

*A regional approach to
the implementation of the Rotterdam
Convention*
(2007–2008)



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Convention*
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THE ASIA AND PACIFIC PLANT PROTECTION COMMISSION
and
FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
REGIONAL OFFICE FOR ASIA AND THE PACIFIC

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Foreword

FAO is committed to environmentally friendly agricultural production. In cooperation with its partners, the Organization has been working on developing tools and programmes to help countries manage pesticides more effectively and to move towards sustainable agriculture.

An international initiative to reduce risks associated with the use of pesticides focusing on Highly Toxic Pesticides (HTPs) is a direct contribution to various Millennium Development Goals (MDGs). Efforts to protect human health and the environment and to support the growth of healthy crops against the hazards of pesticides will enhance agricultural and environmental sustainability (MDG 7).

The Rotterdam Convention is one of many concrete examples of FAO's commitment to helping its partners, particularly developing countries, achieve sustainable agricultural production and address the challenging problems associated with pesticide use.

The first key objective of the Rotterdam Convention is to promote shared responsibility among its members in the international trade of hazardous chemicals – both pesticides and industrial chemicals. The second key objective is to contribute to the environmentally sound use of hazardous chemicals by facilitating information exchange among the parties concerned and by providing for a national decision-making process on their import and export.

As a first line of defence against hazardous chemicals, the Prior Informed Consent (PIC) procedure enables countries to monitor and control the trade in these chemicals. It provides an early warning system for countries on the potential danger of highly toxic pesticides by sharing information on national bans or severe restrictions, and information on human poisoning and environmental damage.

For the last few years, many countries in Asia and the Pacific have made significant efforts to improve their national infrastructure for the management of pesticides and chemicals. The Convention has played a crucial role in assisting governments in coping with this task.

The purpose of this publication is to present the experiences of various countries in this region in relation to the implementation of the Rotterdam Convention. The reports reflect the progress which has been made and the steps which remain to be undertaken to achieve the two key objectives of the Convention.

Hopefully, the experiences shared and gained here will help participating countries identify lessons to be learnt to effectively address the challenges of pesticide use and to avoid implementation pitfalls which consume time and are costly.



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List of abbreviations

| | |
|--------------|---|
| APPPC | The Asia and Pacific Plant Protection Commission |
| BC | Basel Convention |
| COP | Conference of Parties |
| CRC | Chemical Review Committee |
| DGD | Decision Guidance Document |
| DNA | Designated National Authority of the Rotterdam Convention |
| FAO | Food and Agriculture Organization of the United Nations |
| HHPs | Highly Hazardous Pesticides |
| HTPs | Highly Toxic Pesticides |
| IPCS | International Programme on Chemical Safety |
| MDGs | Millennium Development Goals |
| MEA | Multilateral Environmental Agreement |
| PIC | Prior Informed Consent Procedure |
| POP | Persistent Organic Pollutant |
| RC | Rotterdam Convention |
| SAICM | Strategic Approach to International Chemicals Management |
| SC | Stockholm Convention |
| SHPF | Severely Hazardous Pesticide Formulations |
| UNEP | United Nations Environment Programme |
| WCO | World Customs Organization |
| WHO | World Health Organization |

Regional approach to the implementation of the Rotterdam Convention

Pesticide management is an activity carried out within the overall framework of the Plant Protection Service of FAO. It is designed to encourage member countries to work together as partners to introduce sustainable and environmentally sound agricultural practices that reduce health and environmental risks associated with the use of pesticides.

The FAO Council, in November 2006, endorsed the Strategic Approach to International Chemicals Management (SAICM) and gave strong support to FAO's involvement in pesticide management under SAICM. The Council had indicated that the Code of Conduct was to be considered an important element of the SAICM process.

As an essential activity to reduce the risks of pesticide use, particularly in developing countries, the FAO Council had requested FAO to assist countries in progressively banning Highly Hazardous Pesticides (HHPs). This request was reiterated by FAO's Committee on Agriculture (COAG) which noted the importance of this fact as it showed a significant evolution of opinion by the agricultural sector on the issue of banning HHPs.

With respect to risk reduction of HHPs, a side-event was organized at the FAO Committee on Agriculture (COAG), in April 2007, which included presentations by various stakeholders and countries. Explicit support for the FAO initiative on HHPs was expressed by the European Union, among others.

An international initiative to reduce risks associated with the use of pesticides focusing on Highly Toxic Pesticides (HTPs) is a direct contribution to various Millennium Development Goals (MDGs). Efforts to protect human health and the environment and to support the growth of healthy crops against the hazards of pesticides will enhance agricultural and environmental sustainability (MDG 7).

The Rotterdam Convention provides an early warning system for countries on the potential danger of HTPs by sharing information on national bans or severe restrictions, and information on human poisoning and environmental damage. The Prior Informed Consent (PIC) procedure empowers countries to make their own informed decisions on the use and import of pesticides and prevents export of unwanted pesticides. The Convention assists countries to stop problems associated with HTPs before they emerge.

The environmental and health impact of pesticides is being reduced through the implementation of a number of concrete programmes on pesticide management. Noteworthy is the continuous growth of the Rotterdam Convention both in scope and number of Parties. For instance, the Convention had recently been formally included in the work of the Asia and Pacific Plant Protection Commission (APPPC).

Specific measures to reduce availability of HHPs had been reported since the last Session of the FAO Expert Panel for Pesticide Management, both by governments and by the pesticide industry. They include the plan by Cheminova, a major manufacturer of chemicals with focus on plant protection products, to phase out the production and sale of WHO class I pesticides in developing countries by 2010 as well as the prohibition of several WHO class I pesticides in China, Thailand and Viet Nam. As well, a number of developing countries such as China, Thailand and Viet Nam have recently banned the use of HTPs. In industrialized countries in general, the use of HTPs is severely restricted or has been phased out.

The regional approach to the implementation of the Rotterdam Convention features the country reports of various meetings held in Asia during the period from April 2007 to February 2008. These reports focus on the progress of the implementation of the Rotterdam Convention both at the sub-regional and national levels.

With the introduction of the PIC procedure by the Rotterdam Convention, parties to the Convention possess an effective tool to support their important cooperative efforts in sharing their responsibility to protect human, animal and plant health as well as the environment from potential harm of both pesticides and industrial chemicals which are traded internationally and domestically.

The notifications of final regulatory actions to ban or severely restrict chemicals as well as the import responses issued by several countries in Asia and the Pacific in relation to hazardous chemicals represent two key benchmarks measuring the progress achieved in the implementation of the Convention in the region.

Notifications of final regulatory actions to ban or severely restrict chemicals

- Based on Table 2 on the notifications of final regular actions for Annex III chemicals in the list of tables, only 7 (or about 30 percent) of 24 Parties to the Rotterdam Convention in Asia and Pacific issued the notifications. Australia issued 5 notifications, Malaysia issued 1, Republic of Korea issued 7, Thailand issued 9, Iran (Islamic Republic of) issued 6, Japan issued 20, and Kyrgyzstan issued 16.
- Also based on Table 2, but on the notifications of final regular actions for Non Annex III chemicals, only 6 (or about 25 percent) of 24 Parties to the Rotterdam Convention in Asia and Pacific issued the notifications. Australia issued 4 notifications, India issued 1, Malaysia issued 1, Republic of Korea issued 14, Thailand issued 44 and Japan issued 25.
- Based on Table 3.1 on notifications of final regulatory actions for Annex III chemicals, five countries issued notifications on chlordane while four countries issued notifications on aldrin, dieldrin, and lindane respectively. This shows how important these chemicals under Annex III are to the Parties.
- Based on Table 3.2 on notifications of final regulatory actions for Non Annex III, most chemicals (i.e. 82.7 percent or 62 of the total 75 on the list) are addressed only by one country while 12 chemicals are addressed by two countries. Only one chemical, namely benzidine and its salts, is addressed by three countries including India, Republic of Korea and Japan.

The notifications which have been issued by the various countries, both in Tables 3.1 (Annex III chemicals) and 3.2 (Non Annex III chemicals) should serve as a starting point for other Parties in Asia and the Pacific to consider possible candidates which are suitable for issuance of their notifications.

Import responses

- Based on Table 4, there are altogether 39 chemicals, on which Parties (24 countries) and Non Parties (24 countries) to the Rotterdam Convention in Asia and the Pacific have sent their import responses.
- Of the total chemicals (39), 3 are covered by less than 11 import responses, 19 by 11-20 import responses and 17 by above 20 import responses respectively. The 17 chemicals which are covered by more than 20 responses include 2, 4, 5-T & its salts and esters (21 responses), aldrin (28 responses), captafol (21 responses), chlordane (27), chlordimeform (26), chlorobenzilate (22), DDT (27), dieldrin (28), dinoseb & dinoseb salts (28), EDB (1, 2-dibromoethane) (27), fluoroacetamide (27), HCH (mixed isomers) (27), heptachlor (26), lindane (gamma-HCH) (21), mercury compounds (27), pentachlorophenol & its salts and esters (21), and phosphamidon (21).
- The 39 chemicals are covered by the import responses ranging from 41.67-91.67 percent of the 24 Parties of the Convention in Asia and the Pacific. The two chemicals which are least covered (i.e. 41.67 percent) include tetraethyl lead and tetramethyl lead while the six chemicals which are most covered (i.e. 91.67 percent) include aldrin, chlordane, dieldrin, dinoseb & dinoseb salts, EDB (1, 2-dibromoethane), and mercury compounds.

The information about the import responses issued by both Parties and Non Parties is useful for the countries concerned in their consideration of additional chemicals suitable for issuing import responses.

A series of activities have also been facilitated at both the sub-regional and country levels for providing technical assistance and advice on preparing national implementation plans (NIPs) and improving the capacity in implementation of the Convention in collaboration with the Secretariats of the APPPC and the Rotterdam Convention.

Sub-regional consultations among Designated National Authorities (DNAs) to the Rotterdam Convention (18-22 February 2008, Phuket, Thailand) fostered cooperation and facilitated a dialogue among Designated National Authorities (DNAs) in India, Islamic Republic of Iran, Malaysia, Nepal, Pakistan, Sri Lanka and Thailand on the challenges faced in the implementation of the Rotterdam Convention and to share experiences and promote cooperation in addressing these challenges.

National workshop on the implementation of trade related provisions of the Rotterdam Convention (PIC) (29 October 2007 – 2 November 2007, Hangzhou, China) reviewed examples from the perspectives of each stakeholder in the country and considered what actions and interactions would be required and by whom, taking into consideration the current practices, identifying gaps or needs for improvement, and exploring a way forward to address the gaps.

Based on the main elements of some Articles of the Convention, the actions required were analyzed. The participants also reviewed current operational procedures. In particular, they discussed the objective analysis of the situation of the implementation of the Convention in China, identification of gaps between the requirements under the Rotterdam Convention and the current status of the implementation and the challenges being encountered, as well as the proposals of solutions and suggestions for next steps. They also discussed the roles of the DNAs, customs officials, exporters, importers, manufacturers and other relevant stakeholders, if any, as well as the mechanisms for coordination and communication among the stakeholders. Importantly, they identified issues that would be considered in the 2008 follow-up workshop.

National consultation workshop on the development of national action plan for the implementation of the Rotterdam Convention (26-29 June 2007, Islamabad, Pakistan) involved a wide range of stakeholders from the government, civil society, the private sector, industrial and research organizations as well as professionals from academia.

The deliberations of the delegates at the workshop provide a starting point towards the development of mechanisms for safe management of chemicals and wastes in Pakistan. The opinions solicited from the technical experts and the valuable suggestions put forth by the learned participants will be reflected in the future strategies and plans devised in light of requirements/obligations under the Rotterdam Convention.

National consultation on the development of National Action Plan for the implementation of the Rotterdam Convention in Thailand (2-5 April 2007, Bangkok, Thailand) facilitated a national dialogue involving relevant stakeholders on the Rotterdam Convention as a basis for a national action plan or strategy on the implementation of the Convention in Thailand.

The key operational elements of the Convention and issues were discussed at the meeting. These included, among others, the PIC procedure, import response and compliance issues as well as the notification of final regulatory action to ban or severely restrict a chemical.

Thailand has been active throughout the development of Rotterdam Convention. Three Designated National Authorities (DNAs) have been designated for the implementation of the Rotterdam Convention, namely, the Department of Agriculture (DOA) as a DNA for pesticides, the Department of Industrial

Works (DIW) as a DNA for industrial chemicals and the Pollution Control Department (PCD) as a DNA and the official focal point. The National Sub-committee has also been established under the National Environmental Board to provide support for the effective operation of the Rotterdam Convention.

With respect to regulatory and control measures relating to the implementation of the Rotterdam Convention, Thailand regulates pesticides and industrial chemicals under the Hazardous Substances Act B.E. 2535 (1992) in all activities including the production, import, export, or having in possession.

Various countries in the PIC region in Asia have made significant progress in the implementation of the Rotterdam Convention. However, there are still many things which need to be done.

Major challenges faced by several parties to the Convention include the following:

- Frequent changes of key people responsible for implementing the Rotterdam Convention at the national level.
- Lack of appropriate or adequate coordination among the various organizations concerned. The key stakeholders need to have a common understanding of the necessary procedures involved.
- Ineffective enforcement of the laws or acts related to the management or control of the hazardous chemicals.
- Lack of human and financial resources in supporting the related activities.
- Many front-line personnel lack adequate/accurate technical knowledge or information of how to implement the Convention effectively.

It is hoped that lessons and experiences made in some countries will help enhance the information exchange among the countries in this region and promote the effective implementation of the Convention in the next decade.

Experiences on implementation of the Rotterdam Convention from six countries in Asia

Introduction

The sub-regional consultation among Designated National Authorities (DNAs) to the Rotterdam Convention was held from 18-22 February 2008 in Phuket, Thailand. The overall objective of this meeting was to foster cooperation and facilitate a dialogue among Designated National Authorities (DNAs) in the region on the challenges faced in the implementation of the Rotterdam Convention and to share experiences and promote cooperation in addressing these challenges. The meeting enabled the DNAs to gain a better understanding of the information available under the Convention and how it might be used to strengthen the chemicals management decision-making in their own countries.

The meeting provides the participants with an opportunity to learn more about the work of the Conference of Parties, the Chemical Review Committee, and other international activities such as the Strategic Approach to International Chemicals Management (SAICM), the Ad-hoc Working Group on Synergies, and the Stockholm Convention. The meeting also gives an opportunity to strengthen links with such activities as a means for coordinating activities at the national level.

The meeting consisted of a series of plenary sessions and breakout groups in order to allow experience sharing and practical working sessions.

The meeting involved 15 DNAs and representatives from seven Parties in Asia, including India, Islamic Republic of Iran, Malaysia, Nepal, Pakistan, Sri Lanka and Thailand. They were from Ministries of Agriculture, Environment or Industry, representing high level policy making and enforcement agencies.

The meeting addressed three general areas: PIC procedure (Articles 5, 6 and 10 of the Rotterdam Convention), information exchange (Articles 11, 12, 13 and 14) and opportunities to promote cooperation at the national, sub-regional and regional levels.

In order to ensure effectiveness of the meeting, each Party was requested to prepare a brief report on the status of implementation of the Rotterdam Convention, how chemicals were managed in their country, and the key challenges.

The meeting aimed at addressing the principal concerns of DNAs in a given region/sub-region. During their deliberations, the participants were invited to identify their priorities and further issues that they wished to consider, through a series of plenary and breakout group discussions.

As the output of the meeting, the participants gained a clear understanding of the main provisions of the Rotterdam Convention and the role of the DNAs. They identified and discussed common challenges in the implementation of the Convention and exchanged their experiences in addressing these challenges.

The participants also had opportunities to share their experiences and information with respect to the basis for import responses for chemicals in Annex III of the Convention and for national actions to ban or severely restrict chemicals that had to be notified to the Secretariat.

The participants better understood how information available under the Convention could be used to strengthen national decision-making on chemicals. The meeting also facilitated identification of opportunities for future cooperation at the national level and at the regional level.

The participants recognized the added value of the Convention to the national decision-making process. Importantly, the implementation of the Convention was not seen as extra work but as support to governments in carrying out their tasks of chemicals management.

Key outcomes

Country status of chemicals management

The country reports submitted by the delegates are included in Appendix I.

Review of key obligations of the Convention

Within the working groups, the participants discussed ways to identify major challenges associated with implementation of those key obligations of the Convention at the national level as well as possible options to overcome the situation and the way forward.

Import responses for chemicals listed in Annex III of the Convention

Submission of import decisions of Annex III chemicals to the Secretariat is one of the key provisions that enables the Convention to prevent unwanted exports into a country. Therefore, the timely submission of import responses is the key to achieving effective protection provided by the Convention.

Some of the associated aspects were discussed and clarified at the meeting, including:

- Trade neutrality is important in implementing the import response where an Annex III chemical not consented for import shall not be locally manufactured for domestic use or imported from a non-party.
- Making the import decisions available to all relevant regulatory and control agencies and other stake holders within the country to facilitate effective implementation of the decision.
- The decision on import can be changed by resubmitting an import response.

Sharing their experience, the Malaysian delegates described the operational mechanism in place in their country for submitting import responses and enforcement of the decision at a local level.

It was noted that, in addition to the customs clearance procedures, Malaysia posted a set of Plant Protection Officers at the port responsible for monitoring of importing of chemicals.

In reaching decisions on future imports, Malaysia will not grant consent for imports if the chemicals are no longer registered or used in the country or pose hazards to health and the environment or if alternatives are available and unlikely to cause an economic impact in case the imports are prohibited.

Thailand also shared information on the national process of reaching import decisions for industrial chemicals. (Refer to Appendix II for the full presentation.)

Status

According to the information of the RC Secretariat, the current status of import response for the 39 Annex III chemicals was as follows:

| | Status of Import Response | |
|----------------------------------|---------------------------|----------------------|
| | Pesticides | Industrial Chemicals |
| India | 28 | 11 |
| Iran, Islamic Republic of | 26 | 5 |
| Malaysia | 28 | 11 |
| Nepal | 11 | 0 |
| Pakistan | 28 | 0 |
| Sri Lanka | 22 | 1 |
| Thailand | 28 | 11 |

Challenges and issues

- In reaching import decisions for chemicals: insufficient infrastructure or lack of infrastructure for industrial chemical management in some countries.
- In enforcing import decisions: The level of enforcement varies from country to country, depending on national capacity. Some countries lack institutional coordination. Control of illegal chemicals across the border trade is a common challenge.

In general, taking import decisions for industrial chemicals is more challenging than that of pesticides. Two countries (Thailand and Malaysia) have a process in place for reviewing of industrial chemicals and for decision-making with the assistance of Decision Guidance Documents (DGDs). However, three countries (Nepal, Sri Lanka and Pakistan) are facing serious problems with industrial chemicals due to the lack of a basic industrial chemicals regulation system.

Recommended actions and next step

1. Complete the outstanding import responses.
2. Review the existing laws and administrative measures for import decisions and efficient implementation.
 - 2.1 If covered, reach a decision to “consent”, “consent subject to conditions”, or “no consent” for future imports.
 - 2.2 If not adequately covered,
 - Gather required information from the DGDs and other recognized international sources on toxicity, hazards, uses and alternatives, etc.
 - Gather information on import and use of the chemicals in the country, e.g. seek data from the Customs Authority and the industry.
 - Submit the information to an inter-agency committee for consideration on future imports.
 - Where possible, reach a decision and submit the import responses to the Secretariat.

As a next step, Nepal and Sri Lanka proposed to take immediate actions for submission of import responses for three industrial chemicals (PCB/PCT/PBB) which were already reviewed under the Stockholm Convention. The two countries committed to initiate a process for other outstanding chemicals by following the above process.

The DNA(IC) of Nepal would convey the outcome from this meeting to the DNA(P) for immediate attention, as the regulation system for management of pesticides was already in place.

Sri Lanka planned to submit all remaining import responses for industrial chemicals of Annex III within the next three years.

Enforcement of import decisions

- DNAs to ensure distribution of the import decisions of all parties (published in the PIC Circulars) to the stakeholders (e.g. through the government/official websites).
- Improve cooperation with the Customs Authority through establishment of national operational procedures/agreements between DNAs and Customs Authorities, such as:
 - For chemicals subject to regulations, permission is required for customs clearance of each shipment.

- The key elements in implementation of RC are incorporated in the relevant customs training programme, e.g. Green Customs Initiative.
 - Use of electronic systems to register and track import/export of chemicals based on the experience shared by Malaysia.
- Raise awareness of the public and end users.

Notification of final regulatory actions to ban or severely restrict chemicals

Under Article 5 of the Convention, the Party that has adopted a final regulatory action to ban or severely restrict a chemical has the obligation to notify such an action to the Secretariat. In recent years, with the exception of Thailand, most countries in the region were not effective in submitting notifications.

Status

| | Status of Notification (since year 2000) |
|----------------------------------|---|
| India | 1 |
| Iran, Islamic Republic of | 6 |
| Malaysia | 2 |
| Nepal | 0 |
| Pakistan | 0 |
| Sri Lanka | 0 |
| Thailand | 53 |
| Maldives | 0 |

Challenges and issues

- Often, the supporting data considered during the decision-making to ban or severely restrict chemicals are either not well documented, insufficient or difficult to obtain in furnishing the required information in the notifications, as the decisions were made a long time ago. (For example, Islamic Republic of Iran banned 64 pesticides in the past, for which the DNA did not have the documentation to furnish the information required by the convention.)
- Poor awareness among some DNAs on the importance of submitting the notifications to the Secretariat, where such action may have led to consideration by the Chemical Review Committee, or used for information sharing purposes among parties and to protect the country from unwanted imports of the chemicals

Recommended actions and next step

- DNAs will identify the pesticides and industrial chemicals, of which notification of final regulatory actions are outstanding.
- DNAs will prioritize the list of outstanding chemicals which are banned or severely restricted, starting with the recent final regulatory actions taken by the country and chemicals outside Annex III of the Rotterdam Convention, in submitting the notification forms.
- For future final regulatory actions, DNAs will notify the decisions to the Secretariat as soon as possible and not later than 90 days after the final regulatory actions are taken. This is in accordance with Article 5, para 1 of the Rotterdam Convention.

As the next step, DNAs will fill up the Form of Final Regulatory Actions and submit to the Secretariat those identified outstanding notifications of pesticides and industrial chemicals.

Sri Lanka will notify the final regulatory actions on paraquat as soon as possible.

Severely Hazardous Pesticide Formulations (SHPF)

SHPFs are chemicals formulated for use as pesticides that produce severe health or environmental effects observable within a short period of time after single or multiple exposures, under conditions of use.

This is an opportunity provided in the Convention for developing countries and those with economies in transition to propose a list of SHPFs in Annex III, which cause severe problems under the prevailing conditions.

Certain pesticide formulations that can be used safely in developed countries may cause health and environmental problems in developing countries, because of the existence of handling or applicator restrictions may not be reasonably or widely applied due to climatic conditions and lack of necessary infrastructure. In some cases, common or recognized uses in developing countries would not appear on labels or in extension guides leading to unacceptable level of risk. However, intentional misuse such as suicide is not an adequate reason.

Information to be submitted by a party in a proposal is stated in Annex IV, part A of the Convention. It is basically the identity of the formulation, common and recognized patterns of use in the country, and a clear description of incidents related to the problem.

Status

There was no proposal for SHPFs in the sub-region made to the Secretariat.

Challenges and issues

- Proper information collection system is not in place in most countries of the sub-region.
- Detailed information on pesticide poisoning is not available to DNAs. Some information is available at local administrations or poison control centres but fragmented.
- Pesticide dealers/distributors discourage incident reporting.
- Difficult to link the health effects to a specific pesticide, due to multiple exposures to different types of pesticides
- Current incident reporting forms used in some countries do not provide sufficient data to support a proposal for SHPF, e.g identity of pesticides.

Recommended actions and possible process

Immediate/short term actions:

- Familiarizing with the incident reporting form and general objectives.
- Raise the issue in meetings with relevant government authorities and agencies for necessary collaboration and action.
- Make the RC incident reporting forms available to farmers/officers/workers in the field and issue required instructions to provide field data or initiate collection of field data on incidents.
- Exploration of already available information sources and mechanisms.

Medium/long term actions and those may require additional resources:

- Allocate resources to support the data collection and incident reporting.
- Improve coordination/cooperation with the health sector/available networks/key players in the field for information collection (e.g., hospitals, agricultural extension activities, NGOs, researchers and academia, user committees/farmer groups, local administrative councils, environmental officers and revenue field staff).
- Provide training to health personnel on how to correctly identify pesticide poisoning symptoms.
- Record/document poisoning incidents for review at later stage (situation analysis).
- Provide awareness raising and education to farmers.
- Review and verify the data by DNA, preferably through a consultative technical committee.
- Collection additional field data (where applicable) for reporting and local regulatory control purposes.

It was reported that Thailand already included the Ministry of Health in the National Rotterdam Convention Committee, following the recommendations of the National Action Plan meeting held in 2007. Thailand also requested the Secretariat to consider a thematic meeting or project on SHPFs.

Export notification and accompanied information

The Group mostly consisted importing parties and, hence, the discussion was mainly focused on the issues and benefits in relation to receiving the export notification and taking subsequent actions. It was noted that export notifications were mostly received from the EU countries. However, the participants were informed that acknowledgement of the Export Notifications received from the EU countries was reported as very low.

The participants identified challenges and misunderstandings related to export notification and experience exchange, including:

- Management of chemicals outside Annex III in developing countries is a challenge, especially in the case of industrial chemicals.
- Certain countries, by their national laws (e.g. EU) require an official consent from the importing country to proceed with exportation, which is beyond the requirements of the Convention and may confuse the importing countries about the obligations.
- Recently in Thailand, there have been instances where the request of further information from an exporting party is not successful.
- Currently, there is no standard format for export notification. Consistency of the format and type of information provided in the export notification is important for more effective acknowledgement and to improve its usefulness for national regulatory and management purpose.
- In the case of responding to the notifications originated from the EU countries, the Malaysian authority copies the response to European Chemical Bureau, in addition to the respective DNA.
- Export notifications to be communicated between the DNAs of importing and exporting parties.

The group also shared the experiences in making use of information provided by the export notification in improving the chemicals management at the country level. The following aspects were discussed and highlighted:

- In some countries, the export notifications have initiated a national review process and, where applicable, led to a regulatory action on the chemical.

