaluation of certain specific hazardous chemicals especially POPs
- Review and revision of regulatory framework

This programme can be used in the near future by local NGOs as an opportunity to push the government to focus on monitoring and evaluation of POPs pesticides and residues, once the project is implemented.

Public awareness activities

There have been suggestions of organizing various public awareness activities on POPs in Malaysia. As mentioned earlier, these activities focus more on PCBs and current available information on pesticides provided by PAN AP. At the time of writing we can say that practically all activities on raising public awareness on POPs in Malaysia are being conducted by environmental NGOs. Unfortunately, as only a small number of groups are dealing with the issue, the effectiveness of their activities is not as high as they would wish. However, their efforts do highlight the chronic lack of state level information on POPs pesticides in the country.

Recommendations on eliminating POPs

The recommendations listed below are recommendations of PAN AP. Efforts to obtain recommendations from governmental and non-governmental institutions through the feedback from the questionnaires were not successful due to lack of response.

- More discussion and planning must be established for identification of hotspots and clean up measures for POPs pesticides and their residues, such as DDT and heptachlor, as well as endosulfan, which PAN AP has argued should be a new candidate on the POPs Convention list.
- Measures for identification and mechanisms to deal with submissions of new POPs pesticides should be included as one of the prioritized strategies for Malaysia's NIP implementation. Corresponding activities for this suggestion include multi-stakeholder dialogues, baseline studies and additional research.
- More funds should be allocated for the Malaysian Pesticide Board in order for them to do more research and build staff capacity to undertake monitoring of the pesticide residue and also work towards clean up of the hotspots.
- Existing centres such as USM/Science University of Malaysia's Poison Control Centre (PCC) and Doping Control Centre (with database) could assist as the custodian in the development of a clearing-house mechanism on POPs.
- The Malaysian Environmental NGOs (MENGO) should assist the government in preparation of outputs for GEF/UNEP Project on POPs. The national outputs include:
 - I. National POPs inventories
 - II. Reports on human health and environmental concerns related to POPs
 - III. Assessment reports of national POPs management infrastructure
 - IV. Lists of prioritization criteria and objectives with regard to priority POPs management.

- Creation of an effective system of accounting and control of import and application of pesticides by means of strengthening of legal and normative basis such as:
 - I. Review of registration status
 - II. Market sampling
 - III. Environmental monitoring
 - IV. Monitoring of poisoning cases
 - V. Implementation of enforcement activities such as "Introduction of Pesticide Risk Reduction Activities"
 - VI. Implementation of Non-regulatory activities such as Education and training; Vegetable farm certification scheme; Promotion of Integrated Pest Management (IPM); and Role of industry

- Creation of a special fund for support of Research and Development to study influence of POPs pesticides and residues on the environment and public health.

- Inclusion of POPs issues in university curricula (specialisation in medical sciences, chemistry, and environmental sciences).

Alternatives to POPs

Alternatives to POPs include the promotion and support of ecological (organic) agriculture and implantation of IPM method of farming. Subsidies and capacity building support should be given to farmers to switch to sustainable/organic agriculture, and the government should also help to build infrastructure for markets for sustainable/organic agriculture in Malaysia.

New POPs

There is very little data available about the situation in Malaysia about other dangerous chemicals. Discussions from the last NIP meeting in Malaysia show that some universities are interested in doing research on more of the newer POPs being developed, such as fire retardant chemicals. The lack of response from the questionnaire poses a great obstacle in acquiring more details on the newer POPs in the country. PAN AP feels that it is important that several chemical substances in Malaysia be given priority, in the framework of adding them as new POPs in the Stockholm Convention. The chemicals include endosulfan, and even hexachlorocyclohexane (Lindane) which was not registered for use in Malaysia, but could be entering the country illegally. The issue of smuggled and illegal trade of pesticides is a problem noted by officials. And even if banned by the Malaysian government in 2005, endosulfan residues will still pose a problem to human health and the environment in the country.

Resources on POPs

As the work on POPs only began fairly recently, there is a chronic shortage of resources on POPs in Malaysia. Currently no national website and database exists on POPs. Local universities obtain information from international websites and journals on researches pertaining to POPs. Some research publications are available via the Internet but not all. Local researchers should contribute and compile all already existing information on the

status of POPs in Malaysia into a database and make the information accessible to all government and non-governmental institutions.