- The export notifications have triggered a verification process within the country. The DNAs in Malaysia contact the importers to track the quantities of importations and uses of the chemicals concerned.
- In relation to the management of national database on chemicals, the records of export notifications are maintained for national review/risk evaluation and for future reference.
- It is important that countries ensure acknowledgement of export notifications to continue receiving beneficial outcomes of the provision.

The participants expressed appreciation on the initiative by the Secretariat in developing a standard export notification form, of which a test version was presented. Comments on the proposed form were given to the Secretariat for consideration and requested that the Secretariat should encourage or urge exporting parties to use the standardized form in export notifications under the Convention.

Role of Conference of Parties and its subsidiary bodies

The Secretariat provided a brief introduction on the role of Conference of the Parties (COP) and the Chemicals Review Committee (CRC), highlighting the key issues at the last COP and CRC meetings. Mr Halimi Mahmud of Malaysia shared his experience in working with CRC.

The session provided the DNAs with a good insight into the process of inclusion of chemicals into Annex III, the role of COP and CRC respectively.

Information available under the Convention

The sources of information embedded in the Convention are originated from a few different roots. Notifications of final regulatory actions, proposals of SHPFs, and export notification provide vital information of the chemicals as well as regulatory actions taken by certain parties and serve as useful information exchange mechanisms.

The tools of information exchange include the PIC Circular, the DGDs, and the Convention website (www.pic.int). These tools may provide very important information for a party in reviewing and regulating chemicals with a wider range of related information.

The entire Resource Kit and all the documents related to COP, CRC as well as regional, sub-regional and national meetings and workshops are posted on the website which serves as useful additional resources of information for the parties. The website also provides links to other international chemicals management instruments and initiatives such as International Code of Conduct on Distribution and Use of Pesticides, Green Customs, WHO hazard classification, and International Programme on Chemical Safety (IPCS).

During the discussion, it was noted that most of the participating countries had their RC-related information posted on the agency website or developed an exclusive website to share the information among the relevant stakeholders.

The Group highlighted the importance of providing information to the national stakeholders including producers and end-users in a user-friendly manner and possibly in local languages.

It was also noted that the Convention website is used by newly recruited staff to gain in-depth knowledge about the Rotterdam Convention to facilitate their activities in the efficient implementation of the convention.

As a learning tool of the convention and its operational elements, the newly developed e-learning facility introduced by the Secretariat was considered by the group as very powerful, yet user-friendly due to ready accessibility.

Integration with activities of other Multilateral Environmental Agreements (MEAs) and SAICM

The group was briefed by the Secretariat of commonalities and key areas of focus where the three conventions (RC, SC and BC) complement to each other. While the RC acts as the first line of defense in developing countries in management of hazardous chemicals while SC deals with persistent organic pollutants among the chemicals in phasing out their use and BC is dealing with hazardous wastes which include the waste arising from chemicals and their use.

In January 2007, the World Customs Organization (WCO) introduced specific HS Codes for a number of chemicals in the Annex III that provided useful information to facilitate management of imports and exports of the chemicals through the local customs and border control. With the technical support of the RC Secretariat, the Green Customs initiatives included the Rotterdam Convention in their training programmes.

The group agreed on the following aspects as important opportunities for improvement of coherence in chemicals management at the national level.

- Integrated coordination mechanism is highly desirable.
- If separate entities exist for the implementation of different conventions at the national level, a communication and information sharing mechanism should be developed to address the common issues at regularly scheduled meetings.
- Training of customs officers is a key for successful implementation. The Green Customs initiatives should be considered as a useful option for this purpose.
- Setting up of an internet-based network of DNAs of the Sub-region.

Cooperation at the sub-regional level with the Asia and Pacific Plant Protection Commission

The Asia and Pacific Plant Protection Commission (APPPC) is the official entity for implementing the Plant Protection Agreement in Asia and Pacific Region. APPPC has a Standing Committee on Pesticides which discusses and initiates action in the area of pesticide management.

During the 25th meeting of the above Commission held in August 2007, the following actions were recommended with respect to pesticides management. Ratification and effective implementation of the Rotterdam Convention were included in the programme of work of the Commission.

- Progressive banning of highly hazardous pesticides.
- Prevention of unethical and excessive promotion of pesticides, particularly during pest outbreaks.
- Establishment of a network of pesticide regulators in the region for efficient information exchange on effective pesticide management.

The Commission also recommended a roadmap to achieve the above goals by the member countries and agreed to initiate action on the recommendation.

MEA enforcement-regional cooperation and networking

The representative of UNEP at the meeting shared the experiences and information on key elements related to the projects on Ozone Regional Enforcement Network and MEA Regional Enforcement Network.

The Ozone Regional Enforcement Network focuses on the enforcement of Montreal Protocol with regard to transboundary movement of Ozone Depleting Substance (ODS) among 24 countries in the Asia and Pacific region. The main activities comprise cross-border cooperation, information/intelligence exchange, data on transboundary movements of ODS, development of management tool for border control and collaboration with regional enforcement agencies.

The MEA Regional Enforcement Networking aimed at integration of the MEA work with regard to control of transboundary movement of related chemicals by integrating control strategies to optimize the use of resources within the country and learn from experience within the different MEAs. Its goals are to improve control of illegal trade and gain better control over import and export of the items under control.

The participants were of the view that the initiatives by the above programmes improve the capacity for efficient management of imports and exports of concerned chemicals at the national level and complement with enforcement of the RC, especially with respect to coordination and cooperation with the Customs authorities in the country.

Conclusion

During the concluding session, all participating DNAs expressed their utmost satisfaction about the outcomes of the meeting which included a clearer understanding about the objectives of different elements of the Convention and the tasks of the DNAs. The meeting was considered as educational in many aspects, including how the similar situations were effectively addressed by neighbouring countries. The meeting well served as a forum for learning from each other and discussions were open and participatory.

Participants recognized the added value of the Convention to the national decision-making process. Implementation of the RC was not seen as extra work but as support to Governments in carrying out their tasks of chemicals management. All DNAs committed to take immediate action where appropriate to address the outstanding issues. It was the consensus that the meeting was well planned, substantive and well arranged.

Sub-regional Consultation among Designated National Authorities (DNAs) to the Rotterdam Convention (18-22 February 2008 in Phuket, Thailand)

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Experience on implementation of the Rotterdam Convention: the Islamic Republic of Iran

by Maryam Meschi
Plant Protection Organization

Introduction

Regulating the use of the pesticides and use of other chemicals is one of the ways through which pesticides/chemicals risks to human health and the environment can be adequately managed. The control through legislation and guidelines as minimum requirements to be observed in handling, use, storage, production, import, export and disposal are basics to their sound management with effective adherence to their enforcement.

Legislation represents a national policy on how chemicals and pesticides are controlled. It consists of an administrative framework and procedures for managing pesticides and chemicals. It places obligations on production, formulation, import, export, storage, transportation, sale, distribution and use of pesticides and chemicals.

Pesticides management in the Islamic Republic of Iran

Laws and regulations

The Plant Protection Act of 1968 has provisions on pesticides usage and handling. This Act includes 25 articles and four chapters with 59 articles as the Implementation Regulation covering pesticide regulations.

Under Sections 3 and 4 of this Act, the import, production, formulation, packaging, transportation, and sale of pesticides are controlled through a registration scheme. The scheme involves evaluation of comprehensive socio-economic and scientific data on pesticides.

Pursuant to the Article 33 of the Implementation Regulation, the Pesticides Supervision Board (PSB) was established with representatives from the health and environmental administrations and research departments. By this law it is forbidden to deal with pesticides without authorization from the Plant Protection Organization (PPO) as the administrative body and PSB as the responsible authority one for national pesticide registration (conventional pesticide and biological control agents), banning and or limiting the usage of registered pesticides approval of labelling, production licensing (synthesis and formulation) and import licensing.

PSB is also responsible for approval and reconsideration of a recommended list of pesticides, chemical formulae, type of formulation, maximum weight and volume of packaging as well as type of containers.

PSB is composed of a representative from the Plant Protection Organization as chairman and also includes qualified representatives from Iranian Research Institute of Plant Protection (IRIPP), Department of Environment, the Iranian Veterinary Organization, the Health Research Institute, the Forensic Medicine Department, the Nutrition Institute, and two experts in pest control nominated by Jihade-agriculture Minister.

PPO is responsible for issuing orders and technical guidelines on pesticides use with a view to preventing damage to human health and animal health (Article 23 of the Plant Protection Regulation).

The Board is tasked with evaluation of the technical recommendations proposed by PPO on pesticides (Article 35 of the Regulation). Two technical sub-committees established under the Board which assist it in the enforcement of pesticides regulations:

- Biological Control Agent Committee, and
- Pesticides Consultation Committee.

Pesticide registration applications are required to be accompanied by the latest investigations carried out by international organizations such as:

- International Programme on Chemical safety (IPCS),
- International Register of Potentially Toxic Chemicals (IRPTC),
- Food and Agriculture Organization of the United Nations (FAO),
- World Health Organization (WHO),
- U.S. Environmental Protection Agency (EPA),
- Environmental Protection Organization, and
- International Agency for Research on Cancer (IARC).

Information to be submitted is in line with the International Code of Conduct on the Distribution and Use of Pesticides.

Decision to be finally made after making a risk benefit analysis is based on all the data available to the Board. The Board shall either:

- Refuse registration of pesticides,
- Give a provisional registration for a period of 1-3 years, or
- Authorize one-time importation.

The registration or re-registration of pesticides is valid for the time period specified in the Board decision.

The provisionally registered pesticides are then examined and used in a small-scale and quality control, efficacy in different climate condition and health matters are investigated during the provisional registration with results again submitted to PSB which decides to reregister or refuse the registration. It must be demonstrated that a given pesticide is effective for the intended use and harmless to human health and the environment.

Under the amendment to pesticides regulation (2006), in emergency cases importation of limited quantities of unregistered pesticide is allowed for two cultivation seasons only with permission of PSB.

Registered pesticides may only be imported by a holder of the Pesticides Import Licence. Each shipment of a registered pesticide must be accompanied by an import permit issued under the Plant Protection Act.

According to Article 28 of Regulations of the Plant Protection Act, regional departments of the Ministry of Health are to monitor pesticide residues in fruits and vegetables and other food stuffs as determined by IRPPI (Note of Article 28 of the Regulation). Due to lack of professionals and facilities to form a qualified body in Ministry of Health to undertake this duty, a routine procedure is not in place.

Iran pesticides management policy

(1) Iran is a vast country with varied climates that necessitate the use of different pesticides aimed at high efficacy and least pest resistance. However, a glance at the list of authorized pesticides reveals lack of diversity. Besides, some of the pesticides on the list were registered a long time ago.

According to a new policy adopted by PPO, highly hazardous pesticides of extensive use will be scheduled for replacement with less hazardous pesticides. Other control methods are also used to help the replacement in the context of IPM.

Pesticides with priority for replacement are those:

- Among WHO classes Ia, Ib and II,
- IARC class 2B or EPA class B2,
- Disrupting endocrine function, or
- Environmentally persistent.

Agricultural research bodies such as Iranian Research Institute of Plant Protection (IRIPP), universities and research institute, which usually manage the use or research of a particular commodity, are tasked with finding suitable replacements.

(2) Since most farmers are mainly concerned with protecting their crop, they prefer toxic and highly persistent pesticides without much concern for harmful effect of pesticides. Therefore, local education and training on safe use of pesticides are necessary after a product is registered.

This year, the Ministry of Jihad-Agriculture decided to establish an effective network of extension officers through training 4,000 university graduates majoring in plant protection. Through a face-to-face teaching approach, they would learn about appropriate practices for pesticide use to prevent hazards posed by the pesticides. As a result, the graduates would be able to recommend replacement methods to farmers and help them realize the benefits of Good Agriculture Practices (GAP).

(3) Pursuant to paragraph B under Article 61 of the 4th Five Year Plan, the Government was tasked with finding instruments for greater use of compost fertilizers and biological control agents to prevent the unreasonable use of pest control chemicals and artificial fertilizers.

Based on the provisions of the above Article, PPO prepared a draft guideline on biological control agent scheme which was adopted by PSB.

Production of biological control agents and mass rearing of useful insects which are undertaken by the private sector are on the rise.

(4) With the gradual removal of insecticide and pesticide subsidies, the privatization began in 2004. It was extended to all type of pesticides during the current year. The privatization has greatly benefited the pesticide management since the government will channel the subsidies to Good Laboratory Practices (GLP), IPM, biological and non-chemical control practices, training, establishment of plant protection clinics and equipment for pesticides residue labs.

(5) Since some important issues are not covered in the current pesticides legislations, a new draft of Plant Protection Act has been prepared.

Implementation of the Rotterdam Convention in Iran

1998 – Convention was signed in Rotterdam

2004 – Convention was adopted by Islamic Consultative Assembly of the Islamic Republic of Iran. Nine months later, Iran became a member to the Convention.

At present, the enforcement of Rotterdam Convention on pesticides is undertaken at a relatively satisfactory level in light of existing pesticides regulations and PSB.

Designated National Authorities

According to the country's adherence to the Rotterdam Convention adopted in 2004, the following bodies are focal points for enforcement of the Convention:

- Plant Protection Organization for pesticides, and
- Department of Environment for industrial chemicals.

Information from the Rotterdam Convention Secretariat on PIC procedure

As a developing with no risk assessment mechanisms in place, Iran has made good use of the information given in the Decision Guidance Documents (DGDs) on making import decisions about future imports or exports of pesticides. The information given by Notifications is also quite useful.

Both DNAs receive the DGDs, export notifications and notifications of control actions from exporting countries and from the Rotterdam Convention Secretariat. However, for better communication between DNAs and relevant governmental agencies dealing with hazardous chemicals, the Technical Advisory Committee has been established since 2006. The functions of the Committee are:

- To assist DNAs in making decision about issues related to Rotterdam Convention.
- To disseminate the needs and programmes to decision makers of relevant ministries for proper implementation of the Convention.
- To draft regulations for national implementation of Adherence to Rotterdam Convention Authorization Act 2004.
- To draft a national action plan.

The Committee consisted of members from the Ministry of Health, the Ministry of Jihad-Agriculture (PPO), the Ministry of Oil, the Ministry of Industry and Mining, the Department of Environment, the Ministry of Foreign Affairs, and the Iranian Customs.

Decision-Making Process (Import Responses)

Procedure for DNA to make a country import response:

- DNA reviews the DGDs and the notifications.
- DNA introduces the information to all relevant bodies such as plant protection offices in the provinces, Pesticides Industry Association, Iranian Research Institute of Plant Protection (IRIPP), research bodies, importers, exporters, the Iranian Customs, the Ministry of Commerce, the Department of Environment, the Ministry of Health, the Ministry of Industry and Mining and the Ministry of Foreign Affairs for any comments.
- PPO as DNA collects and reviews the comments and prepares a comprehensive report to submit to PSB.
- PSB will make an import decision on the basis of the PPO report, risks for human health and the environment, statues of use in other countries, existence of suitable alternatives and socio-economic assessment.

The National Import Decision is enforced under the Regulation of Plant Protection Act 1968 (Articles 31 and 32):

Article 31: Import, formulation and change of the package of chemicals, plant hormone and herbicides shall require a permit from PPO.

Article 32: PPO compiles an annual list of authorized chemicals, plant hormone and herbicides which have been approved by PSB. This list will be utilized by importers and formulators.

PPO has an agreement with the Iranian Customs to prohibit the entry or export of pesticides subject to PIC treaty unless a permit is issued to allow import or export.

PPO as DNA for Pesticides has responded to the Secretariat on the PIC pesticides, except for Parathion as no record is kept for the regulatory decision of the use and trade of this substance.

The Islamic Republic of Iran has submitted 6 notifications and many are outstanding.

Over 100 pesticides have been removed from the List of Authorized Pesticides over the years, but Iran has failed to submit notifications for them, due to lack of a documentation system.

All PIC listed pesticides are banned for agriculture uses. Persistent Organic Pollutants (POPs) pesticides have also been prohibited for many years, long before any treaty came into force. However, illegal transboundary movement of some of these pesticides is not prevented yet.

Information on pesticides poisoning

No matter how carefully the precautions for use of the pesticide products are written or how clearly they appear on approved labels, there are still cases of pesticide misuses that may result in poisoning.

Monitoring these pesticides poisoning cases will provide not only useful information regarding the effectiveness of the registration system but also information on hazards posed by pesticide under field conditions. Proper and accurate monitoring of pesticides poisoning cases can form a strong basis for appropriate policy decisions and control measures on pesticide use in the country.

Iran has been able to establish poisons information centres which provides information on poisons and advice on poisoning cases. However, this service does not conduct a systematic education and prevention programmes. As well, there is no collection and organization of data monitoring and network for incidents reporting in place. It means that in the Ministry of Health there is no organized system available for proper record keeping and reporting incidents. There is a need for training physicians on poisoning treatment and reporting.

Therefore, it is difficult for Iran to fulfil the requirements of Article 6 and Annex IV of the Convention.

Problems related to pesticides management and implementation of PIC procedure:

- Lack of adequate experts and facilities to perform risk assessment and risk management.
- Poor information access.
- Lack of training for customs officers.
- Lack of a national action plan on implementation of the Rotterdam Convention.
- Lack of an incidents reporting system in place.
- Lack of risk communication.

Experience on implementation of the Rotterdam Convention: Malaysia

by Siti Zaleha Ibrahim and Halimi Mahmud

Introduction

Malaysia has been very active in supporting international organizations to promote environmentally sound management of chemicals at international level including the implementation of Rotterdam Convention which aimed at promoting shared responsibility and cooperation among parties in the international trade of hazardous chemical in protecting human health and the environment.

Malaysia became party to the Rotterdam Convention on 4 September 2002. Malaysia has participated in many meetings both during the negotiations of the Rotterdam Convention and after the Convention came into force on 24 February 2004. Malaysia has also served in the Interim Chemical Review Committee (ICRC) and the Chemical Review Committee (CRC).

Overview of chemicals management

Chemical laws and regulations

Presently, there are several laws in operation in the country for the control of chemicals and pesticides. A summary of the responsibilities of the governmental bodies responsible for chemicals management are shown in Appendix 1.2.1.

Pesticides regulatory authority

The authority responsible for the implementation and enforcement of the Pesticides Act 1974 is the Pesticides Board, which comprises 14 members from related government agencies. The Secretariat for the Pesticides Board is the Pesticides Control Division, Department of Agriculture.

The Pesticides Board is responsible for the implementation and enforcement of various rules and regulations under the Pesticides Act 1974, including those related to the registration of pesticides. Only those pesticides that are registered with the Board may be imported, manufactured, used, distributed and sold in country.

In fulfilling national obligations under the Rotterdam Convention, the following Acts/Regulations are being used:

Pesticides Act 1974

- Regulatory actions to ban or to severely restrict the use of pesticide under the registration scheme.
- To prevent the import, manufacture, distribution and use of the pesticides subject to the Rotterdam Convention (Annex III pesticides).

Custom import and export prohibition orders

- To prevent the import and export of pesticides subject to the Rotterdam Convention (Annex III pesticides).

Industrial chemical regulatory authority

The focal point for implementing and managing of environmentally hazardous substances (EHS) which include hazardous chemicals and pesticides is the Ministry of Natural Resources and the Environment (NRE). However, other ministries are also involved in the management of EHS.

At the ministerial level, the think tank for the direction, policy and implementation of the management, is the National EHS Steering Committee under the coordination of NRE.

The Division of Conservation and Environmental Management (DOCEM), a division from the ministry, is the policy and decision-making body in this issue, while the Department of Environment (DOE), a subordinate agency under the ministry, is the Designated National Authority (DNA) for industrial chemicals and the Pesticides Control Division, Ministry of Agriculture, is the DNA for pesticides under the Rotterdam Convention. The organization structure for the Steering Committee is shown in Appendix 1.2.2.

The Secretary General from the NRE acts as the chairman of the Steering Committee, while DOCEM acts as the Secretariat. The Steering Committee can be seen as an inter-ministerial group, where coordination and cooperation between ministries can be carried out. Besides, it acts as a mediator between the public and the private sectors, where both parties have the opportunity to put forward their views, in order to achieve the best solution for certain issues.

The status of use, production, import and export of Annex III pesticides in Malaysia

Out of the 28 pesticides listed in the Annex III of the Rotterdam Convention, only two pesticides are currently registered and still in use in Malaysia, i.e. monocrotophos and methamidophos. These 2 pesticides are currently registered for bagworm control in oil palms by mean of trunk injection and they are categorized as highly toxic pesticides which are subject to the Pesticides (Highly Toxic Pesticides Regulations) 1996.

Role of the DNA in chemicals management activities in the country

Pesticides Board Malaysia

The Pesticides Board of Malaysia is the DNA for pesticides, while the Department of Environment is the DNA for industrial chemical. Both agencies are responsible for the overall chemicals management in the country.

To facilitate consultation in chemicals management including in fulfilling Malaysia's obligations under the Rotterdam Convention, an inter-ministerial committee has been established. The Pesticides Technical Committee under the Pesticides Board has been established to discuss matters related to the pesticides registration including decision to make notification on final regulatory action and import response under the Rotterdam Convention. Currently, the members of the Pesticides Technical Committee consist of representatives from Ministry of Health, Department of Agriculture, Department of Environment, Department of Occupational Safety and Health, Department of Chemistry and related Research Institutes. This Committee meets every month to consider applications for pesticides registration.

In addition to the Pesticides Technical Committee whose members are from government agencies, the Pesticides Board has also established the Pesticides Consultative Body in which the industry and NGOs are also represented.

Department of Environment, Malaysia

The administration and coordination of import responses and export notifications under the Rotterdam Convention for industrial chemicals are the responsibility of the Department of Environment (DOE) as

DNA for industrial chemicals. The number of export notifications received by the Department of Environment from the year 2004 to 2007 is shown in Table 1. The flowchart for the import response decision for an industrial chemical is shown in Appendix 1.2.3.

Table 1.2.1 Malaysia: Number of Export Notifications Received for Industrial Chemicals, 2004-2007

| Year | Number of export notifications received |
|------|---|
| 2004 | 23 |
| 2005 | 11 |
| 2006 | 26 |
| 2007 | 25 |

Status of implementation of the Rotterdam Convention

Import responses (Articles 10 and 11)

Malaysia has fulfilled its obligation in providing the status of 28 pesticides in the Annex III of the Rotterdam Convention under import response requirement. Out of the total, only 2 pesticides (monocrotophos and methamidophos) are permitted to be manufactured and imported into Malaysia under the Rotterdam Convention provided they are registered under the Pesticides Act 1974.

Malaysia has also provided the response of not permitting the import of 26 other pesticides in the Annex III of the Convention as they are no longer registered for use in the country. Malaysia has also taken the action not to allow those pesticides to be manufactured in the country even solely for export purposes.

Before import response forms are sent to the Rotterdam Convention Secretariat, related government agencies will be consulted. For pesticides, the Pesticides Technical Committee will be consulted. In addition to the government agencies, comments and views are also sought from the industries and NGOs through Pesticides Consultative Body.

One of the legal frames used in preventing unauthorized exportation of Annex III chemicals and pesticides which might be in violation of the decision of the importing country is by making it mandatory under the Customs Export Prohibition Order for all the exporters to obtain permission from the DNA if they wish to export chemicals/pesticides in the Annex III of the Convention. Industries have also been informed on the requirement for them to obtain a letter of consent from the DNA if they wish to export those pesticides/chemicals.

Notification of final regulatory actions (Article 5)

So far Malaysia has submitted 4 notifications on pesticides as a result of the final regulatory actions taken by the regulatory authority, but later withdrew one of them.

Among the challenges faced in reporting notifications of the final regulatory actions is lack of documentation in support of the notifications, especially regulatory actions taken before the Rotterdam Convention came into force. In most cases, the reason for the banning or restricting was not based on risk or hazard evaluations.

SHPF (Article 6)

Up to now, Malaysia has not encountered any incidents of human or environmental poisonings as a result of exposure to severely hazardous pesticides formulations (SHPF).

The mechanism for collecting information regarding poisoning due to pesticides is already in place, where the Poisoning Case Report Form is provided to the relevant Department of Agriculture staff at district level. Collected information on poisoning will be sent to the DNA office for analysis in order to determine if such poisoning are due to pesticides exposure. In addition, information on pesticides poisoning is also collected from Government Hospital and further investigation is carried out, if necessary.

Information exchange provision (Article 14)

PIC Circular

PIC Circular published every 6 months serves as one of the sources of reference by the DNA for the pesticides on the status of pesticides in other countries. However, the use of such information for similar regulatory action is rather limited at the moment due to lack of detailed information.

Export notification (Article 12)

Malaysia has been receiving export notifications from European Union requesting for consent to export pesticides that are banned or restricted in the EU to Malaysia. The export notifications come in the form of letters or e-mails.

In replying, the DNA for pesticides gave the necessary information to the DNA of the exporting country whether to consent or not to consent the export. The information given to DNA of the importing country includes the registration status in Malaysia, the registrant and the registration validity period.

Malaysia has also been rejecting the import of some Annex III pesticides because the exportation was contrary to the import response of Malaysia.

Rotterdam Convention website

The Rotterdam Convention website is one of the important sources of information pertaining to the implementation and operation of the Convention. It provides information on the notifications of regulatory actions taken by parties, DGD, PIC Circulars and contact persons and addresses of DNAs.

One of the information referred to is on the upcoming meeting of the CRC and the COP as well as the new candidate chemicals for inclusion in Annex III.

Conclusion

Malaysia is very supportive of the Rotterdam Convention even well before it comes into force. In fulfilling its obligations as a party to this Convention, Malaysia has nominated 2 Designated National Authorities (DNA), one for pesticides (Pesticides Board of Malaysia) and one for industrial chemical (Department of Environment, Malaysia). Malaysia has provided the Rotterdam Convention Secretariat on the status of 44 pesticides/industrial chemicals in Malaysia as listed in Annex III of the Convention and taken steps to notify the Rotterdam Convention Secretariat on the regulatory actions taken on pesticides/industrial chemicals based on health and environmental reasons. Malaysia has benefited tremendously from being a party to this Convention, particularly in the information exchange mechanisms and participates in giving additional information and comments to the Secretariat on issues related to the implementation of the Convention as well as in ensuring that all activities related to pesticides/industrial chemicals are consistent with the requirements of the Convention.

**A Summary of Responsibilities of Governmental Ministries, Agencies and other Institutions
According to the Legislation and Subsidiary Legislation**

| Stages | Government Ministries, Agencies and Other Institution | Relevant Legislation & Subsidiary Legislation |
|--|--|---|
| Import Pesticides Industrial chemicals Consumer chemicals Drugs Food | The Royal Malaysian Customs Department Pesticides Board Ministry of International Trade and Industry Department of Environment Ministry of Domestic Trade and Consumer Affairs Ministry of Health Ministry of Health | Custom Act, 1967 Pesticides Act 1974 <ul style="list-style-type: none"> • Pesticides (Registration Rules) 1976 • Pesticides (Importation for Education and Research Purposes) Rules 1981 Customs Act, 1967 <ul style="list-style-type: none"> • Customs (Prohibition of Imports) Order Consumer Protection Act, 1999 Sale of Drugs Act 1952 (Revised 1989) Food Act, 1983 |
| Design and Planning Building Foodstuff | Fire and Rescue Department & Local Authority Fire and Rescue Department & Local Authority Ministry of Health | By-Law Uniformed Building 1984 Street, Drainage & Building Act, 1974 Food Act, 1983 |
| Production Emissions to air and water Workers health and safety Food industry | Department of Environment Department of Occupational Safety and Health Ministry of Health | Environmental Quality Act 1974 Occupational Safety and Health Act, 1994 Food Act, 1983 |
| Transport of Hazardous Goods By road By railroad At sea By aeroplane | Ministry of Transport Road Transport Department Ministry of Transport Ministry of Transport Ministry of Transport, Department of Civil Aviation | Road Transport Act, 1987 Civil Aviation Act, 1969 |

| Stages | Government Ministries, Agencies and Other Institution | Relevant Legislation & Subsidiary Legislation |
|-------------------------------|--|--|
| Use/Handling | | |
| Pesticides | Ministry of Agriculture Pesticides Board | Pesticides Act, 1974 |
| Cosmetics | Ministry of Health | Sale of Drugs Act, 1952 (Revised 1989) Control of Drugs and Cosmetics Regulations, 1984 |
| Chemicals hazardous to health | Ministry of Human Resource, Department of Occupational Safety and Health | Occupational Safety and Health Act, 1994 |
| Inflammable chemicals | Fire and Rescue Department | By-Law Uniformed Building 1984 |
| Explosive | Fire and Rescue Department | By-Law Uniformed Building 1984 |
| Drugs | Ministry of Health | Sale of Drugs Act, 1952 (Revised 1989) |
| Food additives | Ministry of Health | Food Act, 1983 |
| Disposal | Department of Environmental | Environmental Quality Act, 1974 Environmental Quality (Scheduled Wastes) Regulations 2005 Environmental Quality (Prescribed Premises) (Scheduled Wastes Treatment and Disposal Facilities) Order, 1989 |

Malaysia: Organization of National EHS Steering Committee

CHAIRMAN

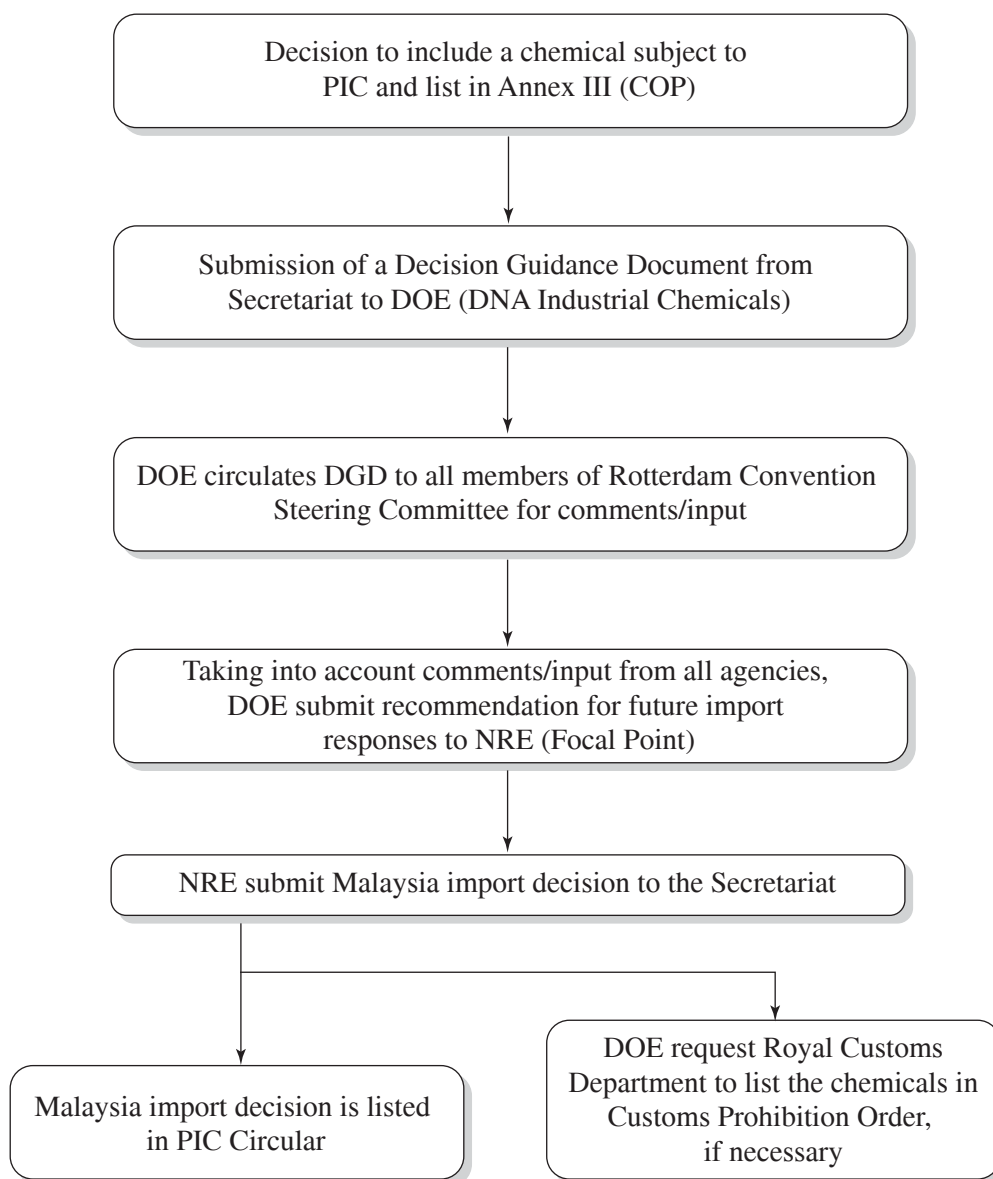
(Secretary General of Ministry of Natural Resources and the Environment)

SECRETARIAT

(Division of Conservation and Environmental Management, DOCEM)

MEMBERS

1. Ministry of Foreign Affairs
2. Ministry of International Trade and Industry
3. Ministry of Health
 - Engineering Division
 - Pharmaceutical Division
4. Ministry of Agriculture
5. Ministry of Transport
6. Ministry of Domestic Trade and Consumer Affairs
7. Economic Planning Unit, Prime Minister's Department
8. Attorney General Chamber's of Malaysia
9. Department of Occupational Safety and Health
10. Royal Customs Department, Malaysia
11. Department of Chemistry
12. Pesticides Board
13. Department of Environment
14. National Poison Centre, University of Science Malaysia
15. Chemical Industries Control of Malaysia (CICM)
16. Malaysian Environmental NGOs
17. Malaysian Institute of Chemistry

Malaysia: Flow chart of import response decision in industrial chemicals

Experience on implementation of the Rotterdam Convention: Nepal

by Dr Sitaram Joshi and Dr Kanti Shrestha

Summary of the current status of the chemicals management

The need for chemicals control

- Insufficient information about properties
- Actions to be undertaken during emergency
- Reporting in compliance with obligations under various international conventions
- Occurrence in combined form-toxicity data (safety data sheet)
- Environmental and health problems
- Economic benefits from trade to enterprises/society
- Reduction of intentional or unintentional risk exposures and hazards.

How many chemicals exist in the market?

- No one knows.
- EU database for existing chemicals: >100,000.
- EU estimation of substances in the market (over 1 ton): 30,000.
- Swedish products registered (over 1 ton): 13,000 (287 active ingredients of pesticides).
- Number of chemical products in Sweden: 70,000.
- New chemicals registered in EU: 300/year.

Chemicals being used in Nepal

| No. | Categories | Chemicals |
|-----|------------------|---|
| 1 | Agriculture | DDT, pesticides, fungicides, and fertilizers, etc. |
| 2 | Medicine | Antibiotics, Anabolic steroids, morphine, adenosine, and radioactive materials, etc. |
| 3 | Household | Mosquito repellants, rat killer, Bagon sprays, hair dyes, and air freshener, etc. |
| 4 | Industries | Sulphur, KClO ₃ , phosphorus, organic solvents, polymers, plastics, and antibiotics, etc. |
| 5 | Laboratories | Conc.H ₂ SO ₄ , acetic anhydride, CCl ₄ , and CHCl ₃ , etc. |
| 6 | Defense | Tear gases, sulphur, nitroglycerine, chloropicrin, and explosives, etc. |
| 7 | Riot control | Tear gases |
| 8 | Plant Quarantine | Methyl bromide, etc. |

Household chemicals

- Foods
 - Additives (Aspartame, BHA, BHT, MSG, KHSO₃, NaNO₂ and saccharin) and colors (Azo dyes tartrazine, and malachite green).
- Detergents
 - HCl, alkali, enzymes, sod. Silicate, triethanol amine, lindane in shampoo.

- Insecticides
 - Mosquito killing mats/liquids, Baygon, ZnS, Hg containing insecticides.
- Fungicides
 - Moth balls.
- Air fresheners
 - Formaldehyde and phenols.
- Cosmetics
 - Bleaching, hair colors (PPD), beta naphthols, and AgNO₃.
- Batteries/Thermometers
 - Cd, Hg, and Pb (neurotoxins).
- Glues, Markers, and Polishes
 - Toluene.
- Plastics
 - Burning (toxic gases).
- Refrigerators, air-conditioners
 - ODS.
- Paints
 - Fungicides and organic solvents.
- Grains and vegetables
 - Insecticides, pesticide residues, and colors.

UN Convention against illicit traffic in narcotic drugs and psychotropic substances, 1988, which include the following:□

| | |
|---------------------------------------|------------------------|
| N-acetylanthranilic acid | Acetic anhydride |
| Ephedrine | Acetone |
| Ergometrine | Anthranilic acid |
| Ergotamine | Ethyl ether |
| Isosafrole | Hydrochloric acid |
| Lysergic acid | Methyl ethyl ketone |
| 3, 4-methylenedioxyphenyl-2-propanone | Phenylacetic acid |
| 1-phenyl-2-propanone | Piperidine |
| Piperonal | Potassium permanganate |
| Pseudoephedrine | Sulphuric acid |
| Safrole | Toluene |
| Norephedrine | |

Management of chemicals in Nepal

- Household, industrial, and agricultural chemicals, etc.
 - Direct production and import,
 - Distribution by wholesalers and retailers, and

- Role of Government:
 - Tax collection,
 - No control on quality and monitoring,
 - License from DOI for production.

Hazardous chemicals

- Permission required from:
 - Home Ministry
 - Ministry of Environment, Science and Technology.

Banned chemicals

- POPS,
- ODS,
- Illicit drugs,
- CW agents, and
- PIC-related chemicals.

Triethanol amine

- High volume chemical (whose production exceeding 1 million pounds annually in US)
- Commercial or industrial application
- Emulsifier, detergents, textile, leather, cosmetics, cleaners, and polishes used for furniture, etc.
- Precursor or degradation product of Nitrogen mustards (CW agents).

Agricultural chemicals

- Fertilizers
 - Urea, Potash, NH_4NO_3 (explosives, matches, fertilizers, herbicides and insecticides, freezing mixtures).
- Micronutrients
 - Zn, K, and B.
- Pesticides/Insecticides/Fungicides
 - Mancozeb, Metalaxyl, Sulphur, KMnO_4 .
- Agricultural Lime
 - $\text{Ca}(\text{OH})_2$ and CaO .
- Plant and animal quarantine
 - Chemical residues.
- Alternatives
 - Organic farming and ecolabeling.

Chemical weapons agents (Schedules 1, 2, and 3)

- Nerve agents
 - Sarin Soman Tabun, and VX.
- Blister agents
 - Lewisites, nitrogen mustard, and sulfur mustard.

- Blood agents
 - Cyanogen chloride, HCN, and H₂S.
- Pulmonary agents
 - Adamsite, Acrolein, Cl₂, Chloropicrin, Stannic chloride, and phosgene.
- Incapacitating agents (riot control)
 - CN, CS, and CR.
- Toxins
 - Ricin and saxitoxin.

Industrial chemicals

- Metal Industries
 - Hg, KCN, H₂SO₄, HNO₃, and HCl.
- Photography
 - HgCl₂, and AgNO₃.
- Paint
 - Organic solvents, Toluene, Xylene, and Methanol.
- Furniture
 - Toluene.
- Incinerators
 - dioxanes and PAH.
- Tanning
- Carpet
 - Azodyes and mordants.
- Water purification
 - Bleaching powders.
- Plastic
 - PVC and calcium carbides.
- Paper
 - Cl₂ and NH₃.
- Brominated fire retardants
 - Forced landing of aeroplanes and fire brigades

Other relevant factors

1. Trends in chemical production
 - Very few industries, e.g. pharmaceutical companies (42) and pesticide formulators (5).
 - Imported raw materials.
2. Knowledge about effects of chemicals
 - Unavailability of database.
 - Less research work.
 - Unreported mild effects of chemicals.
 - Lack of knowledge and general awareness, e.g. Hg used in gold plating in an open place.
3. Negative effect of chemicals on some groups
 - Poor labours and males.

4. General awareness among the companies and stakeholders:
 - Lack of awareness and knowledge about the risks of chemicals.
5. Main driving forces for better chemical control
 - International conventions and agreements, e.g. WTO obligations.
 - Export of agricultural products.
 - Increasing awareness level of consumer health.

Need for chemicals control (five reasons)

1. Due to signatory of various international conventions.
2. Being a member of WTO.
3. Due to negative effect on human and animal health.
4. Environment degradation (biodiversity).
5. Illegal trade due to open borders, e.g. availability of banned chemicals (DDT).

Polycyclic Aromatic Hydrocarbon (PAH) molecule

- Incomplete combustion of organic matters.
- Cars (or trucks) burn gasoline exhaust (air pollution).
- Black cloud is full of PAH molecules.
- Cause cancer and acutely toxic, e.g. Benzo(a)pyrene.
- Some PAHs act like hormones.
 - Fooling animal systems which results in strange effects (such as making all the fish in a lake into female fish) might have an impact on people.
- Tyre burning
 - Incomplete combustion, 10-50 g/kg.
- How much pollution do we have in our hometown?

Legislation and institutions in the area of chemicals management

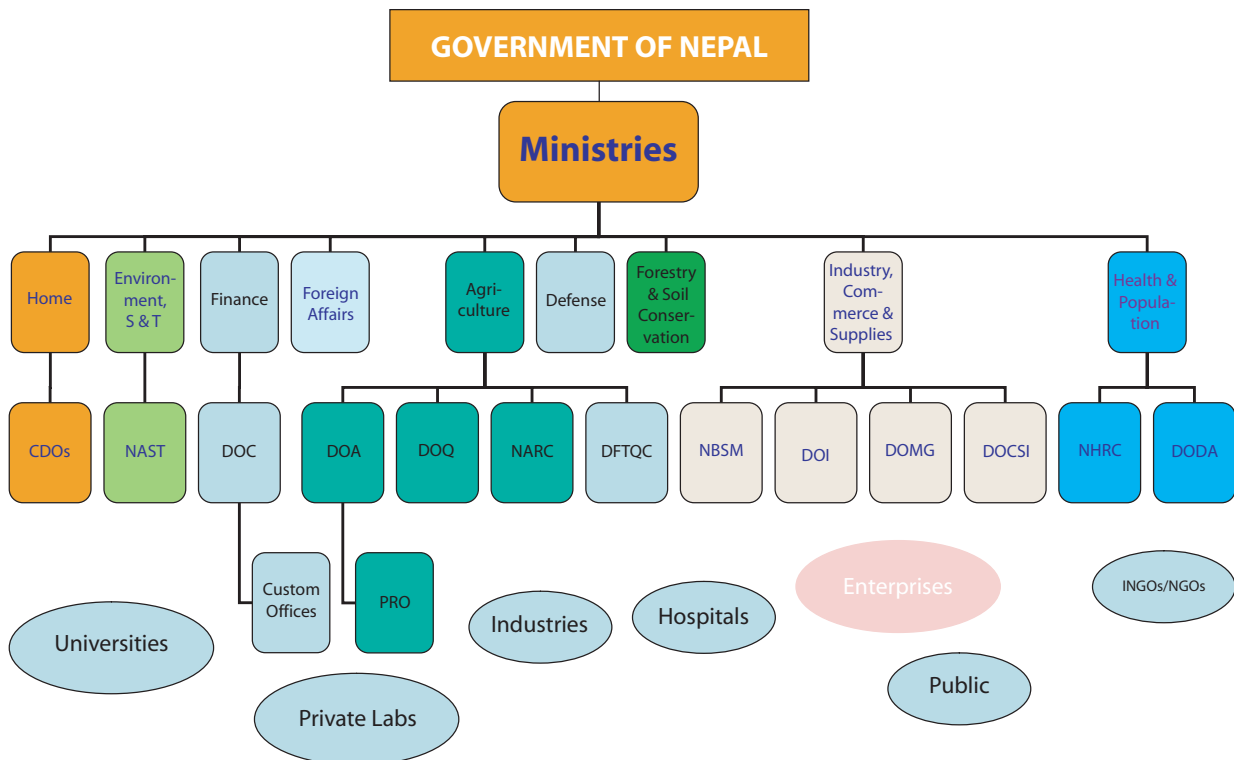


Table 1.3.1: Nepal is a signatory of different environment-related international conventions on distributions and use of hazardous chemicals

| No. | International Conventions | Starting Date | Ratification Date | Focal Points |
|-----|------------------------------|-------------------|-------------------|--------------|
| 1 | Stockholm Convention | 22 May 2001 | 5 April 2002 | MOEST* |
| 2 | Basel Convention | 22 March 1989 | 15 August 1996 | MOEST |
| 3 | Rotterdam Convention for PIC | 11 September 1998 | – | MOEST |
| 4 | Chemical Weapons Convention | 12 January 1993 | 18 November 1997 | MOFA** |
| 5 | Montreal Protocol | 2 May 1994 | 6 July 1994 | MOEST |
| 6 | SAICM | 6 February 2006 | – | MOEST |

Note: * Ministry of Environment, Science and Technology (MOEST)

** Ministry of Foreign Affairs (MOFA).

Table 1.3.2: Different acts and regulations related with chemicals

| No. | Different Acts | Acts | Regulation | Implementing institutes* |
|-----|---------------------------|------|---------------|--------------------------|
| 1 | Pesticide | 1991 | 1993 | MOAC (DOA) |
| 2 | Environmental Protection | 1997 | 1997 | MOEST (EPC) |
| 3 | Food | 1966 | 1970 | MOAC (DFTQC) |
| 4 | Arms Control | 1961 | 1962 | MOD |
| 5 | Drug | 1978 | 1995 (Policy) | MOH (DDA) |
| 6 | Industrial Enterprises | 1992 | – | MOICS (DOI) |
| 7 | Plant Quarantine | – | – | MOAC (DOA) |
| 8 | Veterinary Quarantine | 1997 | – | MOAC (DOAHS) |
| 9 | Narcotic Drug Control | 1986 | 1988 | HM |
| 10 | Nepal Consumer Protection | 1998 | – | MOC |
| 11 | Nepal Labour | 1992 | 1993 | MOLT |
| 12 | Cosmetics, Devices | 1980 | – | – |

* Notes:

- Home Ministry (HM)
- Ministry of Agriculture and Cooperatives (MOAC)
 - Department of Agriculture (DOA)
 - Department of Food Technology and Quality Control (DFTQC)
 - DOAHS.
- Ministry of Commerce (MOC)
- Ministry of Defence (MOD)
- Ministry of Environment, Science and Technology (MOEST)
 - Environment Protection Council (EPC)
- Ministry of Health (MOH)
 - Department of Drug Administration (DDA)
- Ministry of Industry, Commerce and Supplies (MOICS)
 - Department of Industries (DOI)
- Ministry of Labour and Transport (MOLT).

Objectives

- For formulating an effective strategy for chemicals management and programme.
- To identify users or suppliers of different chemicals.

Expected outputs

- A list of chemical users and estimation of annual consumption.
- A list of chemical suppliers and their annual supply.
- Dissemination of information related to chemicals and alternative non-toxic technologies down to the user-supplier chain.
- Suggestions or other inputs for users and suppliers for formulation and implementation of national strategies for chemicals management and programmes.
- A plan proposal for national action for chemicals management of SMEs in Nepal.

Main issues addressing the development of chemicals management

- Lack of knowledge and awareness
- Lack of coordination
- Lack of quality control and monitoring
- False labeling, adulteration, different trade names (HS, CAS)
- Illegal market
- Obsolete pesticides
- Lack of database
- No safe disposal

Tentative ideas for a development of chemicals management system in Nepal

- Formulating an effective strategy
 - Identify the users as well as the suppliers
 - Estimate the consumption
- Regulate the entry and consumption limits. Also promote non-toxic alternatives (e.g. bio-pesticides).
- Reporting of data, research, development, public awareness and exchange of information, and technology transfer.

How to address the issues?

- Apex body
 - NAST
- One single ministry
- Committee supported by sub-committees

Conclusions

- No homework done.
- Workshop
 - Initial step towards this direction.
- National action plan.
- Coordination between all acts and regulations.

Experience on implementation of the Rotterdam Convention: Pakistan

by Mr Sajjad Ahmad and Mr Allah Rakha Asi
Ministry of Environment, Government of Pakistan

The summary on the status of the Rotterdam Convention implementation in Pakistan is as follows:

Brief introduction of the organization

Ministry of Environment

The Ministry is responsible for the national environment policy, planning and international environment coordination.

Status of the environment in Pakistan

Pakistan took a number of steps for the protection and conservation of environment during the past couple of decades. These included various institutional arrangements as follows:

- Establishment of a full Ministry of Environment
- Constitution of the Pakistan Environmental Protection Council (PEPC). PEPC which is headed by the Prime Minister of Pakistan is the highest forum responsible for strategic policy decision in environment and sustainable development.
- Establishment of Federal and Provincial Environmental Protection Agencies (EPA)
- Enactment of the Pakistan Environmental Protection Act 1997
- Pakistan has prepared and enforced the National Environment Quality Standards (NEQS) for monitoring the industrial and other environment pollution.
- The most significant achievements in the recent years are incorporation of environmental concerns in government policies and requirement of the process of Environmental Impact Assessment (EIA) in the development schemes.

Pakistan and Multilateral Environmental Agreements (MEAs)

In line with the global commitments for environment protection, Pakistan has ratified/signed and actively participating in chemicals related conventions as follows:

- Basel Convention on the Control of Transboundary Movement of Hazardous Waste and their Disposal,
- Rotterdam Convention on Prior Informed Consent for Certain Hazardous Chemicals,
- Stockholm Convention on Persistent Organic Pollutants,
- Strategic Approach to International Chemical Management (SAICM), and
- Montreal Protocol on Ozone Depleting Substances (ODS).

Pakistan has also ratified almost a dozen other multi-lateral environment agreements, which are being successfully implemented. These include, among others, the following:

- Stockholm Conference on Human Environment,

- Rio Convention,
- Convention on Biological Diversity (CBD),
- United Nations Framework Convention on Climate Change (UNFCCC), and
- Convention to Combat Desertification (CCD).

Government policy and legal framework regarding environment

National environment policy

- The first ever Environment Policy of Pakistan was approved on 29 June 2005 by the Federal Cabinet.
- It provides an overarching framework for addressing the environmental issues faced by Pakistan. In particular, water pollution, air pollution, solid waste management, deforestation, loss of biodiversity, desertification, natural disaster and climate change are the major issues covered by the policy.
- It also gives directions for addressing the cross-sectorial issues as well as underlying causes of environmental degradation and meeting international obligations.

The objectives of the national environment policy are as follows:

- Conservation, restoration and efficient management of environmental resources,
- Integration of environmental considerations in policy making and planning process,
- Capacity building of government agencies and other stakeholders at all levels for better environment management,
- Meeting international obligations effectively in line with the national aspirations, and
- Creation of a demand for environment through mass awareness and community mobilization.

Legal framework regarding the environment:

The Pakistan Environmental Protection Act was enacted by the Parliament on 6 December 1997 to provide for the following:

- The protection, conservation, rehabilitation and improvement of environment, and
- The prevention and control of pollution, and promotion of sustainable development.

The Act particularly focuses on the following:

- Implementation of Council's policies,
- Delegation of powers to government agencies,
- Enforcement of national environmental quality standards,
- Introduction of EIA/IEE review procedures/system,
- Regulatory regime for hazardous substances/wastes, and
- Resource generation through establishment of Provincial Sustainable Development Fund and levy of Pollution Charge and providing appellant forum for environmental cases.

Operationalization of Act

On the enactment of the law, Ministry of Environment sets its priorities to operationalize its provisions. The following rules and regulations have so far been finalized in consultation with the stakeholders:

- Establishment of the Pakistan Environment Protection Council, Rules, 1998
- Delegation of powers to the Provincial Governments, Rules, 1998
- National Environmental Quality Standards (Self-Monitoring and Reporting by Industries) Rules, 2001
- Environmental Samples Rules, 2001
- Provincial Sustainable Development Fund (Procedure) Rules, 2001
- Provincial Sustainable Development Fund (Utilization) Rules, 2001
- Pollution Charge for Industry (Calculation and Collection) Rules, 2001
- National Environmental Quality Standards (Environmental Laboratories Certification) Regulations, 2000
- Pakistan Environmental Protection Agency (Review of IEE/EIA Regulations, 2000)
- Hospital Waste Management Rules, 2005.

Overview of chemical industry

The chemical industry is collection of large number of industries including but not limited to chemicals and material industry, agrochemical industry, pharmaceutical industry, plastic, rubber and polymer industry, petrochemical industry, paints and coating industry, paper and pulp industry, and fertilizer industry.