References

Agus Sudaryanto, Tatsuya Kunisue, Hisato Iwata, Shinsuke Tanabe, Mami Niida, Hatijah Hashim (2004) Dioxins, PCBs and Organochlorine Pesticides in Human Breast Milk from Malaysia, Human Levels and Trends: Organohalogen Compounds, Vol. 66, 2767-2772

Consumers' Association of Penang (2005) Malaysia Country Situation Report

IFCS, 1996

Interim Guidance for Developing a National Implementation Plan for the Stockholm Convention, UNEP/World Bank, revised December 2003

GEF/UNEP- 12 Pilot Countries' Project for the Development of National Implementation Plans for the Management of Persistent Organic Pollutants", UNEP Semi-Annual Progress Report (Report 6, covering 3 months: 1 July 2003 – 31 December 2003), p. 3

Lee Yook Heng, Zuriati Zakaria, Pauzi Abdullah, Rosita Osman and Laily Din (2003) The Environmental Contamination by Organochlorine Insecticides of Some Agricultural Areas in Malaysia, Malaysian Journal of Chemistry, Vol. 5, No. 1, 078 - 085

Annex 1

Questionnaire for lecturers and researchers

- Please specify whether your POPs pesticide related researches are conducted on an independent consultancy basis, and/or research topics are for undergraduate and postgraduate students.
- What are the criteria taken into consideration when considering the topic/research scope for POPs pesticide related studies?
- Where do the funds to conduct the research on your POPs pesticide related project come from (university funds, small grants, MOSTE funds etc)?
- After a specific research, are there usually any follow up or inputs of results shared with the Pesticide Board or other related government agency?
- Are there any expected output/plans after completion of each project?
- Are there any problems/constraints pertaining to the POPs pesticide research (funds, lack of interest etc)?
- Do you have any other suggestions/ critique pertaining to the advancement of POPs pesticides related research?
- Do you expect more researches pertaining to POPs pesticides in the next 5 years?
- What do you think are the critical areas pertaining to POPs pesticides that should be looked into? Please explain why these areas are critical.
- What do you think are the best alternatives to POPs pesticide?
- Where do you usually obtain necessary information pertaining to POPs pesticide? Do you think we have a sufficient database/ information network on POP pesticide in Malaysia?
- What are your difficulties or challenges faced when trying to obtain accurate data on POPs pesticide in Malaysia?
- Do you think that the current level of co-operation between the government sector, University researchers and NGOs in Malaysia might be able to counter the problems related to POPs pesticide in Malaysia? Is there any co-operation at all between these 3 sectors?
- Should there be more active involvement among the government and or NGOs in this issue?
- How should the pesticide poisoning report be collated and organised in order to have an effective monitoring mechanism in the country?
- What are the effective clearinghouse mechanisms of the POPs pesticide related work?
- Please state other suggestions/comments

Annex 2

Questionnaire for Malaysian Environmental NGOs (MENGO)

- Please specify the main focus of your organisation in areas related to Persistent Organic Pollutants POPs (example: incinerator/PCB etc).
- What is your organisation's extent of involvement with issues pertaining to POPs pesticide?
- Please give reasons for involvement/ non involvement under the POPs pesticide project.
- What do you think is the level of POPs pesticide related problems in Malaysia (very serious, in control, no problems and/or worries)?
- Please specify your references for obtaining information on POPs pesticides.
- Please give your organisation's recommendation for the elimination of POPs pesticide.
- Please specify your organisation's level of information on POPs pesticide as well as corresponding measures, planned and ongoing activities pertaining to it.
- What is the current level of communication and co-ordination (national, regional, international) on issues pertaining to the POPs pesticide?
- Has there been any prior information on POPs pesticide that was produced and disseminated by your organisation before the International POPs Elimination Project (IPEP) began?
- Please list the public awareness activity undertaken by your organisation in relation to the POPs pesticide.
- What were the obstacles faced during the commission of the public awareness activity?
- Please give suggestions to help with the monitoring on the new POPs pesticide.
- Please rate the effectiveness of the various information pathway listed below (most popular, popular, partially popular, least popular)
 - Radio programme
 - TV programme
 - Newspaper
 - Brochure/booklet/publication
 - Seminar/workshop/meetings
 - National environmental day
 - Essay writing competition
 - School curricular
 - Drama/songs/traditional dances
- Other suggestions/comments/ recommendations pertaining to eliminating POPs pesticide in Malaysia

Annex 3

Questionnaire for the POPs pesticide task team/Pesticide Board/Related government agencies

- Please specify the measures taken to overcome documentation problems of POPs in the country.
- Please specify about the role of the person in charge and the procedure on how monitoring is conducted on sales, use and trade names of POPs pesticide.
- What are the actions taken to introduce hotspots on food residue problems?
- What are the actions taken to counter new POPs pesticide?
- Please give more information on the status of new POPs pesticides.
- How do you think the NGOs and research institutions in this country help the government in monitoring for POPs in Malaysia?
- Do you think the current involvement of the NGOs and research institutions in helping to address the issue of POPs sufficient? Please state your reasons?
- Are there any plans to allocate more funds for research and development in POPs monitoring activity in Malaysia?
- Please give recommendations on eliminating POPs in Malaysia?