The chemical units are widespread throughout the country. These include the following:

- Two units of Soda Ash,
- 3 units of Caustic Soda,
- 18 units of Sulphuric acid,
- 300 units of paint and coating,
- 1 unit of PVC manufacturing,
- 1 unit of polystyrene manufacturing, and
- 500 other units throughout the country.

Chemical management in Pakistan

- Joint Secretary (International Cooperation)/DNA Industrial Chemicals of the Rotterdam Convention as Chairman
- Representatives from the Federal Board of Revenue (FBR), the Ministry of Industries, Production and Special Initiatives, the Ministry of Commerce, the Ministry of Science and Technology, the Ministry of Food, Agriculture and Livestock, the Ministry of Health, the Ministry of Law, Justice and Human Rights, the Pak-EPA, the EPD, Punjab, the EPD, Sindh, the EPD, Balochistan, the EPD, N.W.F.P, and FAO.
- Dr Mahmood A. Khawaja, SDPI, as expert representative from NGO
- Dr Muhammad Ashiq, Team Leader, Eco-toxicological labs, National Agricultural Research Council (NARC), Islamabad

- Dr Rashid Karim, Department of Environmental Sciences, International Islamic University, Islamabad
- Dr Iffat Naseem, Associate Professor, Department of Environmental Biology Quaid-e-Azam University, Islamabad
- Representative from MEAs Secretariat, Ministry of Environment, Islamabad
- Representative from Federation of Pakistan Chamber of Commerce and Industries (FPCCI), Islamabad
- Technical Officer (Chemical), Ministry of Environment, as Secretary.

National Disaster Management Authority

At present, National Disaster Management Authority (NDMA) is focal point for Emergency Coordination in case of chemical disaster in the country. NDMA is being assisted by the Ministry of Industries, the Ministry of Foreign Affairs, the Ministry of Environment and the Ministry of Commerce, and the Central Board of Revenue (CBR) which is responsible for managing import/Export control system related to different chemicals.

The matters related to pesticides industry are being managed by the Ministry of Food, Agriculture and Livestock.

Some projects

- Inventories on sources of PCBs, Dioxins, Furans and POPs pesticides have been initiated in accordance with the guidelines prepared by the Secretariat of the Stockholm Convention.
- Kasur Tannery Pollution Control Project (KTPCP) is treating 12700 M³ tannery waste water of 237 leather industries in Kasur.
- Cleaner Production Center (CPC) is working to introduce CP technologies in Sialkot (chrome recovery plant).
- Individual waste water treatment plants are working in different industries such as textile, dairy, paper and pulp.
- UNITAR has approved the Pilot Project (2006-09) for SAICM Implementation in Pakistan. The objective of this project is to develop and integrate the national programme for the sound management of chemicals and waste, with focus on strengthening governance, stakeholder participation and public-private partnership.
- Mercury Inventory Pilot Project (2007) has been approved by United Nations Environment Programme (UNEP) for Pakistan and the project is in progress.

Pakistan and the Rotterdam Convention

Benefits

- National Disaster Management Authority (NDMA) is taking cognizance in case of incidence.
- Movement is restricted by issuing NOC by the Ministry of Environment.
- Consent is granted on the provision of environmental management system in that industry.
- Environmental Protection Agencies (EPA) regularly monitors the chemical status in different regions.

- Mercury test equipment has been provided to all provincial EPAs with requisite manpower.
- EPA regularly monitors the compliance with the National Environment Quality Standards (NEQS).
- Risk reduction is ensured at the borders by import policy.

Issues and suggestions

- Technical capacity for system management and field operation.
- Establishing nearby hospital facilities.
- Awareness among public as end-users.
- Sharing of best practices and experiences by the Convention Secretariat.
- Making a documentary on hazards and remedies.

Experience on implementation of the Rotterdam Convention: Sri Lanka

Introduction

In Sri Lanka the industrial, agriculture, medical, research, education, services and household sectors use chemicals widely for different purposes.

Industrial sector has emerged as an important component in Sri Lanka economy after liberalization of economic policy. Major manufacturing industries are in the textile, leather, apparel and chemical-based sectors. These sectors have contributed to the overall growth of the private sector industries.

As at present, it is estimated that close to a thousands varieties of chemicals are brought into the country. It is widely believed that improper usage of chemicals is possibly one reason for the increase of incidences of cancer in the country.

According to medical sources, the rate of increase of cancer over the past 20 years is about 3.8 percent although it has not been statistically co-related to chemical pollution. However, there is evidence to show that unwise use of fertilizer has resulted in the increase of nitrate content in ground water in the North and North Western parts of the country that could be reliably correlated with the increase of various diseases such as blue baby syndrome.

Sri Lanka has implemented the Convention on a voluntary basis as part of the interim Prior Informed Consent (PIC) procedure and acceded to the Convention in 2006 with a view to improve chemicals management in the country. The procedure was implemented through the Designated National Authorities (DNAs), namely the Registrar of Pesticides (ROP) of the Department of Agriculture (DOA) and the Central Environmental Authority (CEA) representing pesticides and industrial chemicals respectively.

Chemicals management infrastructure

The Management Infrastructure of chemical in Sri Lanka could broadly classified under pesticides and industrial chemicals.

While, pesticides are comprehensively regulated by an Act of Parliament, the other chemicals are regulated based on concerns associated with their life cycle of use. Environmental pollutions, occupational health, consumer safety are some of those aspects under which some of those chemicals regulated to achieve desired objectives of the disciplines.

Chemicals management in Sri Lanka includes international instruments of the Stockholm Convention, the Basel Convention, the Montreal Protocol and the Chemical Weapon Convention. While the environment pollution related aspects of the chemicals are regulated by the Central Environmental Act, the exposure to the chemicals through food items are regulated by the Food Act implemented by the Health Ministry. Enforcement of the laws related to the pesticides is mandated to the Ministry of Agriculture.

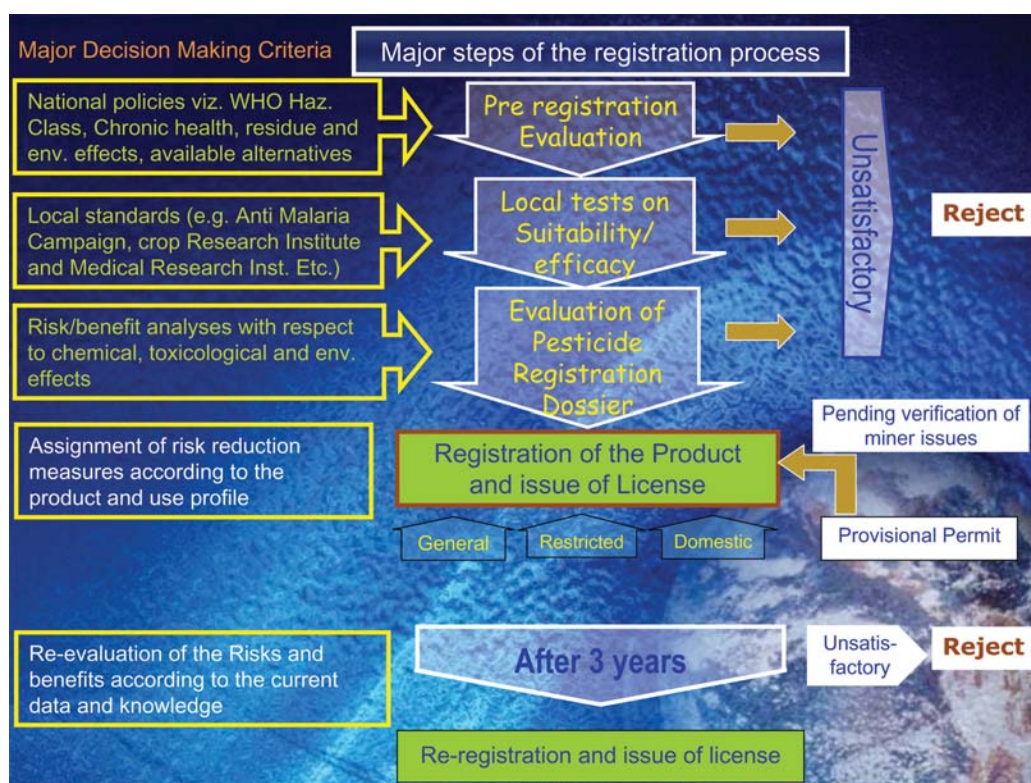
For the purpose of implementation of Rotterdam Convention, an Inter-Ministerial Coordination Committee has been established under the Ministry of Agriculture.

For the purpose of implementation, the Registrar of Pesticides has been identified as the officer who is responsible for enforcement of the Control of Pesticides Act.

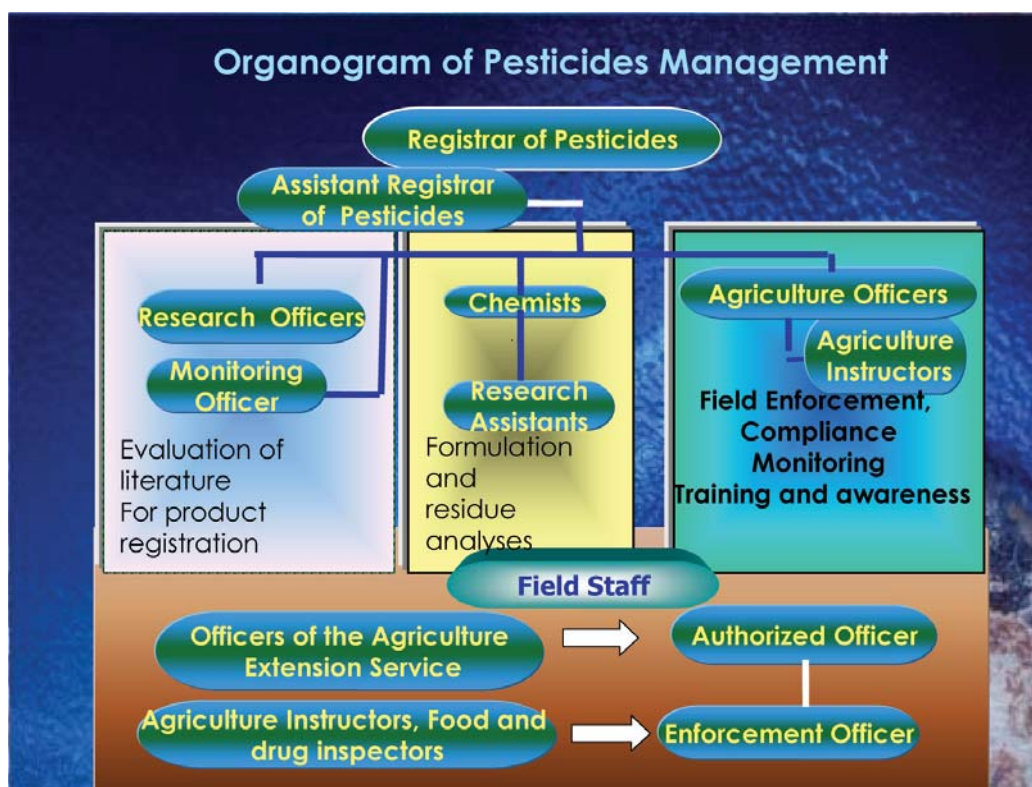
Legislative control

Pesticides

The Control of Pesticides Act No. 33 of 1980 [Annex 1: The Act] is the main framework of legal instrument that provides the required provisions for the management of pesticides including all other types of pesticides in the Country. The Act No. 6 of 1994 brought amendments to certain legal provisions of the original Act and strengthened some of the management aspects. The Act regulates import, formulation, re-packing, labeling, storage, transport, sale, and use of pesticide-treated crops through registration of products.



The Registrar of Pesticides (ROP) is the licensing authority. An inter-ministerial Technical Advisory Committee which is established according to the legal provisions of the Act advises the ROP on all related activities pertaining to efficient management of pesticides in the country. The Committee also formulates necessary policy guidelines. The office of the ROP is functioning under the Department of Agriculture of the Ministry of Agriculture.



Pesticide Technical and Advisory Committee

Ten ex-officio members:

- Director General of Agriculture (Chairperson)
- Registrar of Pesticides (Secretary)
- Director General – Health Services
- Director General – Central Environmental Authority
- Director General – Standards Institute
- Government Analyst
- Heads of Tea, Coconut and Rubber Research Institutes
- Deputy Commissioner General of Labour (Occupational Health)
- Five experts from University, Customs, Attorney Generals Department and Two Scientists in related fields

There are few aspects in pesticide management that are covered by other regulatory mechanisms. Table 1.5.1. indicates the regulatory instruments addressing all the key management elements of pesticides in the country.

Table 1.5.1: Regulatory instruments of key management elements of pesticides

| Element of Pesticide Management | Legal instrument | relevant articles/provisions | Enforcement Agency |
|---|---|--|--|
| Registration | Control of Pesticides Act | Distribution and use/Section 6 | Office of the Registrar of Pesticides |
| Importation | Control of Pesticides Act | Requirement of import of registered products/ Section 17 | Office of the Registrar of Pesticides |
| | Customs Ordinance and Import and Export Control Act No. 01 of 1969 | Import control licensing provisions/Sections 4(3), 14 and 20 | Dept. of Customs, Dept. of Import and Export Control |
| Formulation and repackaging | Control of Pesticides Act | Requirement of registration of the product/Section 14 | Office of the Registrar of Pesticides |
| | Factories Ordinance No. 45 of 1942 together with the amendment to the legislation in 1946 | The amending Act. No. 54 of 1961, the Law No. 12 of 1976, and the regulations made there under, provides provisions to ensure the safety, health and welfare of workers in factories | Division of Occupational Health |
| | Environmental Act No. 47 | Environmental protection related to effluents and emissions/Section 23 A | Central Environmental Authority |
| Storage and transport | Control of Pesticides Act | Prevention of contamination of Food items, unwarranted exposure/Section 16 and 19 | Office of the Registrar of Pesticides |
| Distribution | Control of Pesticides Act | Assurance of legitimate use/Section 14 | Office of the Registrar of Pesticides |
| Waste management, including disposal of pesticide container | Environmental Act No. 47 | Environmental protection related to effluents and emissions/Section 23 A | Central Environmental Authority |
| Licensing | Control of Pesticides Act | Requirement of registration of the product | Office of the Registrar of Pesticides |
| Control of labeling | Control of Pesticides Act | Safe and proper use/Section 8 | Office of the Registrar of Pesticides |
| Control of unauthorized use of pesticides | None | Not applicable | Not applicable |
| Control of advertisements | Control of Pesticides Act | Judicious use/Section 18 | Office of the Registrar of Pesticides |
| Control of professional pest control operators | Control of Pesticides Act | Authorization for use of restricted pesticides/ Section 7 | Office of the Registrar of Pesticides |
| Control of quality pesticides | Control of Pesticides Act | Requirement of registration of the product/Section 6 | Office of the Registrar of Pesticides |

Table 1.5.1: (continued)

| Element of Pesticide Management | Legal instrument | relevant articles/provisions | Enforcement Agency |
|--|---------------------------|--|---------------------------------------|
| Monitoring of pesticide residues in food and the environment | Control of Pesticides Act | Harvesting of treated crops/Section 20 | Office of the Registrar of Pesticides |
| | Food Act No. 26 of 1980 | Residues in food (MRLs)/ Section 30 | The Food Control Administration |

Industrial chemicals

Legal instruments/regulations, policies and/or non-regulatory mechanism

Industrial chemicals are governed under a multitude of statutes. These statutes carve out certain classes of industrial chemicals for regulation. They have been formulated for a variety of purposes such as health, public interest, maintenance of professional standards, particularly in the medical and related professions. As a result, there is no uniform approach to management of all industrial chemicals.

Legal instruments/regulations relating to import of industrial chemicals

On import of the industrial chemicals alone, there are eleven acts passed by the parliament and implemented by eleven organizations. Two examples are listed below:

- Sri Lanka Ports Authority Act No. 51 of 1979 (as amended) which is implemented by SLPA.
- National Environmental Act No. 47 of 1980 with Acts No. 56 of 1988 and No. 53 of 2000 (as amended) which are implemented by the Montreal Protocol Unit of the Ministry of Environment.

Legislations relating to processing, storage, disposal of industrial chemicals

There are 7 more legislations that cover this area. Two examples are as follows:

- Industrial Promotion Act No. 46 of 1990 (supra) which is implemented by Ministry of Industrial Development.
- Fertilizer Act No. 68 of 1988 (Supra) which is implemented by NFS.

Legislations relating to transport of industrial chemicals

There are three important legislations regarding the transport of industrial chemicals in Sri Lanka. These include Motor Traffic Act implemented by the Department of Motor Traffic where there is no specific regulations relating to the transport of chemicals, as well as Atomic Energy Authority Act No. 19 of 1969 (Supra) and Explosives Act No. 21 of 1956 (Supra) which stipulate conditions for the transport of specific categories of chemicals.

Other legislations

There are four other relevant legislations that apply to Industrial Chemicals Management Factories Ordinance No. 45. Workmen's Compensation Act No. 19 the Code of Criminal Procedure under whose public nuisance provisions the public is given the right to institute proceedings against a party causing a nuisance to normal public life.

Non-regulatory mechanisms

In addition there are non-regulatory mechanisms such as industrial practices (e.g. where pharmaceutical traders are reluctant to accept chemicals, which have not been registered with the Cosmetics Devices and Drugs Authority). There are also quality assurance and awareness programmes that educate sections

of Community, and “ Watchdog” groups who are ever vigilant on the industries that violate safety laws. However such voluntary mechanisms are not very strong.

Relevant ministries and agencies

There are many agencies in the public sector, some semi-government agencies, and a few private sector organizations that have an important role to play within the management framework of the industrial chemicals in Sri Lanka. Under these categories, 24 ministries and agencies are listed along with their functions related to the industrial chemical management. Some examples are as follows:

| Name of the Institution | Main Function(s) executed in relation to industrial chemical management |
|---|---|
| Sri Lanka Ports Authority | <ul style="list-style-type: none"> • Unloading of chemical containers from ships and temporary storage |
| Sri Lanka Customs Department | <ul style="list-style-type: none"> • Enforcement of import control regulations for chemicals • Identification of the chemicals mainly for collection of taxes • Verification of Authenticity of documents and physical examination of cargo. |
| Department of Import and Export Control | <ul style="list-style-type: none"> • Control of import of restricted industrial chemicals by issuing licenses. |

Status of use, production, import and export of Annex III chemicals

Annex III chemicals are not produced in the country and, therefore, the country has no experience of exporting them.

None of the pesticides listed in the Annex III are currently imported into Sri Lanka and, hence, no consent has been sought. Some of the industrial chemicals, where the regulatory infrastructure does not provide satisfactory control over their import, require consent. The country status in relation to the industrial chemicals in the recent past is as follows:

| Year | Number of Cases | Number of Consents |
|------|-----------------|--------------------|
| 2004 | 3 | 3 |
| 2005 | 2 | 2 |
| 2006 | 1 | 1 |
| 2007 | 3 | 3 |

In-country uses of the above chemicals:

- Textile auxiliary,
- Wetting and dispersing agent for pigment in paints and coatings, and
- Use as an active ingredients of Neopozine.

Chemicals imported based on the PIC procedure;

- Nonyl phenol ethoxylate,
- Nonyl phenoxy ethanol,
- Iso-hexane carbondioxide (Aerollene),

- Aliphatic glycol,
- Creosote and Creosote related substances, and
- Chloroform.

Role of the DNA in chemicals management activities

There are two DNAs functioning in Sri Lanka covering pesticides and industrial chemicals separately. The agencies mandated for the two functions are:

- DNA(P) for Pesticides – Registrar of Pesticides, Ministry of Agriculture,
- DNA(IC) for Industrial Chemicals – Central Environmental Authority, Ministry of Environment

The DNA(P), by law, is responsible for management of pesticides through the entire lifecycle from import, and manufacture to use, disposal and health safety. Thus all the elements of implementation of the Rotterdam Convention are embodied in the regular mandates of the DNA(P) in Sri Lanka. The inter-agency and inter-sectoral coordination is achieved through the technical advisory committee functioning under the enforcement of the control of Pesticides Act.

Technical Advisory Committee for the Management of Industrial Chemicals (TACMIC) in Sri Lanka has been established to advise the CEA for effective and efficient implementation of the obligations assigned to the CEA as the DNA of the RC.

Agencies involved

CEA, the Ministry of Environment and Natural Resources, the Ministry of Industries, the Department of Import and Export Control, the Department of Industries, the Department of Customs, the Board of Investment, the Ministry of Health, the Ports Authority, and the Registrar of Pesticides (ROP).

Current legal infrastructure and administrative procedure with respect to the Rotterdam Convention

An inter-ministerial steering committee co-chaired by the Ministries of Agriculture and Environment is responsible for the administrative implementation of the Rotterdam Convention. The other agencies involved in the steering committee are the Controller of Import and Export, the Department of Customs, the Ministry of Industries and the two DNAs.



The technical aspects of the implementation of the elements of the Convention are carried out by the two DNAs in consultation with their respective technical advisory committees.

The Control of Pesticides Act provides most of the key provisions on pesticides for the purpose of the Rotterdam Convention. Listed below are the key legal instruments in implementation of the provisions of the Convention with respect to the industrial chemicals.

- Imports regulated under the Imports and Export (Control) Act No. 1 of 1969, except for BOI requirements.
- Limited provisions under NEA No. 47 of 1980.
- Occupational health aspects are regulated under the Factory Ordinance of 1946.
- Import and Export regulations are implemented and enforced under the Customs Ordinance.



The National Environmental Act is being amended to make provisions for management (transport, storage, formulation, use and disposal) of the industrial chemicals.

Status of implementation of the Rotterdam Convention

With respect to pesticides under the PIC procedure, 22 out of the total of 30 pesticides including the Severely Hazardous Pesticide Formulations (SHPF) in the Annex III of the Rotterdam Convention have either been banned or not used in the country. Some of the formulations such as monocrotophos and methamidophos which posed unacceptable risk under the conditions prevailing in developing countries were banned as far back in 1995. There are 26 pesticides formally declared in the gazette as banned. Many others have been denied acceptance for registration based on technical reasons including hazards.

The importing country responses for 23 chemicals in Annex III have been reported. Asbestos (Crocidolite) is the only industrial chemical notified so far. A Technical Advisory Committee has been established for industrial chemical management. DNA(IC) in consultation with the committee will make the final decision on the importing country status.

Challenges in implementing the Rotterdam Convention

Key issues to be addressed through the ratification of the Convention in Sri Lanka

- Limited capacity and skills for risk assessment.
- Insufficient mechanisms to effectively control the influx of the chemicals, particularly the industrial chemicals.
- Absence of proper regulatory mechanism in place under the available legislations to address the issues pertaining to the industrial chemical management.
- Poor public awareness on hazardous associated with chemicals.
- Insufficient communication, coordination and cooperation among the stakeholders.
- Health and environmental adverse effects are not properly monitored.

Suggested actions to implement the Convention in Sri Lanka

- Since the existing legislative and administrative framework is adequate for the implementation of the Rotterdam Convention, further development of pre-market evaluation of the industrial chemicals is suggested.
- Consider opportunities to further develop specific elements of the implementation plan for the Rotterdam Convention in parallel to the Stockholm Convention as appropriate.
- Review and strengthen the legal framework and the infrastructure facilities in order to manage chemicals efficiently.

Experience on implementation of the Rotterdam Convention: Thailand

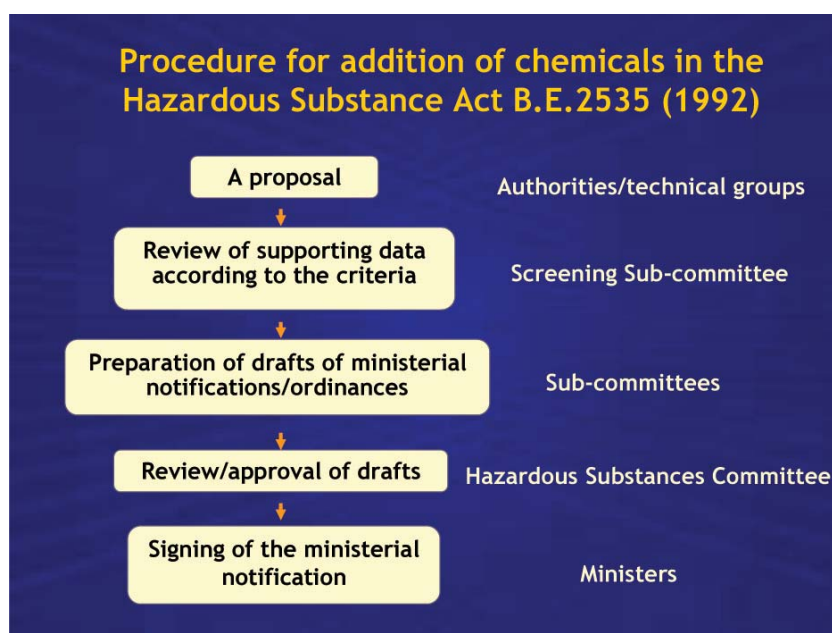
1. How chemicals are managed in Thailand

(a) Overview of chemicals management infrastructure in the country including both pesticides and industrial chemicals

Thailand regulates pesticides and industrial chemicals under the Hazardous Substances Act B.E. 2535 (1992) in all activities including the production, import, export, or having in possession. The hazardous substance is classified according to the needs for control as follows:

- **Type 1** hazardous substance, of which the production, import, export, or having in possession must comply with the specified criteria and procedures.
- **Type 2** hazardous substance, of which the production, import, export, or having in possession must first be notified to the authority and must also comply with specified criteria and procedures.
- **Type 3** hazardous substance, of which the production, import, export, or having in possession must obtain a permit.
- **Type 4** hazardous substance, of which the production, import, export or having in possession is prohibited (*banned*).

The Committee on Hazardous Substances plays a key role in reviewing hazardous chemicals for inclusion in the Hazardous Substances Act B.E. 2535 (1992). The committee consists of members from relevant government agencies at the levels of Permanent Secretary or Director General, with the Permanent Secretary of the Ministry of Industry as the chairman and the Director General of the Department of Industrial Works as secretary. Those government agencies are the Department of Internal Trade, the Department of Medical Services, the Department of Public Works, the Police Department, the Department of Agriculture, the Department of Agricultural Extension, the Food and Drug Administration, the Office of Atom for Peace, the Thai Industrial Standards Institute, the Ministry of Defense and the Ministry of Natural Resources and Environment. The committee also has the support of experts and technical advisors on chemical management issues.



The regulatory actions taken to ban or severely restrict chemicals within the country are generally based on hazard review and risk assessment (ref. the guideline for risk analysis of the Chemical Hazard Screening Sub-committee under the Hazardous Substances Committee).

The criteria taken into consideration in both cases include human health and environmental monitoring. Alternatives, costs/benefits and/or supporting information from other reliable sources are also taken into consideration when submitted by relevant agencies. However, the levels of risk assessment vary from chemicals to chemicals.

The chemicals listed in Annex III of the Rotterdam Convention (RC) are enlisted in the ministerial regulations issued under the Hazardous Substances Act B.E. 2535 (1992). The control status of Annex III chemicals are summarized in Tables 1.6.1, 1.6.2 and 1.6.3 below.

Table 1.6.1: Control status of Annex III pesticides under the Hazardous Substances Act B.E. 2535 (1992)

| Pesticides (24) | Control Status* |
|--|----------------------------------|
| 2, 4, 5-T and its salts and esters | Type 4 (DOA) |
| aldrin | Type 4 (FDA/DOA) |
| binapacryl | Type 4 (DOA) |
| captafol | Type 4 (FDA/DOA) |
| chlordane | Type 4 (FDA/DOA) |
| chlordimeform | Type 4 (DOA) |
| chlorobenzilate | Type 4 (FDA/DOA/DIW) |
| DDT | Type 4 (FDA/DOA/DIW) |
| dieldrin | Type 4 (FDA/DOA/DIW) |
| dinitro-ortho-cresol (DNOC) and its salt (such as ammonium salt, potassium salt and sodium salt) | Type 4 (DOA) |
| dinoseb and its salts and esters | Type 4 (FDA/DOA) |
| 1, 2 – dibromoethane, (EDB) | Type 4 (FDA/DOA/DIW) |
| ethylene dichloride | Type 3 (DIW)/Type 4 (FDA/DOA) |
| ethylene oxide | Type 3 (DIW)/Type 4 (FDA/DOA) |
| fluoroacetamide | Type 4 (FDA/DOA) |
| HCH (mixed isomers) | Type 4 (DIW) |
| heptachlor | Type 4 (FDA/DOA) |
| hexachlorobenzene | Type 4 (FDA/DOA/DIW) |
| lindane | Type 4 (DIW/DOA) |
| mercury compounds, including inorganic mercury compounds, alkyl mercury compounds and alkyloxyalkyl and aryl mercury compounds | Type 3 (DIW) Type 4 (FDA/DOA) |
| monocrotophos | Type 4 (FDA/DOA) |
| parathion | Type 4 (FDA/DOA) |
| pentachlorophenol | Type 4 (FDA/DOA/DIW) |
| toxaphene | Type 4 (FDA/DOA) |

* DIW: Department of Industrial Works; DOA: Department of Agriculture; FDA: Food and Drug Administration

Table 1.6.2: Control status of Annex III SHPFs under the Hazardous Substances Act B.E. 2535 (1992)

| SHPFs (4) | Control Status |
|--|--|
| dustable powder formulations containing a combination of; <ul style="list-style-type: none"> • benomyl at or above 7% • carbofuran at or above 10% thiram at or above 15% | Type 3 (DOA) Type 3 (DOA) Type 3 (DIW/DOA) |
| methamidophos (soluble liquid formulations of the substance that exceed 600 g active ingredient/l) | Type 4 (FDA/DOA/DIW) |
| phosphamidon (soluble liquid formulations of the substance that exceed 1000 g active ingredient/l) | Type 4 (FDA/DOA) |
| methyl – parathion (emulsifiable concentrates (EC) at or above 19.5% active ingredient and dusts at or above 1.5% active ingredient) | Type 4 (FDA/DOA) Type 3 (DIW) |

Table 1.6.3: Control status of Annex III industrial chemicals under the Hazardous Substances Act B.E. 2535 (1992)

| Industrial Chemicals (11) | Control Status |
|---|----------------|
| asbestos-crocidolite | Type 4 |
| asbestos-actinolite | Type 4* |
| asbestos-anthophyllite | Type 4* |
| asbestos-amosite | Type 4 |
| asbestos-tremolite | Type 4* |
| polybrominated biphenyls (PBB) | Type 4 |
| polychlorinated biphenyls (PCB) | Type 4 |
| polychlorinated terphenyls (PCT) | Type 4 |
| tetraethyl lead** | Type 3 (DIW) |
| tetramethyl lead** | Type 3 (DIW) |
| tris (2, 3 – dibromopropyl) phosphate** | Type 3 (DIW) |

* Currently under the process of issuing the ministerial regulation.

** Type 4 under the DOA and FDA.

(b) Roles of DNAs in chemicals management activities in the country

Based on the chemicals to be controlled for different purposes under the Hazardous Substances Act B.E. 2535 (1992), Thailand has designated three Designated National Authorities (DNAs) for the implementation of the RC, namely the Department of Agriculture (DOA) as DNA for pesticides, the Department of Industrial Works (DIW) as DNA for industrial chemicals and the Pollution Control Department (PCD) as DNA for other chemicals and the official contact point.

- The mandate of DOA is mainly research on crops concerning various aspects including regulating agricultural materials such as plant breeds, agrochemicals, and fertilizers. The implementation of the RC has been assigned to the Pesticide Regulatory Sub-division since the introduction of the voluntary scheme of the PIC procedure. This Sub-division is mainly responsible for pesticide registration and licensing.
- DIW is under the Ministry of Industry, of which the Minister is given the power to issue the ministerial regulations as proposed by the Hazardous Substances Committee, to regulate chemicals

under the Hazardous Substances Act B.E. 2535 (1992) and publish them in the Government Gazette. DIW has taken actions to regulate the hazardous chemicals under the RC as listed in Tables 1.6.1, 1.6.2 and 1.6.3.

- PCD is currently under the Ministry of Natural Resources and Environment and responsible for the execution and enforcement of the Enhancement and Conversation of the National Environment Quality Act B.E. 2535 (1992). The Department's mission is to control, prevent, reduce and eliminate pollution and to conserve and rehabilitate the environment conducive for human life. Hazardous substance management is one of its key functions with specific duties such as recommending and preparing policy and plans, monitoring environmental quality involving hazardous chemicals, and developing appropriate systems, methodologies, and technologies for the application in the management of hazardous substances. In addition to the RC, PCD is a national focal point for the Stockholm Convention and Strategic Approach to International Chemicals Management (SAICM).

The coordination and communication mechanism regarding the implementation of the RC is done through the establishment of the National Sub-Committee. The National Sub-Committee for the RC has been appointed under the National Environment Board on 8 August 2005 to provide support for the effective operation of the RC. The Sub-Committee, chaired by the scholar under the National Environment Board, comprises representatives from 12 departments related to chemical management and international trade (i.e. the Department of Agriculture, the Department of Industrial Works, the Pollution Control Department, the Food and Drug Administration, the Department of International Organizations, the Customs Department, the Department of Treaties and Legal Affairs, the Department of Foreign Trade, the Department of European Affairs, and the Port Authority of Thailand), 3 scholars, representatives from industries (i.e. the Federation of Thai Industries and the Chemical Business Association), with PCD performing duties of the secretariat. On 17 January 2008, the composition of the Sub-Committee has been amended with the inclusion of representatives from the Department of Health and the Department of Disease Control of the Ministry of Public Health. There have been 8 national sub-committee meetings since September 2005.

2. Status of implementation of the Rotterdam Convention

Thailand has been active throughout the development of the RC. It became a party on 19 February 2002 by accession. Three Designated National Authorities (DNAs) and the National Sub-Committee for the RC have been appointed to support the implementation of the RC as mentioned above. Based on the outcomes of the National Consultation on the Development of National Action Plan for the Implementation of the RC held in Bangkok from 2-5 April 2007, the current implementation of the RC in Thailand is in line with the obligations of the Convention.

(a) PIC procedure

i. Import response (Articles 10 and 11)

Thailand has submitted import responses for all 39 chemicals listed in Annex III. All import responses indicated "no consent" decisions, except those for tetraethyl lead and tetramethyl lead, which indicated "consent under conditions". The import decisions have been made based on the control status of the Annex III chemicals as reported in Tables 1.6.1, 1.6.2 and 1.6.3. The import decisions are enforced simultaneously through the national regulation system as imports of Type 3 hazardous substances require registration and permission and imports of Type 4 hazardous substances are prohibited, except in a small quantity for use as laboratory standards and researches. With regard to import responses from other parties, the information is communicated to business sectors via internet publishing and through contact with industrial representatives in the National Sub-Committee.

ii. Notification of final regulatory actions (Article 5)

Thailand has submitted 53 Notifications of Final Regulatory Actions (FRAs) for banned or severely restricted chemicals to the Secretariat of the Rotterdam Convention. Notifications of FRAs have been submitted for all banned pesticides. At present, all pesticides and chemicals listed in Annex III to the RC have been either banned or severely restricted in Thailand.

iii. Severely hazardous pesticide formulations (Article 6)

There are infrastructures available within the country for reporting pesticide-poisoning incidents, including poison centres, occupational health clinics as well as the mandate for community hospitals to report pesticide-poisoning incidents. The information has been used by DOA to restrict pesticide formulations. However, Thailand has never submitted any proposal for severely hazardous pesticide formulations (SHPFs), as the types of data collected are insufficient to fulfill the criteria set out in the Convention.

(b) Information exchange provisions (Article 14)

Exchange of information under the RC is very useful to an importing country which has limited expertise and resources to conduct extensive researches on toxicology, persistency, residue limits, impact of pesticides on human and the environment. In the past, control measure, especially pesticide banning, is mostly based on PIC information.

For example, DOA used the information on Decision Guidance Documents (DGDs) for banning of chlorobenzilate, lindane, mevinphos and monocrotophos. The information available under the Convention is advantageous not only to the government but also to the agrochemical business.

i. PIC circulars

PIC circulars are published on the DNAs website and available to the public access. Thailand used the information on final regulatory actions for banned/severely restricted chemicals available on PIC circulars when it regulated the chemicals and when it made import decisions on such chemicals.

ii. Export notifications (Article 12)

Thailand acknowledges all export notifications received and utilizes the information of export notifications to regulate the chemicals. The sending of export notification indicates that such a chemical has been banned in the exporting country. The information and the reasons for banning are attached.

The information is useful for the Pesticide Surveillance Working Group because the banning action in a developed country is one of the criteria for consideration.

The export notification also gives us an opportunity to consent or not consent to import such a pesticide. In general, if a pesticide is registered for use in our country, the consent to import will be given to the pesticide.

In the case of nonylphenol ethoxylate which is used as emulsifier in pesticide formulation, the export notification shows that this chemical has an adverse impact on the environment. As a result, DOA advises the importers of the chemical to seek other substitute chemicals.

On the other hand, Thailand does not send any export notification because exports of banned pesticides and industrial chemicals are prohibited.

iii. Information to accompany export (Article 13)

The Harmonized System Customs Codes for Chemicals in Annex III have been used by the Customs Department. Thailand is currently developing a regulation on the implementation of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

iv. Rotterdam Convention website

DNAs consult the Convention website for all relevant information. They are also aware of the section on the technical assistance.

3. Challenges in implementing the Rotterdam Convention

- At present, pesticide registration is permanent but can be discontinued by revoking and banning. Revoking is applied to pesticides if they are proved to be ineffective or if they cause an unavoidable hazard. Registration and banning of pesticides in Thailand are under different authorities. Registration is under responsibility of DOA while banning is under the Hazardous Substance Committee chaired by Permanent Secretary of the Ministry of Industry. Banning process takes very long time. However, Thailand has a system that both registration and licenses are required for production, import, export and possession. If any pesticide is concluded to be banned and banning is still under the process, its license could be revoked in order to cease its use.
- Pesticide banning is based on available information such as DGDs, IARC publications and IPCS publications. Most of pesticide bannings has not been based on risks assessment involving prevailing conditions within the country, except for endosulfan. Consequently, most of notifications of final regulatory actions submitted by Thailand do not meet Criteria b(iii) of Annex II to the Convention.
- Thailand needs assistance to conduct risk assessment or incidents involving prevailing conditions within the country before banning a pesticide.
- A reporting system on pesticide poisoning incidents is also required to gather sufficient data for identification and assessment of SHPFs to support regulation of SHPFs and submission of a proposal.

Implementation of trade related provisions of the Rotterdam Convention (PIC): China

Introduction

China ratified the Rotterdam Convention (PIC) in December 2004 and began to enforce the PIC in 2005. As one of the largest pesticide producer and exporter countries in Asia and the Pacific, it is important for China to implement relevant trade related provisions of the Convention.

China has implemented a 3-year action plan for phasing out 5 highly toxic organophosphates since 2003, which results in an annual 20 percent decrease of the highly toxic pesticide volume. In addition, it is recently requested that the country should fully stop soonest the production and exportation of those toxic pesticides, whose distribution and use in domestic crop fields have been fully prohibited since 2007 but with a certain amount still being produced for exporting purpose in line with the previous plan.

The developments will have a significant impact on the domestic markets of its neighboring countries and other trading partners. They will also significantly contribute to the reduction of the health and environmental risks in these countries.

On the other hand, there is an urgent need for strengthening joint efforts in legal actions and the enforcement by involving various stakeholders at home and abroad, especially at the regional level.

Very impressive is the effort made by the Ministry of Customs to control hazardous or highly toxic chemicals listed in Annex III. It is suggested that trade marks of the chemicals and pesticides be registered with the Customs, so that their intelligent property could be protected, and fake products could be monitored closely. The current system of controlling and monitoring the export of Annex III chemicals is managed through an on-line system which traces the chemicals by special customs codes and the timely exchange of information between the Customs and SEPA. Thanks to the established system, more than 70 cases of exports were blocked by the Customs.

In view of the fast growth of pesticide and chemical export in recent years and with the increasing pressure of controlling and monitoring the trade and implementation of the Rotterdam Convention in China, the Ministry of Agriculture (MOA) and the State Environmental Protection Administration (SEPA) of China on behalf of the country's two Designated National Authorities (DNAs) requested the Secretariat of the Rotterdam Convention to assist them in organizing the National Workshop on Implementation of Relevant Trade Related Provisions of the Rotterdam Convention (PIC).

With the support of the Secretariat, the DNAs of MOA and SEPA developed the agenda of the workshop. Importantly, for discussion at the workshop, they jointly prepared contexts of part A and part B of a working paper on enhancement of implementation of the Convention, especially in relation to the trade related provisions in China. Based upon the implementation obligations under the Convention, the national working paper systematically summarized and introduced in detail how the Convention was implemented in China in respect of industrial chemicals and pesticides.

The national workshop on the implementation of trade related provisions of the Rotterdam Convention (PIC) was held from 29 October 2007 to 2 November 2007 in Hangzhou, China. It was jointly organized by MOA and SEPA. More than 30 representatives from the Ministry of Agriculture, the State Environmental Protection Administration (SEPA), the Ministry of Custom (including Shanghai and Nanjing Customs), the National Development and Reform Commission (NDRC), the Ministry of Commerce (MOC), the State Administration for Quality Supervision, Inspection and Quarantine

(SAQSIQ), the Certification Office for Approving Hazardous Chemicals Production, China Association of Pesticide Development and Application, Crop Life, pesticide producers (Nantong Jingshan and Zhejiang Jiahua) industry associations, importers, exporters and other concerned parties attended the workshop.

The national workshop represents one of the two phase thematic workshops approved in Decision RC-3/6 of the third meeting of the Conference of Parties (COP). On the basis of prior technical and financial assistance, with the focus on the implementation of the trade related provisions of the Convention at the national level as well as between the exporting party and its major trade partners, the two phase workshops are aimed at improving the abilities of developing country parties or parties with economies in transition in the implementation of the Convention.

Workshop summary

Representatives of the Chinese government agencies and international organizations attended the workshop. Among the participants were Mr Zhou Fuguo, Deputy Director General of the Department of Crop Production Management of MOA, Mr Fan Yuansheng, Director General of the Department of Pollution Control of SEPA, Mr Wang Yunhao, Director General of the Institute for the Control of Agrochemicals, MOA (ICAMA), Mr Zhu Zhiquan, Deputy Director General of Department of Agriculture of Zhejiang Province, Dr Yun Zhou of the Rotterdam Convention Secretariat, and Mr Piao Yongfan, Plant Protection Officer of FAO Regional Office for Asia and the Pacific and Secretary of the Asia and Pacific Plant Protection Commission (APPPC).

Dr Yun Zhou of the PIC Secretariat and Mr Piao Yongfan of FAO Regional Office and APPPC expressed the commitments of their organizations to the promotion of the implementation of the Convention in China, expecting that the workshop would produce valuable outputs.

During the workshop, Dr Yun Zhou and Mr Yongfan provided technical assistance and guidelines for the arrangement of the working paper through presentations and interactions.

At the national level, the mechanisms that governments chose to implement these obligations might vary, depending on their own administrative arrangements and available resources. The effective implementation of the Convention required adequate information flow and coordination at the national level between the DNAs and other key stakeholders within and outside the government. As a first step, the key stakeholders needed to have a common understanding of the necessary procedures involved.

The participants reviewed examples from the perspectives of each stakeholder and considered what actions and interactions would be required and by whom, taking into consideration the current practices, identifying gaps or needs for improvement, and exploring a way forward to address the gaps.

Based on the main elements of the Articles 10, 11 and 12 of the Convention, the actions required were analyzed. The participants also reviewed current operational procedures, which were outlined prior to the meeting by the MOA and SEPA.

The participants had considerable discussions on the following:

- Trade related Articles 10, 11, 12 and 13 of the Convention with regard to the obligations to comply with import decision, send and confirm the acknowledgement notification for export, and responsibility and obligation for the information provided for export;
- Current status of the implementation of the above Articles and the national operational procedures in China;

- Objective analysis of the situation of the implementation of the Convention in China, identification of gaps between the requirements under the Rotterdam Convention and the current status of the implementation in China and the challenges being encountered, as well as the proposals of solutions and suggestions for next steps;
- Clarification on the roles of the DNAs, customs officials, exporters, importers, manufacturers and other relevant stakeholders, if any, as well as the mechanisms for coordination and communication among the stakeholders in implementing these provisions;
- Identification of issues that would be considered in the 2008 follow-up workshop.

The technical assistance provided to the meeting through such dialogue, analysis, discussion and planning steps by the representatives of the PIC Secretariat and the FAO Regional Office and APPPC helped promote the collaboration among the various stakeholders in the country.

It was suggested that the outcomes of the workshop with the working paper, especially the recommendations made by each stakeholder, be included in the agenda of the next workshop to be held in 2008.

Workshop results

1. Intensive review discussions together with the presentations by the representatives of the PIC Secretariat as well as the FAO Regional Office and APPPC provided the participants from the MOA and SEPA with clarifications on the difference between the Annex III obligations and the responsibilities of exporting countries in information exchange. These responsibilities included, among others, various requirements on sending notifications to the PIC Secretariat with final regulatory decisions on hazardous chemicals, especially banned/prohibited highly toxic pesticides (including pesticides containing 5 highly toxic organophosphates); sending export notifications to importing countries (Article 12); making efforts as much as possible for putting labels on the products (pesticides) in the importing country's official language in addition to the compliance requirements related to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

The participants also gained a better understanding of the various provisions of the Convention. In addition, they were given further clarifications on the obligations and responsibilities related to the implementation of the Convention.

After a detailed explanation of eleven elements under the trade related Articles 10, 11, 12 and 13 of the Convention by Dr Yun Zhou of the Rotterdam Convention Secretariat and Mr Piao Yongfan of FAO and APPPC, the participants gained a better understanding of the Articles and other related ones. The key trade related provisions of the Rotterdam Convention contained in the Articles 10, 11, 12 and 13, indicated obligations and actions required from a Party.

In addition, the participants were given clarifications on certain areas which were not fully or accurately understood previously.

2. The workshop helped strengthen the coordination among DNAs and other stakeholders. It also helped consolidate and optimize the infrastructure of the implementation of the Convention.

Detailed discussions of various situations in the daily implementation further clarified the responsibilities of each party. Each stakeholder gained a better understanding of the roles and responsibilities of others. As a result, the coordinative relationship among the parties concerned was strengthened.

In fact, the process of preparing and hosting the workshop already significantly enhanced the coordination among the DNAs, the various departments and all the stakeholders.

3. The workshop succeeded in developing a working paper for the implementation of the trade related provisions of the Convention. Under the guidance of the PIC Secretariat, the participants studied the trade related provisions of the Convention, summarized the implementation status of the Chinese chemical and pesticide industry, identified challenges in the implementation of Convention, taking into account the new trends and situations of the Chinese industrial chemicals and pesticides management. In addition, the participants explored regulatory measures with an aim to improve the implementation of the Convention in China. These measures included, among others, completion and perfection of the relevant laws and regulations, improvement of the national systems of implementing the Convention and establishment of a platform for coordination for all the stakeholders.

4. Importantly, the workshop gave the Convention greater publicity. It provided an opportunity for the pesticide manufacturers, exporters and importers who previously paid little attention to the Convention to gain a better understanding of the various provisions of the Convention. Furthermore, the workshop helped clarify obligations of the manufacturers, exporters and importers in the implementation of the Convention. The workshop also served an effective measure to publicize and popularize the Convention and raise the industry's awareness and voluntary compliance with the Convention.

Steps forward

The workshop approved the following steps to be undertaken by the parties concerned.

1. Strengthen **legislative and administrative measures**.

- Move forward the law-making process. The concept of risk management for industrial chemicals and pesticides and prior informed consent (PIC) should be embodied in the process of drafting and revising laws and regulations relating to environmental protection, industrial chemicals and pesticides.
- Take a stricter and more effective monitoring measure to improve productivity with the priority aimed at ensuring environment safety and a successful implementation of the Convention.

2. Further improve and perfect the **coordination systems**.

- Strengthen the coordination and communication among the DNAs and other governmental agencies to achieve a seamless supervision of the chemicals and pesticides which are subject to the Rotterdam Convention.
- Strengthen the ability of the concerned parties to assist the DNAs in fulfilling their responsibilities.

3. Provide **more publicity** to the Rotterdam Convention and its relevant information

- On the basis of the current foundation, relevant departments which have such capacities should hold lectures on specific topics and organize training courses to train related companies and industry associations in order to raise the awareness of the importance of implementing the Convention among chemical and pesticide companies.
- Take further steps to enrich and perfect the contents of the current webpage, not only for domestic companies but also for other parties, to communicate the achievements and experiences acquired in China in the implementation of the Convention and prevention of chemical pollutions.

- It is recommended that existing webpages of the ministries should consider adding the special page for reflecting the updated status of the implementation of the PIC with a brief introduction of the key provisions and related national regulations. It may result in further cross-linkage with each other for sharing the information.
 - It is suggested that the internet connection be established on the certification system on export and import of pesticides between the MOA and the Ministry of Customs as soon as possible. This will enable both ministries to share on-line updated information on the import and export of the pesticides as well as the list of pesticides which are under strict control (currently about 1,000 items in total).
4. Make further efforts to receive **support from the PIC Secretariat** in the following areas.
- The PIC Secretariat might establish a unified form for export notification and promote its use by the parties to simplify the operation.
 - The PIC Secretariat might translate the key documents into Chinese, if the condition allows.
 - The PIC Secretariat shall further call on the parties to send and acknowledge export notifications in a timely manner.
 - A promotion of communication and exchange of experience in the implementation of the Rotterdam Convention among the Parties shall be taken through the PIC Secretariat to facilitate the implementation of the Convention in more countries and achieve the goal of protecting the global environment.
 - It is suggested that the PIC Secretariat may consider developing a webpage for providing various cases of implementation of the PIC, based on provisions (relating Annex III, notifications of the final regulatory actions, highlights of update development after the COP meeting, etc.). The PIC Secretariat is invited to consider the translation of Chinese version of the circular and guidelines of legal documents for the PIC through collaboration with the Chinese counterparts shortly. China may publish and distribute it to the stakeholders. The information will be updated regularly and available on the national webpages.
 - Lack of importing countries' acknowledgement in time to the export notifications is considered as one of major constraints of the communication between the importing countries and China. It is expected that the PIC Secretariat may explore a certain mechanism of reminding those importing countries to respond to the export notifications in a timely manner although it is not described in the Convention. It is also suggested that the PIC Secretariat may periodically put the updated list of status of country's response on the PIC website.

Other recommendations:

- It is recommended that the outcome of the meeting with the working paper, especially the recommendations by the meeting, should be reported to the senior officers who are in decision-making posts in each ministry to seek their understanding and supporting to the follow-up actions.
- The participants should make their effort as much as possible to include the recommended actions (the steps forward) in the working agenda of future activities including capacity building training and advocacy activities, workshops, annual meetings and other related activities.
- Both DNAs may organize an annual summary seminar or workshop by inviting the participants who attended this workshop to review the progress within the year. The two DNAs may revise the working document as well as exploring other possible joint activities in 2008.

Conclusion

The participants of the workshop recognize the importance of promoting close communications and interactions among major producers, exporters and importers, by sharing the most updated information of the legal decisions, regulations and circulars of the PIC Secretariat as well as the import decisions and export notifications provided by exporting countries through the official channels by DNAs in favourable languages.

Noteworthy is the fact that all participants from various ministries consider that joint actions including inspection and monitoring should be organized frequently in order to reduce the unregulated or illegal trade of pesticides in land-border areas.

Highlighted is the potential role of associations, such as China Association of Pesticide Development, whose function covers research, industry development, management, and strategy, which is chaired by a former Vice-Minister of the MOA and whose members consist of pesticide companies, producers, academic research institutes, and universities. Also noteworthy is the importance of the transition of the role and function of the Institute of Control of Agro-Chemical Quality, Ministry of Agriculture (ICAMA), with focus given on regulating and monitoring pesticide production, marketing and application.

It will be a good initiative to organize a joint workshop in 2008 for administrative agencies, exporters and importers who are the most important stakeholders and in the key position of the implementation of the PIC.

The workshop will cover the joint collaborations in the implementation of the Articles 10, 11, 12 and 13 of the Rotterdam Convention. The collaborations are expected to have a significant impact on anti-movement on smuggling trade of pesticides in land-border areas. The PIC Secretariat, FAO Regional Office for Asia and the Pacific as well as the APPPC Standing Committee on Pesticides may provide technical assistance to the meeting.

Development of national action plan for the implementation of the Rotterdam Convention: Pakistan

Introduction

The Ministry of Environment, Government of Pakistan is striving for environmental protection and pollution control in Pakistan. Safe use of chemicals and environmentally sound management of hazardous chemical wastes are the corner stone of the National Environmental Policy.

The International Cooperation (IC) Wing of the Ministry of Environment deals with the issues related to safe management of hazardous chemicals and wastes under various agreements such as the Basel Convention, the Stockholm Convention, the Rotterdam Convention, the Strategic Approach to International Chemicals Management (SAICM), the Montreal Protocol and the Kyoto Protocol.

The IC Wing arranges for several activities, aimed at enhancing capacity within the country to tackle the newly arising issues related to wise use of certain hazardous chemicals and safe disposal of harmful wastes.

Some chemicals and their by-products need careful evaluation before being released to the environment, while the use of certain other chemicals need to be banned or restricted in order to avoid environmental degradation and to combat rising levels of pollution.

The Joint Secretary, IC Wing, is the Designated National Authority (DNA) for the Rotterdam Convention. The DNA is striving for implementation of PIC procedure in the country. A participatory decision-making process has been adopted. In order to obtain active participation of stakeholders, the IC Wing occasionally organizes stakeholders dialogue and consultations.

One such national consultation workshop on the development of national action plan for the implementation the Rotterdam Convention was held in Islamabad from 26 to 29 June 2007 in collaboration with the Rotterdam Convention Secretariat and FAO for national capacity building. The consultation involved a wide range of stakeholders from the government, the civil society, the private sector, industrial and research organizations as well as professionals from the academia. The objective was to actively pursue the agenda of safer use and trade in the chemicals which could be otherwise harmful to human health and the environment.

The enhancement in capability of the concerned government officials and other stakeholders, will lead us towards development of a national action plan for the implementation of the Rotterdam Convention on certain hazardous chemicals.

The Ministry of Environment is actively pursuing creation of a strong technical cadre within the Ministry to cater for the future needs in respect of timely and effective decision making regarding various environmental issues and the international obligations. A National Multilateral Environmental Agreements (MEAs) Secretariat has been established in the Ministry. The Secretariat will give inputs to the Ministry on various technical issues.

The national consultative workshop on the development of national action plan for the implementation of the Rotterdam Convention, from 26-29 June, 2007, is very productive. The deliberations of the delegates will go a long way towards developing mechanisms for safe management of chemicals and wastes in Pakistan.

The opinions solicited from the technical experts and the valuable suggestions put forth by the learned participants will be reflected in the future strategies and plans devised in light of requirements/obligations under the Rotterdam Convention.

Brief background

Pakistan signed the Rotterdam Convention in September 1999 and ratified it on 14th July 2005.

In recent years, the Government of Pakistan has made significant efforts to establish and improve the national infrastructure for the management of chemicals. The Rotterdam Convention should assist the Government to further improve national infrastructure in chemicals and pesticides management.

The Government of Pakistan has two Designated National Authorities (DNAs). The Ministry of Environment (MoE) deals with industrial chemicals (under the RC) while the Plant Protection Department of the Ministry of Food, Agriculture and Livestock (MINFAL) deals with pesticides.

Purpose of the meeting

With the technical assistance of the Secretariat of the Rotterdam Convention and in cooperation with the Regional office of the FAO for Asia and Pacific and UNEP, a national consultation to support development of national action plan for the implementation of the Rotterdam Convention was held in Islamabad from 26-29 June, 2007.

The overall objective of this consultation was to facilitate a national dialogue involving relevant stakeholders on the Rotterdam Convention to review the current status of implementation and to identify the guidelines to develop a national action plan for the implementation of the Convention in Pakistan.

The consultation gave an opportunity to:

- Ensure the understanding of the aims, objectives and requirements of the Convention;
- Foster inter-departmental or inter-ministerial cooperation among the stakeholders in the implementation of the Convention;
- Develop, in a structured setting, a national action plan or strategy for the implementation of Rotterdam Convention.

Pakistan has actively participated in FAO programmes on IPM and pesticides management. Given the fact that all these programmes are dealing with chemicals and pesticides management, it would be helpful to involve the lead agencies responsible for these ongoing relevant activities. The forum provided an opportunity to exchange experiences and identify possibility for collaboration.

Participants from various ministries, public and private sector organizations (Appendix I) deliberated on issues and challenges; provided valuable inputs, suggestions and recommendations for practicable and possible solutions; and thus helped in setting the stage for further inter-ministerial and institutional cooperation to ensure follow-up of the meeting.

Implementation of the Rotterdam Convention

(a) Current status

Twenty eight pesticides subject to the PIC procedure under the RC have already been banned in Pakistan. The import response from Pakistan for 26 pesticides has been communicated to the RC Secretariat. However, the import responses of methyl parathion and heptachlor need to be worked out.

Pakistan has not provided the RC Secretariat any export/import response on any of the industrial chemicals. However, Poly Chlorinated Biphenyls (PCBs) have been banned and included in the List of Banned Items of the Government of Pakistan Trade Policy 2006. There is a need to inform the RC Secretariat of the banning of PCBs in Pakistan and to work out a strategy to deal with the remaining ten industrial chemicals in accordance with national priorities set in consultation with all the stakeholders.

The MINFAL has an Agricultural Pesticides Technical Advisory Committee (APTAC) responsible for making appropriate decisions on the information and recommendations given by the APTAC-Sub-Committee. The APTAC-Sub-Committee reviews and evaluates all concerns of pesticides in Pakistan. Since the official forum to deal with industrial chemicals does not exist, the consolidated data on the industrial chemicals under the RC has not been collected for the import response.

The APTAC set up by the MINFAL evaluates all pesticides to avoid Severely Hazardous Pesticide Formulations (SHPFs). The eco-toxicological tests are done by various research laboratories. No SHPF is recommended unless it is evaluated by eco-toxicological labs.

(b) Gaps in capacity to meet the RC obligations

- Mechanisms for inter-ministerial interaction, the public and private sectors, academic research and decision makers need to be created and updated.
- Technical capacity constraints do exist within the Government and other organizations.
- Difficulties are faced in collecting technical information for making decisions on pesticides and industrial chemicals.
- No effective infrastructure to monitor and report cases of poisoning by pesticides and industrial chemicals.
- No consolidated database on the status of chemicals usage, manufacture, formulation and import.
- The consolidated data on the industrial chemicals under the RC have not been collected for import response.

(c) Actions needed to fill the gaps

- A chemical review committee to look into and evaluate all industrial chemicals in Pakistan should be established. The committee should also develop procedures/mechanisms for inter-ministerial interaction, communication among the public and private sectors, academic research and decision makers.
- The RC Secretariat may provide continuous support for capacity and capability development at national and regional levels.
- The infrastructure to monitor and report cases of poisoning by pesticides and industrial chemicals should be established as soon as possible.
- A consolidated national database/chemical profile on the status of chemicals and pesticides usage, manufacture, formulation and import should be developed with the assistance of the RC Secretariat.

Priorities for action

- (a) Import responses for the remaining two pesticides (methyl parathion and heptachlor) need to be updated and intimated to the RC Secretariat.
- (b) Import response for 11 industrial chemicals need to be intimated to the RC Secretariat.
- (c) Poly Chlorinated Biphenyls (PCBs), which have already been banned, need to be communicated to the RC Secretariat.
- (d) The information on the status of the remaining five banned industrial chemicals together with the five banned asbestos categories need to be collected for import response on priority basis.
- (e) The already banned pesticides other than the 28 RC pesticides should be notified to the RC Secretariat.
- (f) Local criterion should be established to notify pesticides/chemicals to the RC Secretariat.

Consolidated set of tables based on the recommendations of the participants

Import response

| Current legal infrastructure/admin procedure | What has been done? | What needs to be done? | Who is responsible/ involved and how to do? |
|--|---|--|--|
| <ul style="list-style-type: none"> • Pakistan Environment Protection Act 1997 (PEPA 1997) • Hazardous Substances Rules 2007 (to be notified) • Trade policy/Import Policy Order 2006-07/ (Annex-A Banned Items and Annex-B Restricted Items) • National Environment Policy 2005 • Customs Act 1969 • Agriculture Pesticide (Amendments) Ordinance 1997 (Originated from the Agriculture Pesticide Ordinance 1971) • Official Registration Form #16 & 17 available for pesticides registration | <ul style="list-style-type: none"> • Import response for 26 pesticides have already been notified to RC Secretariat. • Inter-Ministerial/ Stakeholders Steering Committees for consultations/ follow-ups on RC. | <ul style="list-style-type: none"> • Existing legislation should be reviewed and revised for updating remaining 2 pesticides (Heptachlor and methyl parathion) and industrial chemicals. • Import responses for 2 pesticides and 11 industrial chemicals. • Enhanced Inter-Ministerial coordination. Both the DNAs from Ministry of Food, Agriculture and Livestock (MINFAL) and from the Ministry of Environment (MoE) should actively collaborate in consultative processes in respect to RC. • A technical advisory group need to be established for providing inputs to DNAs for:– <ul style="list-style-type: none"> – Improvement in coordination between Public and private sectors. – Establishment of procedures to communicate import decisions to those concerned within the country. • Propagation of existing legislation and any change in legislation. • Improvement in Monitoring and Evaluation procedures and mechanisms. | <ul style="list-style-type: none"> • DNA from MINFAL for pesticides. • DNA from MoE for industrial chemicals. • A Technical Advisory Group to be established for industrial chemicals and to be proposed by the DNAs to the National Steering Committee on SAICM. |

| Current legal infrastructure/admin procedure | What has been done? | What needs to be done? | Who is responsible/involved and how to do? |
|--|---------------------|---|--|
| | | <ul style="list-style-type: none"> List of Annex III Chemicals needs to be displayed on the website of line departments along with Material Safety Data Sheets (MSDS). | |

Notification

| Current legal infrastructure/admin procedure | What has been done? | What needs to be done? | Who is responsible/involved and how to do? |
|---|--|--|--|
| <ul style="list-style-type: none"> PEPA 1997 Agriculture Pesticide (Amendments) Ordinance 1997 (Originated from the Agri. Pesticide Ordinance 1971) Trade policy: Import Policy Order 2006-07 (Annex A Banned Items and Annex B Restricted Items) Relevant sections of Factories Act 1934. Pesticides Registration forms #1, 16 and 17 Hazardous Substances Rules, 2007 (Draft) | <ul style="list-style-type: none"> Twenty six (26) pesticides have been notified to the RC Secretariat. | <ul style="list-style-type: none"> Pesticides and chemicals be notified in the light of existing legislation. Technical assistance from RC Secretariat for awareness campaign for stakeholders. Development of database of these Pesticides/Chemicals used in the country in accordance with Annexure I. A Data Management Cell need to be established. Improvement in Monitoring and Evaluation procedures and mechanisms. | <p>The two DNAs:</p> <ul style="list-style-type: none"> MINFAL MoE <p>In collaboration with:</p> <ul style="list-style-type: none"> Ministry of Industries and Production, Ministry of Commerce, Central Board of Revenue and other relevant departments. |

Export notification

| Current practice | What has been done? | What needs to be done? | Who is responsible/ involved and how to do? |
|--|---|--|---|
| <ul style="list-style-type: none"> • Provision in Export Policy Order 2006-07 vide Import and Export Control Act 1950 (xxxix of 1950). • Agriculture Pesticides Act 2006 (in process). • Pakistan is not an exporting country with reference to hazardous chemicals and pesticides. | <ul style="list-style-type: none"> • Acknowledgement of Export Notifications to the exporting countries. • Trade policy already exists which is reviewed annually and as and when required. | <ul style="list-style-type: none"> • Pesticides and chemicals need to be notified in light of existing legislation. • Technical assistance from RC Secretariat for awareness campaign for stakeholders. • Development of Database of these Pesticides/Chemicals used in the country. • A Data Management Cell need to be established. • Improvement in Monitoring and Evaluation procedures and mechanisms. | <ul style="list-style-type: none"> • MINFAL and MoE, the two DNAs in Pakistan. • Information provided by exporters is to be used by the Policy makers and regulators, and R&D Institutes. |

Proposals for SHPF

| Available infra-structures for pesticides poisoning report | What has been done? | What could be done in the future? | Who is responsible/ involved and how to do? |
|--|--|--|---|
| <ul style="list-style-type: none"> • Agriculture Extension Department • Pakistan Medical Research Council • National Institute of Health • ABR-Bio-sciences has published some information on pesticides poisoning | <ul style="list-style-type: none"> • Fragmented studies have been done by R&D Institutes and Universities | <ul style="list-style-type: none"> • All the fragmented information needs to be compiled at the National level; • Capacity building of stakeholders on Harmonized System codes and Material Safety Data Sheet (MSDS) | <ul style="list-style-type: none"> • DNAs/MINFAL, MoE, Ministry of Health; • Health Department workers, Agriculture Extension Officers, Doctors, Teachers and Environmental Inspectors should contribute; • Existing legislation should be reviewed and revised in context of RC requirements. |

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Development of national action plan for the implementation of the Rotterdam Convention: Thailand

Introduction

The National Consultation on the Development of National Action Plan for the Implementation of the Rotterdam Convention* was organized in Bangkok, Thailand between 2-5 April 2007 with assistance from the Secretariat of the Rotterdam Convention and the FAO Regional Office for Asia and the Pacific under the Technical Assistance Programme of the Rotterdam Convention.

The objectives of the workshop were to (1) facilitate a national dialogue involving relevant stakeholders on the Rotterdam Convention as a basis for a national action plan or strategy on the implementation of the Convention in Thailand; (2) understand the obligations and benefits of the Convention; identify the current status of implementation, the challenges and how they might be addressed in order to fully benefit from the Convention; and (3) exchange information and experiences between relevant stakeholders.

The workshop began with the opening remarks by Dr Supat Wangwongwatana, the Director General of the Pollution Control Department, Dr Yun Zhou, representative of the Secretariat of the Rotterdam Convention and Mr Hiroyuki Konuma, Deputy Regional Representative of the FAO Regional Office for Asia and the Pacific. The workshop operated in a series of presentations by the Secretariat and participants, plenary discussions, breakout group sessions, a session to consolidate breakout group tables, drafting and adopting of the executive summary.

The participants comprised 36 representatives from designated national authorities, government departments and related agencies which are involved in the implementation of the Convention, including the members of the National Sub-committee for the Rotterdam Convention which included the Chair and expert group, representatives from the Department of Agriculture, Department of Industrial Works, Food and Drug Administration, Department of International Organizations, Customs Department, Department of Treaties and Legal Affairs, Department of Foreign Trade, Department of European Affairs, Port Authority of Thailand, the Federation of Thai Industries, and Chemical Business Association. Representatives from the national focal points of the Stockholm Convention, Basel Convention and SAICM also participated in the workshop.

Thailand has been active through out the development of Rotterdam Convention and become a party on 19 February 2002 by accession. Three Designated National Authorities (DNAs) have been designated for the implementation of the Rotterdam Convention, namely, the Department of Agriculture (DOA) as a DNA for pesticides, the Department of Industrial Works (DIW) as a DNA for industrial chemicals and the Pollution Control Department (PCD) as a DNA and the official focal point. The National Sub-committee has also been established under the National Environmental Board to provide support for the effective operation of the Rotterdam Convention.

With respect to regulatory and control measures relating to the implementation of the Rotterdam Convention, Thailand regulates pesticides and industrial chemicals under the Hazardous Substances Act B.E. 2535 (1992) in all activities including the production, import, export, or having in possession. This Act has classified chemicals into 4 types:

- **Type 1** hazardous substance, of which the production, import, export or having in possession must comply with the specified criteria and procedures;

* The consultation was organized by Pollution Control Department, Ministry of Natural Resources and Environment in collaboration with the Secretariat of the Rotterdam Convention.

- **Type 2** hazardous substance, of which the production, import, export or having in possession must be registered and notified to the authorities and must comply with the specified criteria and procedures;
- **Type 3** hazardous substance, of which the production, import, export or having in possession must be registered and obtain a permit;
- **Type 4** hazardous substance, of which the production, import, export or having in possession are prohibited.

Others regulations include ministerial notifications, decree, and ordinance under this Act.

The key operational elements of the Convention and issues discussed at the meeting included:

- PIC procedure and import response and compliance issues under Articles 10 and 11;
- Notification of final regulatory action to ban or severely restrict a chemical (Article 5);
- Sending/acknowledging export notification (Article 12);
- Proposal for Severely Hazardous Pesticide Formulations (SHPFs – Article 6);
- Information exchange (Article 14);
- Information to accompany exportation of hazardous chemicals including customs code and labeling (Article 13); and
- Stakeholders' responsibilities and involvement.

There was a common understanding on the operational procedure and the obligations of a Party under the Convention and the responsibilities at the national level.

The outcomes of the working groups are reflected in Appendix I of this report, which has been reviewed at the plenary and can be summarized as follows:

Current status:

- a) There are national infrastructure and administrative procedure regarding **import response** (see Table 1) for the implementation of the Convention in Thailand. Import Responses have been submitted for all chemicals in the PIC list.
- b) Regarding **notification of final regulatory action** for banned or severely restricted chemicals (see Table 2), Thailand has fulfilled this key operational procedure under the Rotterdam Convention, of which notifications of banned/severely restricted chemicals have been submitted. The Final Regulatory Actions (FRAs) taken to ban or severely restricted chemicals within the country are generally based on hazard review and risk evaluation (ref. the guideline for risk analysis of the Chemical Hazard Screening Sub-committee under the Hazardous Substances Committee). The criteria taken into consideration include human health and environmental monitoring. Alternatives, costs/benefits and/or supporting information from other reliable sources are also taken into consideration by relevant agencies. However, the levels of risk evaluation vary from chemicals to chemicals.
- c) Regarding **export notifications** (see Table 3), Thailand has fulfilled the key operational procedure of the Rotterdam Convention on acknowledging export notifications and utilizes the information of export notifications in the national regulation process.
- d) Regarding **proposal for SHPFs** (see Table 4), there are available infrastructures within the country for reporting pesticide-poisoning incidents, including poison centres, occupational health clinics

as well as mandate for community hospitals to report pesticide-poisoning incidents. However, Thailand has never submitted a proposal for severely hazardous pesticide formulations, as the types of data collected are insufficient to fulfill the criteria set out in the Convention.

Recommendations for follow-up actions:

a) PIC procedure and import response

- Relevant agencies should work collaboratively. The operational procedure of the RC will be included in the agenda of the next annual customs-training workshop under the Basel Convention and the DNAs of the RC will be invited to participate (*Long-term, DOA/DIW/PCD*), putting the emphasis on the enforcement of the PIC procedure.
- DNAs will distribute import responses from all parties that are published in the PIC Circular to all stakeholders within the country by publishing the PIC Circular on their official websites, which will be updated every 6 months. E-mail alert will also be sent to key stakeholders, starting from June 2007 (*Ongoing, DNAs*).
- DNAs will conduct awareness raising campaign, involving DOA incorporated with, DOAE, provincial agriculture offices, FTI and private sectors including Thai Crop Protection Association and Thai Agri-Business Association. Initiative of new campaign will start in the second half of this year. Need proposal on how to reach non-member of industrial associations (*Short-term, DNAs/DOA/DOAE/FTI*).
- Grace period will be granted for industries/dealers to clear the stockpiles of chemicals being banned (*Long-term, DIW*).

b) Notification of final regulatory actions

- In preparation of future notification, DNAs should reflect the works of the review process (*Long-term, DNAs*).
- Sharing information on notifications published in the PIC Circular with other stakeholders by posting PIC Circular on websites and sending e-mail-alert to all stakeholders for any update of information (*Ongoing, DNAs*).

c) Export notifications

- Strengthen the enforcement of regulations is needed (*Long-term, DNAs and stakeholders*).

d) Proposal of SHPFs

- DNAs will invite representatives from other relevant agencies of the Ministry of Public Health to join the Rotterdam Convention Sub-committee.
- Consultation on the reporting system among relevant agencies in order to introduce the context and purposes of the SHPF report form and possible operational research.

In conclusion, the current implementation of the Rotterdam Convention in Thailand is in line with the obligations of the Convention. All chemicals listed in the Annex III of the Convention are controlled under the Hazardous Substances Act B.E. 2535 (1992) and import responses have been submitted for those chemicals. The existing national law regulates hazardous chemicals in all activities including production, import, export and having in possession. However there is a need to strengthen law enforcement and raise awareness of those who are unable to access to the information, e.g. non-member of industrial associations and so on. A grace period is needed for industries and trade companies to clear the stockpiles of chemicals being banned. The work of a review process should be reflected in

preparation of notification of Final Regulatory Actions. The information published in the PIC Circular should be made available to the public through the DNAs' websites. Thailand does not need to send export notification since exports of banned chemicals are prohibited. Regarding SHPFs, a consultation is recommended in order to introduce the context and purposes of the SHPF report.

After finalizing the report, PCD will forward the NAP to relevant agencies to facilitate future work on the implementation of the Rotterdam Convention. The participants agreed to take actions in relation to the obligations of the Convention and set out on the tables in Appendix I of this report. It was agreed that the NAP will be reviewed and updated once a year with a follow-up seminar on the implementation of the Rotterdam Convention.

Status of implementation of the Rotterdam Convention in Thailand, opportunities of the Rotterdam Convention in improving import and export regulation of pesticides and chemicals in Thailand¹

A. Government administrative structure responsible for implementation of Rotterdam Convention

Thailand designated three Designated National Authorities (DNAs) to be responsible for the implementation of Rotterdam Convention, namely, the Department of Agriculture (DOA) as a DNA for pesticides, the Department of Industrial Works as a DNA for industrial chemicals and the Pollution Control Department (PCD) as a DNA for other chemicals.

The mandate of DOA is mainly research on crops concerning various aspects including regulating agricultural materials, i.e., plant breeds, agri-chemicals, fertilizers, etc. The implementation of Rotterdam Convention has been assigned to Pesticide Regulatory Sub-Division since voluntary scheme of PIC procedure. This Sub-Division is mainly responsible for pesticide registration and licensing.

B. Implementation history

In 1989, the Department of Agriculture (DOA) was designated to be a national authority for pesticide of Thailand under PIC procedure and voluntarily implemented PIC procedure under FAO/UNEP Joint Programme on the Implementation of PIC since 1991. Representative of DOA participated in all sessions of the Intergovernmental Negotiating Committee (INC). Thailand submitted the document for ratification to the convention on 19 February 2002.

On 20 January 1992, DOA submitted the Importing Country Response forms of 6 pesticides comprising aldrin, dieldrin, dinoseb, fluoroacetamide and HCH (mixed isomers) and submitted the Notification of Control Actions to Banned or Severely Restricted Chemical forms of 23 pesticides comprising chlordimeform, leptophos, BHC, endrin, sodium arsenite, MEMC, DDT, camphechlor, 2, 4, 5-T, TEPP, EDB, sodium chlorate, dinoseb, captafol, fluoroacetamide, sodium fluoroacetate, cyhexatin, parathion, dieldrin, aldrin, heptachlor, daminocide, and binapacryl.

On 15 February 1993, DOA submitted the Importing Country Response forms of 6 pesticides comprising chlordane, chlordimeform, cyhexatin, EDB, heptachlor and mercury compounds (MEMC).

On 9 September 1993, DOA responded to the Export Notification form of the European Community to inform that importation of alkaloxyalkyl and amyl mercury compounds were prohibited for agricultural use while their industrial use was still permitted.

¹ Paper prepared and presented by Supanon Sirichuaychoo, Agricultural Scientist 8, Pesticide Regulatory Sub-Division, Licensing and Registration Division, Office of Agricultural Regulation, Department of Agriculture, Ministry of Agriculture and Cooperatives.

On 4 October 1993, DOA responded to the Export Notification form of the European Community to inform that importation of ethylene dichloride was prohibited.

On 23 November 1993, DOA responded to the Export Notification form of the European Community to inform that importation of mercury chloride was prohibited for agricultural use.

On 30 September 1994, DOA responded to the Export Notification form of the European Community to inform that importation of mercury compounds for agricultural use was prohibited while their industrial use was still permitted.

On 8 April 1995, DOA submitted the Importing Country Response forms of 6 pesticides comprise of captafol, chlorobenzilate, hexachlorobenzene, lindane, pentachloro-phenol and 2, 4, 5-T.

On 25 April 1995, DOA responded to the Export Notification form of the European Community to permit importation of ethylene oxide with the condition that registration was required.

On 12 July 1996, DOA submitted an updated inventory of 32 banned and severely restricted pesticides in Thailand, under the Hazardous Substance Act B.E. 2535 (1992). They included aminocarb, BHC, binapacryl, aldrin, 2, 4, 5-T, TEPP, sodium fluoroacetate, sodium chlorate, sodium arsenite, pentachlorophenol and pentachlorophenate sodium, parathion, nitrofen, mercury compounds, leptophos, heptachlor, fluoroacetamide, fentin, ethylene dichloride, ethylene dibromide, endrin, dinoseb, dieldrin, demeton, DDT, daminozide, cyhexatin, chlordimeform, captafol, camphechlor, bromophos-ethyl and bromophos. These 32 pesticides have been banned in all use categories.

On 13 October 1997, DOA submitted the notification of control actions to ban or severely restrict heptachlor and binapacryl, to confirm that these pesticides were banned for all use. DOA also submitted the Importing Country Responses of 5 pesticides comprising methamidophos, monocrotophos, parathion, parathion-methyl and phosphamidon.

On 13 March 2001, DOA submitted the notification of control actions to ban or severely restrict 28 pesticides comprising aramite, chlordecone, chlorophenols, 2, 4, 5-TP, MCPA-thioethyl, MCPB, mecoprop, DBCP, azinphos-ethyl, mevinphos, phosphamidon, azinphos-methyl, calcium arsenate, chlorthiophos, cycloheximide, demephion, dimefox, dinoterb, disulfoton, DNOC, fensulfothion, fonofos, mephospholan, paris green, phorate, prothoate, schradan and sulfotep.

On 4 June 2004, DOA submitted the notification of control actions to ban or severely restrict 20 pesticides comprising amitrole, beta-HCH, cadmium and cadmium compounds, carbon tetrachloride, chlordane, chlorobenzilate, copper arsenate hydroxide, MGK Repellent 11, ethylene oxide, ethyl hexyleneglycol, hexachlorobenzene, lead arsenate, lindane, methamidophos, mirex, monocrotophos, polychloroterpenes, pyrinuron, safrole, TDE (DDD) and thallium sulfate.

On 17 January 2005, DOA submitted the notification of control actions to ban or severely restrict 2 pesticides comprising endosulfan and parathion-methyl.

On 29 April 2005, DOA submitted the Importing Country Response forms of 10 pesticides comprising of chlordane, chlorobenzilate, DNOC and its salts, ethylene dichloride, ethylene oxide, hexachlorobenzene, lindane, methamidophos, parathion-methyl and phosphamidon.

Representative of DOA has been appointed to be a member of a Chemical Review Committee for 4 years (2004-2007).

C. Regulation of pesticides

Thailand regulated pesticides under the Poisonous Article Act B.E. 2510 (1967) which was later replaced by the Hazardous Substance Act B.E. 2535 (1992). The regulation covers of 3 main activities including:

- (1) **Registration** – a procedure to select safe and effective pesticides for use in the country. Almost all pesticide registration procedures are adopted and harmonized, taking into consideration FAO Guidelines on Registration and Control of Pesticides.
- (2) **Licensing** – a procedure to give permission for import, manufacturing, export or having in possession (for sale, storage, transportation and service). Term of each license is 1 year.
- (3) **Monitoring** – a procedure to control quality of products in the market after registration.

Registration is a process of risk/benefit assessment to approve the use of a pesticide. *Risk Assessment* is a process of weighing the hazard from the application rate, methods of application, number of applications and residues after harvest. The hazard is known by evaluating toxicological data submitted by registrant and the expected amount of pesticide exposed to human. *Benefit Assessment* is done by conducting efficacy tests on crops for pest control, types of crops to be used and importance of pests.

For all pesticides used in agriculture, the registration procedure has been divided into 3 phases as follows:

- (1) **Trials clearance:** the first step to import or produce a small amount of pesticide samples for conducting local efficacy trials or residue trials. This step requires only the acute toxicological data.
- (2) **Provisional or demonstration clearance:** the second step to import or produce a certain amount of pesticide sample for the demonstration of the product usage in the field. This step requires sub-chronic toxicological data, chronic toxicological data (except two-year feeding study), residue data and environmental data.
- (3) **Full registration:** the decision-making step to allow the product to be used in the country on the basis of risk/benefit assessment. This step requires the results of efficacy test from the Trials Clearance (if any) and a full package of toxicological data including the two-year feeding study.

Registration of pesticide is approved by the Sub-Committee for Consideration of Pesticide Registration appointed by the Hazardous Substances Committee. At present, the pesticide registration is valid permanently. In the near future, it will be valid for only 10 years.

License can be obtained after a pesticide is registered. The pesticide license is valid for one year.

Monitoring is mainly done for quality control. Pesticide is monitored by collecting samples from formulators and/or selling shops for analysis. The concentration and formulation of a pesticide product for sale must conform to the registered product.

D. Control measures taken to ban or restrict use of pesticides

The Sub-Committee for Consideration of Pesticide Registration has agreed to the following criteria for banning pesticides:

- (1) Chronic toxicity to human and animals e.g. carcinogenicity, teratogenicity, mutagenicity, and adverse effect on reproduction;
- (2) High acute toxicity;
- (3) Residues often found on crops which might affect human health;

- (4) Bioaccumulation and transferability through food chain;
- (5) Being persistent in the environment;
- (6) Being toxic to beneficial insects, fish and other aquatic organisms;
- (7) Toxic impurities, i.e. DDT, DDT-related compounds, and dioxin;
- (8) Being banned in developed countries; and
- (9) Existence of other safer pesticides or technology for alternative(s).

The Sub-Committee appointed the Working Group (WG) for Pesticide Surveillance to observe pesticides registered for use. Using the above criteria including pesticides that cause pest resurgence, there are 11 pesticides under surveillance scheme namely, aldicarb, blasticidin-S, carbofuran, dicrotophos, endosulfan (CS formulation), EPN, ethoprosfos, formetanate, methidathion, methomyl and oxamyl. The WG assesses these pesticides every 3 years. To gather information, the WG invited importers/producers to provide information required for assessment. In case the WG concludes that the risk is greater than the benefit, such pesticide will be proposed to the Sub-committee for Consideration of Pesticide Registration for approval and then DOA will propose to the Hazardous Substances Committee to ban or restrict. The information to be submitted includes the following:

- (1) Common name of pesticide;
- (2) Kind(s) of crop and pest(s), to which the pesticide will be applied;
- (3) Import data of the past 3 years;
- (4) Kind(s) of alternatives and cost per specific area (Rai);
- (5) Toxicity of the pesticide and alternative(s);
- (6) Effects on health or environment;
- (7) Information on residue(s);
- (8) Information on exposure;
- (9) Control action(s) of developed countries; and
- (10) Other information, e.g. whether it is a chemical under any international convention.

The Hazardous Substances Committee makes a decision to ban or restrict a pesticide and subsequently publish it in the royal gazette.

E. Opportunities of the Rotterdam Convention in improving import and export regulation of pesticides

Decision Guidance Documents (DGDs) provides information that DOA uses to ban pesticides, such as chlorobenzilate, lindane, mevinphos, monocrotophos, etc.

At present, all pesticides in appear Annex III to the Rotterdam Convention have been banned in Thailand. This means that their import, export, production, having in possession or use is prohibited. The notification of control actions to ban or severely restrict all the banned and restricted pesticides has been submitted to the Secretariat of the Rotterdam Convention.

The export notification sent to Thailand automatically indicates that such a chemical has been banned in the sending country. The information and reasons for banning are attached. This information is useful for the Surveillance Working Group because “being banned in the developed country” is one of the criteria. The export notification also gives DOA an opportunity to consent or not consent to import such a pesticide. In general, if a pesticide is registered for use in the country, it represents a consent to import.

The export notification of nonylphenol ethoxylate which is used as emulsifier in pesticide formulation indicates that this chemical has an impact on the environment. DOA informs the importer to seek other chemicals to substitute it.

Thailand doesn't need to send any export notification because the exports of banned pesticides are not allowed.

F. Problems/constraints in the implementation of Rotterdam Convention

At the moment, pesticide registration is valid permanently but can be discontinued by revoking and banning. Revoking is applied to pesticides proved to be ineffective and/or causes unavoidable hazard. Registration and banning of pesticides in Thailand are under different authorities. Registration is under the responsibility of DOA while banning is under the Hazardous Substance Committee chaired by Permanent Secretary of Ministry of Industry. Banning process takes very long time. However, Thailand has a system that both registration and licensing are required for production, import, export and having in possession. If any pesticide is concluded to be banned and the banning is still under the process, the license could be discontinued in order to cease its use.

Banning pesticide is based on available information such as DGDs, IARC publications, IPCS publications, etc. Most pesticide bannings are not based on risk evaluation involving prevailing conditions within the country, except endosulfan. As a result, most notifications of the final regulatory action submitted by Thailand do not meet criteria b (iii) of Annex II to the convention.

Thailand needs assistance to conduct risk evaluation involving prevailing conditions within the country before banning a pesticide.

G. Conclusion

Exchange of information under the Rotterdam Convention is very useful to an importing country like Thailand that lacks expertise and resources to conduct experiments on pesticides, to find out their toxicology, persistency, residue limits, impact on human and environment. In the past, control measure, especially banning, is mostly based on PIC information. The information provided under the Convention is advantageous not only to the government but also to the agrochemical business.

Results of breakout group discussion

Table 1: Import response (Article 10)

Scope: Annex III chemicals

Channel of communication: between Parties and Secretariat; within a Party

| Current legal infrastructure/ admin procedure | What has been done? | What needs to be done? | Who is responsible/involved and how to do? |
|--|--|---|--|
| <ul style="list-style-type: none"> • Hazardous Substances Act B.E. 2535 (1992). The others are ministerial notifications, decrees, and rules under this act. This Act has classified chemicals into 4 types: Type 1 hazardous substance, of which the production, import, export, or having in possession must comply with the specified criteria and procedures; Type 2 hazardous substance, of which the production, import, export, or having in possession must be registered and notified to the authorities and must comply with the specified criteria and procedures; Type 3 hazardous substance, of which the production, import, export, or having in possession must be registered and obtain a permit; and Type 4 hazardous substance, of which the production, import, export, or having in possession are prohibited. • DNAs are DIW, DOA, PCD. • RC Sub-committee. • Mechanism to involve industries in import decisions. | <ul style="list-style-type: none"> • Import responses have been submitted for all chemicals on the PIC list. • Documentation on national regulatory status is published in the royal gazette and governmental official website, and official communication among government agencies. • Communications to the business sectors are on the internet, hard copy, and thru contact with the industrial representatives. Also, there are representatives from the industrial sectors in the committee. • Regulatory decisions and relevant publications are distributed to the business as free of charge in order to communicate import decision. SMEs can also obtain this information. • DGD has been used as one of international literature sources in the industrial chemicals and pesticides. • The Private sector is consulted before making decision. • Once a chemical has been banned in developed countries for health and environmental reasons, Thailand would take such information into consideration for import and export of that chemical. PIC procedure is just additional support to the national regulation system. | <ul style="list-style-type: none"> • The existing national law covers import control of PIC chemicals but requires stringent enforcement. Need to strengthen port control and inspectors. • DNAs will distribute import responses (from all parties) that are published in the PIC Circular to all stakeholders within the country. • DNAs will conduct awareness raising campaigns for non members of industrial associations. • To establish an expert working group under the RC Sub-committee to review chemicals under the RC. • Grace period should be granted for industries/dealers to clear the stockpile of chemicals being banned. • DNAs to establish a procedure (SOP) to ensure timely decision making and submission of a response for industrial chemicals. | <ul style="list-style-type: none"> • DOA/DIW/FDA are to improve enforcement. Relevant agencies are to work collaboratively. The RC will be included in the agenda of the next annual customs training workshop under the Basel Convention and the DNAs of the RC will be invited to participate. • DOA/DIW/PCD will publish the PIC Circular on their official websites under the section of the RC and update every 6 months. The PIC Circulars should be sent to key stakeholders via e-mail, starting June 2007. • DNAs conduct awareness raising campaigns involving DOA incorporated with, DOAE, provincial agriculture offices, FTI and private sectors including Thai crop protection association and Thai agri-business association. Initiative of new campaign will start in the second half of 2007. Need proposal on how to reach non member of FTI. • PCD • DOA/DIW/FDA/ Hazardous Substances Committee • DIW will take lead in developing SOP for import response for industrial chemicals. |

Table 2: Notification of final regulatory actions for banned or severely restricted Chemicals (Article 5)

Scope: All chemicals that are banned or severely restricted in your country

Channel of communication: between Parties and Secretariat

| Current legal infrastructure/admin procedure | What has been done? | What needs to be done? | Who is responsible/involved and how to do? |
|---|---|--|---|
| <ul style="list-style-type: none"> • Hazardous Substances Act B.E. 2535 (1992). • Procedure–working group for pesticide surveillance observes pesticide register for use and picks up chemicals that fall into the criteria No.1-9* or WHO Class 1a and 1b**. If problems are identified, the proposal will be submitted to the Chemical Hazard Screening Sub-committee and the Hazardous Substances Committee. • The Sub-committee allows for notifications of research results to be submitted regarding chemical risk surveillance. | <ul style="list-style-type: none"> • Notifications of banned/severely restricted chemicals have been submitted. • In Thailand, the Final Regulatory Actions (FRAs) to ban or severely restrict chemicals are based on hazard review and risk evaluation (human health and environmental monitoring or other reliable references taken into consideration of national conditions), also consideration of alternatives and its cost/benefit. Each chemical has a different level of risk. • Documentation – DOA keeps report of risk evaluation of pesticides done by the surveillance. • DOA/DIW/FDA make use of the review and the risk evaluation to regulate chemicals under their respective responsibility. | <ul style="list-style-type: none"> • For further notification, provide information of review processes and the risk evaluation which is the basis of decision making. • To understand the levels of details required in completing the form. • Sharing information on notifications in the PIC circular with other stakeholders. • National Action – to review 200 chemicals notified by other parties for inclusion in the Hazardous Substances Act B.E. 2535 (1992). | <ul style="list-style-type: none"> • DNAs – in preparation of notification, DNAs should reflect the works of the review process, which have been done in the notification. • DNA consults the RC Secretariat. • DNAs to post notification information on their websites. • DNAs |

* **Criteria for pesticide evaluation:** (1) Chronic toxicity to human and animals, e.g. carcinogenicity, teratogenicity, mutagenicity, adverse effect or reproduction etc.; (2) high acute toxicity; (3) Residues often found on crops which might affect human health; (4) Bioaccumulation and transferable through food chain; (5) Being persistent in the environment; (6) Being toxic to beneficial insects, fish and other aquatic organisms; (7) Toxic impurities; (8) Being banned in developed countries; and (9) Existence of other safer pesticides or technology for alternatives.

** **Class 1a:** Extremely hazardous; **Class 1b:** Highly hazardous.

Table 3: Export notification (Article 12)

Scope: chemicals banned or restricted in the exporting party.

Channel of communication: between Parties

| Current practice | What has been done? | What needs to be done? | Who is responsible involved and how to do? |
|--|---|---|--|
| <ul style="list-style-type: none"> • Hazardous Substances Act B.E. 2535 (1992). • The ban of pesticides and industrial chemicals by the national legislation includes production, import, export and having in possession. • Thailand uses the information of the export notifications to assist chemical regulation. | <ul style="list-style-type: none"> • Export notification is not needed because exports of banned pesticides and industrial chemicals are prohibited. • Thailand acknowledges all export notifications received. | <ul style="list-style-type: none"> • Strengthen the enforcement of regulations (see Table 1: Import Response). | <ul style="list-style-type: none"> • DNAs (see Table 1: Import Response). |

Table 4: Proposals for SHPF (Article 6)

Scope: Any pesticide formulation that causes severe health or environmental problem under the condition of use in your country.

Channel of communication: within a Party; between Parties and Secretariat.

| Available infrastructure for pesticides poisoning report | What has been done? | What could be done in the future? | Who is responsible/ involved and how to do? |
|---|---|---|--|
| <ul style="list-style-type: none"> • Mandate for community hospitals to submit poisoning reports to the Disease Control Department, Ministry of Public Health. • Ten poison centres are responsible for treatment and data collection of pesticide poisoning incidents. • Occupational Health Clinics (Disease Control Department) linkage to worker compensation fund in identification of chemical exposure. | <ul style="list-style-type: none"> • Thailand has never submitted a proposal for Severely Hazardous Pesticide Formulations (SHPFs). However, researches have been carried out and the results have been used for formulation restriction by DOA. | <ul style="list-style-type: none"> • Creating linkages among DNAs, community hospitals, poison centres and health sectors because it is difficult to identify cocktail of pesticides that the farmers are exposed to. So the challenge is to identify the pesticides that they are exposed to. • Consultation on the reporting system among relevant agencies in order to introduce the context and purposes of the SHPF report form and possible operational research. | <ul style="list-style-type: none"> • DNAs will invite representatives from the Ministry of Public Health to join the RC Sub-committee. • Bringing up the issues of creating linkages among DNAs, community hospitals, poison centres and health sectors into the Rotterdam Convention Sub-committee's agenda. • DNAs/Ministry of Public Health. |

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Notifications and Import Responses

Table 1: Parties to the Rotterdam Convention in Asia and the Pacific (as well as numbers of their official contact points and designated national authorities)

Sources: (1) <http://www.pic.int/home.php?type=t&id=63&sid=17>
 (2) <http://www.pic.int/reports/countryprofiles.asp>

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| No. | Participant | Signature | Ratification, Acceptance (A), Approval (AA), Accession (a) | Number of Official Contact Points | Number of Designated National Authorities (DNAs) |
|-----|---------------------------|-----------|--|-----------------------------------|--|
| 1 | Australia | 6-Jul-99 | 20-May-04 | 1 | 2 |
| 2 | China | 24-Aug-99 | 22-Mar-05 | 4 | 2 |
| 3 | Cook Islands | | 29 Jun 2004 a | 2 | 2 |
| 4 | DPR Korea | | 6 Feb 2004 a | 3 | 2 |
| 5 | France | 11-Sep-98 | 17 Feb 2004 AA | 5 | 2 |
| 6 | India | | 24 May 2005 a | 2 | 2 |
| 7 | Iran, Islamic Republic of | 17-Feb-99 | 26-Aug-04 | 5 | 2 |
| 8 | Japan | 31-Aug-99 | 15 Jun 2004 A | 2 | 1 |
| 9 | Kazakhstan | | 1 Nov 2007 a | 3 | 1 |
| 10 | Kyrgyzstan | 11-Aug-99 | 25-May-00 | 2 | 1 |
| 11 | Malaysia | | 4 Sep 2002 a | 2 | 2 |
| 12 | Maldives | | 17 October 2006 a | 1 | 1 |
| 13 | Marshall Islands | | 27 Jan 2003 a | 2 | 1 |
| 14 | Mongolia | 11-Sep-98 | 8-Mar-01 | 3 | 2 |
| 15 | Nepal | | 9 Feb 2007 a | 2 | 2 |
| 16 | New Zealand | 11-Sep-98 | 23-Sep-03 | 4 | 2 |
| 17 | Pakistan | 9-Sep-99 | 14 Jul 2005 | 4 | 2 |
| 18 | Philippines | 11-Sep-98 | 31-Jul-06 | 5 | 2 |
| 19 | Republic of Korea | 7-Sep-99 | 11-Aug-03 | 3 | 3 |
| 20 | Samoa | | 30 May 2002 a | 3 | 2 |
| 21 | Singapore | | 24 May 2005 a | 2 | 1 |
| 22 | Sri Lanka | | 19 Jan 2006 a | 1 | 2 |
| 23 | Thailand | | 19 Feb 2002 a | 1 | 3 |
| 24 | Viet Nam | | 7 May 2007 a | 1 | 2 |

Note:

For more details and updates of all Parties to the Rotterdam Convention, please visit the following website (<http://www.pic.int/home.php?type=t&id=63&sid=17>).

Table 2: Rotterdam Convention (RC) Implementation in Asia and the Pacific

Sources: (1) http://www.fao.org/world/regional/rap/member_countries.asp (FAO member countries in Asia and the Pacific)
(2) <http://www.pic.int/home.php?type=t&id=7&sid=16> (Countries in PIC regions)
(3) <http://www.pic.int/home.php?type=t&id=63&sid=17> (Parties to the Rotterdam Convention)
(4) <http://www.pic.int/Reports/FRA-Parties-List-AnnexIII.asp> (Notifications of Final Regulatory Actions for Annex III chemicals)
(5) <http://www.pic.int/Reports/FRA-Parties-List.asp> (Notifications of Final Regulatory Actions for Non Annex III chemicals)
(6) <http://www.pic.int/Reports/06-ICRs-Country-Parties.asp> (Import Response by Parties)
(7) <http://www.pic.int/Reports/06-ICRs-Country-NON-Parties.asp> (Import Response by Non Parties)

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| No. | | PIC Regions (25 countries in Asia & 16 countries in Southwest Pacific) | Rotterdam Convention (RC) Members in Asia & Pacific (24 countries) | Notifications of Final Regulatory Action for Annex III chemicals by 24 RC parties | Notifications of Final Regulatory Action for Non Annex III chemicals by 24 RC parties | Import Responses by 24 RC Parties | Import Responses by RC Non-Parties (24 countries) |
|--|---------------------------------|---|---|---|---|---|---|
| I. 24 member nations of APPPC and FAO in Asia | | | | | | | |
| 1 | Australia | Southwest Pacific | ✓ | 5 chemicals | 4 chemicals | 39 chemicals | |
| 2 | Bangladesh | Asia | | | | | 11 chemicals |
| 3 | Cambodia | Asia | | | | | No response |
| 4 | China | Asia | ✓ | No notification | No notification | 39 chemicals | |
| 5 | DPR Korea | Asia | ✓ | No notification | No notification | 25 chemicals | |
| 6 | Fiji | Southwest Pacific | | | | | 11 chemicals |
| 7 | France | | ✓ | No notification | No notification | 39 chemicals | |
| 8 | India | Asia | ✓ | No notification | 1 chemical | 39 chemicals | |
| 9 | Indonesia | Asia | | | | | 17 chemicals |
| 10 | Lao PDR | Asia | | | | | 27 chemicals |
| 11 | Malaysia | Asia | ✓ | 1 chemical | 1 chemical | 37 chemicals | |
| 12 | Myanmar | Asia | | | | | 3 chemicals |
| 13 | Nepal | Asia | ✓ | No notification | No notification | 11 chemicals | |
| 14 | New Zealand | Southwest Pacific | ✓ | No notification | No notification | 39 chemicals | |
| 15 | Pakistan | Asia | ✓ | No notification | No notification | 28 chemicals | |
| 16 | Papua New Guinea | Southwest Pacific | | | | | 5 chemicals |
| 17 | Philippines | Asia | ✓ | No notification | No notification | 24 chemicals | |
| 18 | Republic of Korea | Asia | ✓ | 7 chemicals | 14 chemicals | 33 chemicals | |
| 19 | Samoa | Southwest Pacific | ✓ | No notification | No notification | 29 chemicals | |
| 20 | Solomon Islands | Southwest Pacific | | | | | 2 chemicals |
| 21 | Sri Lanka | Asia | ✓ | No notification | No notification | 23 chemicals | |
| 22 | Thailand | Asia | ✓ | 9 chemicals | 44 chemicals | 39 chemicals | |
| 23 | Tonga | Southwest Pacific | | | | | No response |
| 24 | Viet Nam | Asia | ✓ | No notification | No notification | 24 chemicals | |
| II. FAO's other 22 member nations in the Pacific | | | | | | | |
| 1 | Afghanistan | | | | | | No response |
| 2 | Bhutan | Asia | | | | | 6 chemicals |
| 3 | Cook Islands | Southwest Pacific | ✓ | No notification | No notification | 25 chemicals | |
| 4 | Iran, Islamic Republic of | Asia | ✓ | 6 chemicals | No notification | 34 chemicals | |
| 5 | Japan | Asia | ✓ | 20 chemicals | 25 chemicals | 39 chemicals | |
| 6 | Kazakhstan | Asia | ✓ | No notification | No notification | 16 chemicals | |
| 7 | Kiribati | Southwest Pacific | | | | | No response |
| 8 | Kyrgyzstan | | ✓ | 16 chemicals | No notification | 15 chemicals | |
| 9 | Maldives | Asia | ✓ | No notification | No notification | No response | |
| 10 | Marshall Islands | Southwest Pacific | ✓ | No notification | No notification | No response | |
| 11 | Micronesia, Federated States of | Southwest Pacific | | | | | No response |
| 12 | Mongolia | Asia | ✓ | No notification | No notification | 11 chemicals | |
| 13 | Nauru | Southwest Pacific | | | | | No response |
| 14 | Niue | Southwest Pacific | | | | | No response |
| 15 | Palau | Southwest Pacific | | | | | No response |
| 16 | Tajikistan | | | | | | No response |
| 17 | Timor-Leste | Asia | | | | | No response |
| 18 | Turkmenistan | | | | | | No response |
| 19 | Tuvalu | Southwest Pacific | | | | | No response |
| 20 | United States of America | | | | | | No response |
| 21 | Uzbekistan | | | | | | No response |
| 22 | Vanuatu | Southwest Pacific | | | | | 20 chemicals |
| Other countries (not FAO members) in Asia and Pacific | | | | | | | |
| 1 | Brunei Darussalam | Asia | | | | | No response |
| 2 | Singapore | Asia | ✓ | No notification | No notification | 39 chemicals | |

Table 3.2: (continued)

| No. | Chemical | # of Countries addressing the chemical | # of Countries addressing the chemical | | | | | | | | | | | | | | | | | | | | | | | |
|-----|--|--|--|-------|-----------|--------|----------|----------|-------|-------------|----------|-------------|-------------------|----------|-----------|----------|----------|--------------|---------------------------|-------|------------|------------|----------|------------------|----------|-----------|
| | | | Australia | China | DPR Korea | France | India | Malaysia | Nepal | New Zealand | Pakistan | Philippines | Republic of Korea | Samoa | Sri Lanka | Thailand | Viet Nam | Cook Islands | Iran, Islamic Republic of | Japan | Kazakhstan | Kyrgyzstan | Maldives | Marshall Islands | Mongolia | Singapore |
| 39 | Endrin | 2 | | | | | | | | | | 12/12/04 | | | | | | 12/12/04 | | | | | | | | |
| 40 | Fentin acetate | 1 | | | | | | | | | | | | 12/12/01 | | | | | | | | | | | | |
| 41 | Fluoroacetic acid | 1 | | | | | | | | | | | | | | | | 12/12/04 | | | | | | | | |
| 42 | Folpet | 1 | | | | | 12/12/00 | | | | | | | | | | | | | | | | | | | |
| 43 | Fonofos | 1 | | | | | | | | | | | | 12/12/01 | | | | | | | | | | | | |
| 44 | Hexachlorobutadiene | 1 | | | | | | | | | | | | | | | | 12/12/05 | | | | | | | | |
| 45 | Lead arsenate | 2 | | | | | | | | | | | | 12/12/04 | | | | 12/12/04 | | | | | | | | |
| 46 | MCPA-thioethy (phenothiol) | 1 | | | | | | | | | | | | 12/12/01 | 12/12/01 | | | | | | | | | | | |
| 47 | Mcpb | 1 | | | | | | | | | | | | 12/12/01 | 12/12/01 | | | | | | | | | | | |
| 48 | Mecoprop | 1 | | | | | | | | | | | | 12/12/01 | 12/12/01 | | | | | | | | | | | |
| 49 | Mephosfolan | 1 | | | | | | | | | | | | 12/12/01 | 12/12/01 | | | | | | | | | | | |
| 50 | Methamidophos | 1 | | | | | | | | | | | | 12/12/04 | | | | | | | | | | | | |
| 51 | Methazole | 1 | 12/12/00 | | | | | | | | | | | | | | | | | | | | | | | |
| 52 | Methyl bromide | 1 | | | | | | | | | | 12/12/04 | | | | | | | | | | | | | | |
| 53 | mevinphos | 1 | | | | | | | | | | | | 12/12/01 | 12/12/01 | | | | | | | | | | | |
| 54 | MGK Repellent 11 | 1 | | | | | | | | | | | | 12/12/04 | 12/12/04 | | | | | | | | | | | |
| 55 | Mirex | 2 | | | | | | | | | | | | 12/12/04 | 12/12/04 | | | 12/06/05 | | | | | | | | |
| 56 | Naphthalene polychlorinated | 1 | | | | | | | | | | | | | | | | 12/06/05 | | | | | | | | |
| 57 | Paris green | 1 | | | | | | | | | | | | 12/12/01 | 12/12/01 | | | | | | | | | | | |
| 58 | Phenol, 2-(2H-benzotriazol-2-yl)-4,6-bis (1, 1-dimethylethyl)- | 1 | | | | | | | | | | | | | | | | 12/06/08 | | | | | | | | |

Table 4: Chemicals covered by import responses by Parties (24) and Non Parties (24) to the Rotterdam Convention in Asia and the Pacific

Sources: (1) <http://www.pic.int/Reports/06-ICRs-Country-Parties.asp> (Import Response by Parties)
 (2) <http://www.pic.int/Reports/06-ICRs-Country-NON-Parties.asp> (Import Response by Non Parties)

Updated: September 2008

The following show information about the import response decisions (consent, no consent, consent under conditions, or 'response did not address importation') on various chemicals by parties and non parties to the Rotterdam Convention.

| No. | Chemical | First Date of Response | Latest Date of Response | # of Parties (A) | # of Non Parties (B) | Total (A + B = C) | Parties/Total or A/C (in %) | Non Parties/Total or B/C (in %) | (A) compared to 24 Parties in Asia and Pacific (in %) |
|-----|---|------------------------|-------------------------|------------------|----------------------|-------------------|-----------------------------|---------------------------------|---|
| 1 | 2, 4, 5-T & its salts and esters | 12/01/98 | 12/12/04 | 18 | 3 | 21 | 85.71% | 14.29% | 75.00% |
| 2 | Actinolite asbestos | 12/12/04 | 12/12/08? | 11 | 0 | 11 | 100.00% | 0.00% | 45.83% |
| 3 | Aldrin | 12/07/93 | 12/06/05 | 22 | 6 | 28 | 78.57% | 21.43% | 91.67% |
| 4 | Amosite, asbestos | 12/12/04 | 12/12/08? | 11 | 0 | 11 | 100.00% | 0.00% | 45.83% |
| 5 | Anthophyllite | 12/12/04 | 12/12/08? | 11 | 0 | 11 | 100.00% | 0.00% | 45.83% |
| 6 | Binapacryl | 12/06/00 | 12/06/06 | 17 | 1 | 18 | 94.44% | 5.56% | 70.83% |
| 7 | Captafol | 12/01/98 | 12/12/04 | 18 | 3 | 21 | 85.71% | 14.29% | 75.00% |
| 8 | Chlordane | 12/07/93 | 12/12/05 | 22 | 5 | 27 | 81.48% | 18.52% | 91.67% |
| 9 | Chlordimeform | 12/07/93 | 12/06/05 | 21 | 5 | 26 | 80.77% | 19.23% | 87.50% |
| 10 | Chlorobenzilate | 12/01/98 | 12/06/07 | 19 | 3 | 22 | 86.36% | 13.64% | 79.17% |
| 11 | Crocidolite | 12/01/95 | 12/06/06 | 15 | 2 | 17 | 88.24% | 11.76% | 62.50% |
| 12 | DDT | 12/07/93 | 12/06/06 | 21 | 6 | 27 | 77.78% | 22.22% | 87.50% |
| 13 | Dieldrin | 12/07/93 | 12/06/05 | 22 | 6 | 28 | 78.57% | 21.43% | 91.67% |
| 14 | Dinitro-ortho-cresol (DNOC) and its salts | 12/07/93 | 12/06/06 | 11 | 0 | 11 | 100.00% | 0.00% | 45.83% |
| 15 | Dinoseb & Dinoseb Salts | 12/07/93 | 12/06/05 | 22 | 6 | 28 | 78.57% | 21.43% | 91.67% |
| 16 | Dustable powder formulations ***** | 12/12/04 | 12/06/06 | 12 | 0 | 12 | 100.00% | 0.00% | 50.00% |
| 17 | EDB (1, 2-dibromoethane) | 12/07/93 | 12/06/06 | 22 | 5 | 27 | 81.48% | 18.52% | 91.67% |
| 18 | Ethylene dichloride | 12/06/01 | 12/06/07 | 17 | 1 | 18 | 94.44% | 5.56% | 70.83% |
| 19 | Ethylene oxide | 12/06/01 | 12/06/07 | 16 | 1 | 17 | 94.12% | 5.88% | 66.67% |
| 20 | Fluoroacetamide | 12/07/93 | 16/06/07 | 21 | 6 | 27 | 77.78% | 22.22% | 87.50% |
| 21 | HCH (mixed isomers) | 12/07/93 | 12/06/07 | 21 | 6 | 27 | 77.78% | 22.22% | 87.50% |
| 22 | Heptachlor | 12/07/93 | 12/12/04 | 21 | 5 | 26 | 80.77% | 19.23% | 87.50% |
| 23 | Hexachlorobenzene | 12/01/98 | 12/12/05 | 17 | 3 | 20 | 85.00% | 15.00% | 70.83% |
| 24 | Lindane (gamma-HCH) | 12/01/98 | 12/06/06 | 18 | 3 | 21 | 85.71% | 14.29% | 75.00% |
| 25 | Mercury compounds | 12/07/93 | 12/06/07 | 22 | 5 | 27 | 81.48% | 18.52% | 91.67% |
| 26 | Methamidophos | 12/01/98 | 12/06/06 | 17 | 3 | 20 | 85.00% | 15.00% | 70.83% |
| 27 | Methyl-parathion | 12/01/98 | 12/06/06 | 17 | 3 | 20 | 85.00% | 15.00% | 70.83% |
| 28 | Monocrotophos | 12/06/03 | 12/06/07 | 15 | 0 | 15 | 100.00% | 0.00% | 62.50% |
| 29 | Parathion | 12/01/98 | 12/12/06 | 12 | 0 | 12 | 100.00% | 0.00% | 50.00% |
| 30 | Pentachlorophenol & its salts and esters | 12/01/98 | 12/06/06 | 18 | 3 | 21 | 85.71% | 14.29% | 75.00% |
| 31 | Phosphamidon | 12/01/98 | 12/06/07 | 18 | 3 | 21 | 85.71% | 14.29% | 75.00% |
| 32 | Polybrominated Biphenyls (PBBs) | 12/01/95 | 12/06/07 | 13 | 2 | 15 | 86.67% | 13.33% | 54.17% |
| 33 | Polychlorinated Biphenyls (PCBs) | 12/01/95 | 12/01/98 | 14 | 2 | 16 | 87.50% | 12.50% | 58.33% |
| 34 | Polychlorinated Terphenyls (PCTs) | 12/01/95 | 12/12/06 | 14 | 2 | 16 | 87.50% | 12.50% | 58.33% |
| 35 | Tetraethyl lead | 12/12/05 | 12/06/08 | 10 | 0 | 10 | 100.00% | 0.00% | 41.67% |
| 36 | Tetramethyl lead | 12/12/05 | 12/06/08 | 10 | 0 | 10 | 100.00% | 0.00% | 41.67% |
| 37 | Toxaphene (Camphchlor) | 12/06/00 | 12/06/06 | 17 | 1 | 18 | 94.44% | 5.56% | 70.83% |
| 38 | Tremolite | 12/12/04 | 12/06/08 | 10 | 0 | 10 | 100.00% | 0.00% | 41.67% |
| 39 | Tris (2, 3 dibromopropyl) phosphate | 12/01/95 | 12/06/07 | 14 | 2 | 16 | 87.50% | 12.50% | 58.33% |

*****Notes:

Dustable powder formulations containing combination of benomyl at or above 7%, carbonfuran at or above 10% and thiram at or above 15%.

Table 5.1: Dates of import responses – Parties (24 countries) to the Rotterdam Convention in Asia and the Pacific

Source: <http://www.pic.int/Reports/06-ICRs-Country-Parties.asp>

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The date shown in the cell is the date the import response decision (consent, no consent, consent under conditions, or 'response did not address importation') on the chemical was published.

| No. | Chemical | # of Countries addressing the chemical | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|--|-----------|----------|-----------|----------|----------|----------|----------|-------------|----------|-------------|-------------------|----------|-----------|----------|----------|--------------|----------|---------------------|------------|------------|----------|------------------|----------|-----------|
| | | | Australia | China | DRP Korea | France | India | Malaysia | Nepal | New Zealand | Pakistan | Philippines | Republic of Korea | Santom | Sri Lanka | Thailand | Viet Nam | Cook Islands | Iran | Islamic Republic of | Kazakhstan | Kyrgyzstan | Maldives | Marshall Islands | Mongolia | Singapore |
| 1 | 2, 4, 5-T & its salts and esters | 18 | 12/12/04 | 12/12/04 | 12/01/98 | 12/12/04 | 12/12/03 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 |
| 2 | Actinolite asbestos | 11 | 12/12/04 | 12/12/04 | 12/06/08 | 12/06/08 | 12/12/04 | 12/12/04 | 12/12/05 | 12/12/05 | 12/12/06 | 12/12/06 | 12/07/93 | 12/07/93 | 12/06/05 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/12/03 |
| 3 | Aldrin | 22 | 12/12/04 | 12/12/04 | 12/07/93 | 12/07/93 | 12/12/04 | 12/06/05 | 12/12/04 | 12/07/93 | 12/12/05 | 12/12/05 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/01/95 | 12/01/95 | 12/12/00 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/07/96 | 12/07/94 |
| 4 | Amosite, asbestos | 11 | 12/12/04 | 12/12/04 | 12/06/08 | 12/06/08 | 12/12/04 | 12/12/04 | 12/12/05 | 12/12/05 | 12/12/06 | 12/12/06 | 12/07/93 | 12/07/93 | 12/06/05 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/12/04 |
| 5 | Anthophyllite | 11 | 12/12/04 | 12/12/04 | 12/06/08 | 12/06/08 | 12/12/04 | 12/12/04 | 12/12/05 | 12/12/05 | 12/12/06 | 12/12/06 | 12/07/93 | 12/07/93 | 12/06/05 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/12/04 |
| 6 | Binapacryl | 17 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/00 | 12/12/00 | 12/06/06 | 12/06/06 | 12/12/00 | 12/12/00 | 12/07/93 | 12/07/93 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/12/03 |
| 7 | Captafol | 18 | 12/12/04 | 12/12/04 | 12/01/98 | 12/01/98 | 12/12/00 | 12/12/00 | 12/01/98 | 12/01/98 | 12/12/00 | 12/12/00 | 12/07/93 | 12/07/93 | 12/06/06 | 12/06/06 | 12/06/99 | 12/06/99 | 12/06/99 | 12/06/99 | 12/06/99 | 12/06/99 | 12/06/99 | 12/06/99 | 12/06/99 | 12/12/03 |
| 8 | Chlordane | 22 | 12/12/04 | 12/12/04 | 12/07/93 | 12/07/93 | 12/12/00 | 12/06/05 | 12/12/00 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/01/95 | 12/01/95 | 12/12/04 | 12/12/03 | 12/12/03 | 12/12/03 | 12/12/03 | 12/12/03 | 12/12/03 | 12/07/94 | 12/12/03 |
| 9 | Chlordimeform | 21 | 12/12/04 | 12/12/04 | 12/07/94 | 12/07/94 | 12/06/05 | 12/12/03 | 12/01/98 | 12/07/98 | 12/01/94 | 12/01/94 | 12/01/95 | 12/01/95 | 12/07/93 | 12/07/93 | 12/01/94 | 12/01/94 | 12/01/95 | 12/01/95 | 12/01/95 | 12/01/95 | 12/01/95 | 12/01/95 | 12/01/95 | 12/07/94 |
| 10 | Chlorobenzilate | 19 | 12/12/04 | 12/12/04 | 12/01/98 | 12/01/98 | 12/12/03 | 12/12/03 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/12/03 |
| 11 | Crocidolite | 15 | 12/06/02 | 12/12/04 | 12/01/95 | 12/01/95 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/12/03 |
| 12 | DDT | 21 | 12/12/04 | 12/12/04 | 12/07/93 | 12/07/93 | 12/06/05 | 12/06/05 | 12/12/04 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/01/95 | 12/01/95 | 12/12/03 | 12/12/03 | 12/12/03 | 12/12/03 | 12/12/03 | 12/12/03 | 12/12/03 | 12/12/03 | 12/12/03 |
| 13 | Dieldrin | 22 | 12/12/04 | 12/12/04 | 12/07/93 | 12/07/93 | 12/06/05 | 12/12/04 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/01/94 | 12/01/94 | 12/12/00 | 12/12/03 | 12/12/03 | 12/12/03 | 12/12/03 | 12/12/03 | 12/12/03 | 12/12/03 | 12/12/03 |
| 14 | Dinitro-ortho-cresol (DNOC) and its salts | 11 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 |
| 15 | Dinoseb & Dinoseb Salts | 22 | 12/12/04 | 12/12/04 | 12/07/93 | 12/07/93 | 12/06/05 | 12/12/04 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/01/94 | 12/01/94 | 12/12/00 | 12/12/00 | 12/12/00 | 12/12/00 | 12/12/00 | 12/12/00 | 12/12/00 | 12/12/00 | 12/07/94 |
| 16 | Dustable powder formulations ¹ | 12 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 |
| 17 | EDB (1, 2-dibromoethane) | 22 | 12/12/04 | 12/12/04 | 12/07/93 | 12/07/93 | 12/06/05 | 12/12/04 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/01/94 | 12/01/94 | 12/12/00 | 12/12/00 | 12/12/00 | 12/12/00 | 12/12/00 | 12/12/00 | 12/12/00 | 12/12/00 | 12/07/94 |
| 18 | Ethylene dichloride | 17 | 12/06/02 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/01 | 12/12/01 | 12/12/01 | 12/12/01 | 12/06/01 | 12/06/01 | 12/06/01 | 12/06/01 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/12/03 |
| 19 | Ethylene oxide | 16 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/06/05 | 12/12/01 | 12/12/01 | 12/12/01 | 12/06/01 | 12/06/01 | 12/06/01 | 12/06/01 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/07/94 |
| 20 | Fluoroacetamide | 21 | 12/12/04 | 12/12/04 | 12/07/93 | 12/07/93 | 12/06/05 | 12/12/04 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/01/94 | 12/01/94 | 12/12/00 | 12/12/00 | 12/12/00 | 12/12/00 | 12/12/00 | 12/12/00 | 12/12/00 | 12/12/00 | 12/12/03 |

Table 5.1: (continued)

| No. | Chemical | # of Countries addressing the chemical | # of Countries addressing the chemical | | | | | | | | | | | | | | | | | | | | | | | |
|-----|--|--|--|----------|-----------|----------|----------|----------|----------|-------------|----------|-------------|-------------------|----------|-----------|----------|----------|--------------|---------------------------|----------|------------|------------|----------|------------------|----------|-----------|
| | | | Australia | China | DPR Korea | France | India | Malaysia | Nepal | New Zealand | Pakistan | Philippines | Republic of Korea | Samoa | Sri Lanka | Thailand | Viet Nam | Cook Islands | Iran, Islamic Republic of | Japan | Kazakhstan | Kyrgyzstan | Maldives | Marshall Islands | Mongolia | Singapore |
| 21 | HCH (mixed isomers) | 21 | 12/12/04 | 12/12/04 | 12/07/93 | 12/06/05 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 |
| 22 | Heptachlor | 21 | 12/12/04 | 12/12/04 | 12/07/93 | 12/06/05 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 |
| 23 | Hexachlorobenzene | 17 | 12/12/04 | 12/12/04 | 12/01/98 | 12/06/05 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 |
| 24 | Lindane (gamma-HCH) | 18 | 12/06/02 | 12/01/98 | 12/12/04 | 12/06/05 | 12/06/05 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 |
| 25 | Mercury compounds | 22 | 12/12/04 | 12/07/93 | 12/12/04 | 12/07/93 | 12/07/93 | 12/07/93 | 12/01/94 | 12/01/95 | 12/07/93 | 12/07/93 | 12/07/93 | 12/01/94 | 12/01/95 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 | 12/07/93 |
| 26 | Methamidophos | 17 | 12/12/04 | 12/01/98 | 12/12/04 | 12/06/05 | 12/06/06 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/01/94 | 12/01/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 |
| 27 | Methyl-parathion | 17 | 12/12/04 | 12/01/98 | 12/12/04 | 12/12/03 | 12/12/03 | 12/06/06 | 12/06/06 | 12/07/98 | 12/07/98 | 12/07/98 | 12/01/98 | 12/01/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 | 12/07/98 |
| 28 | Monocrotophos | 15 | 12/12/03 | 12/12/04 | 12/12/04 | 12/12/03 | 12/12/03 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 |
| 29 | Parathion | 12 | 12/12/06 | 12/12/04 | 12/06/06 | 12/12/05 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 |
| 30 | Pentachlorophenol & its salts and esters | 18 | 12/12/04 | 12/01/98 | 12/12/04 | 12/06/05 | 12/01/98 | 12/06/06 | 12/01/98 | 12/06/06 | 12/01/98 | 12/07/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 |
| 31 | Phosphamidon | 18 | 12/12/04 | 12/01/98 | 12/12/04 | 12/12/03 | 12/12/03 | 12/01/98 | 12/01/98 | 12/07/98 | 12/01/98 | 12/07/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 |
| 32 | Polybrominated Biphenyls (PBBs) | 13 | 12/12/06 | 12/01/95 | 12/12/04 | 12/12/03 | 12/12/03 | 12/12/04 | 12/12/04 | 12/12/04 | 12/12/04 | 12/06/02 | 12/06/02 | 12/06/02 | 12/06/02 | 12/06/02 | 12/06/02 | 12/06/02 | 12/06/02 | 12/06/02 | 12/06/02 | 12/06/02 | 12/06/02 | 12/06/02 | 12/06/02 | 12/06/02 |
| 33 | Polychlorinated Biphenyls (PCBs) | 14 | 12/06/02 | 12/01/95 | 12/12/04 | 12/06/05 | 12/01/95 | 12/06/06 | 12/01/98 | 12/06/06 | 12/01/98 | 12/06/06 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 |
| 34 | Polychlorinated Terphenyls (PCTs) | 14 | 12/06/02 | 12/01/95 | 12/12/04 | 12/06/05 | 12/01/95 | 12/06/06 | 12/01/98 | 12/06/06 | 12/01/98 | 12/06/06 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 |
| 35 | Tetraethyl lead | 10 | 12/12/06 | 12/06/08 | 12/12/04 | 12/12/05 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 |
| 36 | Tetramethyl lead | 10 | 12/12/06 | 12/06/08 | 12/12/04 | 12/12/05 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 |
| 37 | Toxaphene (Campechlor) | 17 | 12/12/01 | 12/12/04 | 12/12/04 | 12/06/05 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 |
| 38 | Tremolite | 10 | 12/12/04 | 12/06/08 | 12/12/04 | 12/12/04 | 12/06/05 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 | 12/06/06 |
| 39 | Tris (2, 3 dibromopropyl) phosphate | 14 | 12/12/04 | 12/01/95 | 12/12/04 | 12/01/95 | 12/12/05 | 12/06/06 | 12/01/98 | 12/06/06 | 12/01/98 | 12/06/06 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 | 12/01/98 |
| | Total | 647 | 39 | 39 | 25 | 39 | 39 | 37 | 11 | 39 | 28 | 24 | 33 | 29 | 23 | 39 | 24 | 25 | 34 | 39 | 16 | 15 | 0 | 0 | 11 | 39 |

Notes:

¹ Dustable powder formulations containing combination of benomyl at or above 7%, carbonfuran at or above 10% and thiram at or above 15%.

Table 5.2: Import responses – Parties (24 countries) to the Rotterdam Convention in Asia and the Pacific

Source: <http://www.pic.int/Reports/06-ICRs-Country-Parties.asp>

Updated: September 2008

The information in the cell shows the import response decision: consent (c), no consent (nc), consent under conditions (cuc) or ‘response did not address importation (r-im)’ on the chemical.

| No. | Chemical | # of Countries addressing the chemical | # of Countries addressing the chemical | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|---|--|--|-------|-----------|--------|-------|----------|-------|-------------|----------|-------------|-------------------|-------|-----------|----------|----------|--------------|------|---------------------|------------|------------|----------|------------------|----------|-----------|-----|
| | | | Australia | China | DPR Korea | France | India | Malaysia | Nepal | New Zealand | Pakistan | Philippines | Republic of Korea | Samoa | Sri Lanka | Thailand | Viet Nam | Cook Islands | Iran | Islamic Republic of | Kazakhstan | Kyrgyzstan | Maldives | Marshall Islands | Mongolia | Singapore | |
| 1 | 2, 4, 5-T & its salts and estes | 18 | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | cuc |
| 2 | Actinolite asbestos | 11 | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc |
| 3 | Aldrin | 22 | nc | nc | nc | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | cuc |
| 4 | Amosite, asbestos | 11 | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc |
| 5 | Anthophyllite | 11 | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc |
| 6 | Binapacryl | 17 | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | cuc |
| 7 | Captafol | 18 | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | cuc |
| 8 | Chlordane | 22 | nc | nc | nc | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | cuc |
| 9 | Chlordimeform | 21 | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | cuc |
| 10 | Chlorobenzilate | 19 | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | cuc |
| 11 | Crocidolite | 15 | cuc | nc | nc | c | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | cuc |
| 12 | DDT | 21 | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | cuc |
| 13 | Dieldrin | 22 | nc | nc | nc | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | cuc |
| 14 | Dinitro-ortho-cresol (DNOC) and its salts | 11 | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | cuc |
| 15 | Dinoseb & Dinoseb Salts | 22 | cuc | nc | nc | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | cuc |
| 16 | Dustable powder formulations ¹ | 12 | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | cuc |
| 17 | EDB (1, 2-dibromoethane) | 22 | cuc | nc | nc | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | cuc |
| 18 | Ethylene dichloride | 17 | cuc | nc | nc | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | cuc |
| 19 | Ethylene oxide | 16 | cuc | nc | nc | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | cuc |
| 20 | Fluoroacetamide | 21 | cuc | nc | nc | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | cuc |
| 21 | HCH (mixed isomers) | 21 | cuc | nc | nc | cuc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | nc | cuc |

Table 6.2: Import Responses – Non Parties (24 countries) to the Rotterdam Convention in Asia and the Pacific

Source: <http://www.pic.int/Reports/06-ICRs-Country-NON-Parties.asp>

Updated: September 2008

The information in the cell shows the import response decision: consent (c), no consent (nc), consent under conditions (cuc) or 'response did not address importation (r-im)' on the chemical.

| No. | Chemical | # of Countries addressing the chemical | # of Countries addressing the chemical | | | | | | | | | | | | | | | | | | | | | | | |
|-----|--|--|--|----------|-----------|-----------|-----------|----------|------------------|-----------------|----------|-------------|----------|----------|------------|----------|----------|----------|------------|-------------|--------------|----------|--------------------------|------------|-----------|-------------------|
| | | | Bangladesh | Cambodia | Fiji | Indonesia | Lao PDR | Myanmar | Papua New Guinea | Solomon Islands | Tonga | Afghanistan | Bhutan | Kiribati | Micronesia | Nauru | Niue | Palau | Tajikistan | Timor-Leste | Turkmenistan | Tuvalu | United States of America | Uzbekistan | Vanuatu | Brunei Darussalam |
| 1 | 2, 4, 5-T & its salts and esters | 3 | | | nc | nc | | | | | | | | | | | | | | | | | | | | nc |
| 2 | Aldrin | 6 | nc | nc | nc | nc | | | | | | | nc | | | | | | | | | | | | | nc |
| 3 | Binapacryl | 1 | | | | nc | | | | | | | | | | | | | | | | | | | | |
| 4 | Captafol | 3 | | | | nc | nc | | | | | | | | | | | | | | | | | | | nc |
| 5 | Chlordane | 5 | cuc | nc | nc | nc | nc | | | | | | | | | | | | | | | | | | | nc |
| 6 | Chlordimeform | 5 | c | nc | nc | nc | nc | | | | | | | | | | | | | | | | | | | nc |
| 7 | Chlorobenzilate | 3 | | | | nc | nc | | | | | | | | | | | | | | | | | | | nc |
| 8 | Crocidolite | 2 | | | | | nc | | r-im | | | | | | | | | | | | | | | | | |
| 9 | DDT | 6 | nc | nc | nc | nc | nc | | | | | | c | | | | | | | | | | | | | nc |
| 10 | Dieldrin | 6 | c | nc | nc | nc | nc | | | | | | nc | | | | | | | | | | | | | nc |
| 11 | Dinoseb & Dinoseb Salts | 6 | r-im | nc | nc | nc | nc | | | | | | nc | | | | | | | | | | | | | nc |
| 12 | EDB (1, 2-dibromoethane) | 5 | r-im | cuc | nc | nc | nc | | | | | | | | | | | | | | | | | | | nc |
| 13 | Ethylene dichloride | 1 | | | | | | | nc | | | | | | | | | | | | | | | | | |
| 14 | Ethylene oxide | 1 | | | | | | | nc | | | | | | | | | | | | | | | | | |
| 15 | Fluoroacetamide | 6 | r-im | nc | nc | nc | nc | | | | | | nc | | | | | | | | | | | | | nc |
| 16 | HCH (mixed isomers) | 6 | r-im | nc | nc | nc | nc | | | | | | c | | | | | | | | | | | | | nc |
| 17 | Heptachlor | 5 | nc | nc | nc | nc | nc | | | | | | | | | | | | | | | | | | | nc |
| 18 | Hexachlorobenzene | 3 | | | | nc | nc | | | | | | | | | | | | | | | | | | | nc |
| 19 | Lindane (gamma-HCH) | 3 | | | | nc | nc | | | | | | | | | | | | | | | | | | | nc |
| 20 | Mercury compounds | 5 | r-im | nc | nc | nc | nc | | | | | | | | | | | | | | | | | | | nc |
| 21 | Methamidophos | 3 | | | | | c | nc | | | | | | | | | | | | | | | | | | nc |
| 22 | Methyl-parathion | 3 | | | | | nc | nc | | | | | | | | | | | | | | | | | | nc |
| 23 | Pentachlorophenol & its salts and esters | 3 | | | | nc | nc | | | | | | | | | | | | | | | | | | | nc |
| 24 | Phosphamidon | 3 | | | | | nc | nc | | | | | | | | | | | | | | | | | | nc |
| 25 | Polybrominated Biphenyls (PBBs) | 2 | | | | | nc | | r-im | | | | | | | | | | | | | | | | | |
| 26 | Polychlorinated Biphenyls (PCBs) | 2 | | | | | nc | | r-im | | | | | | | | | | | | | | | | | |
| 27 | Polychlorinated Terphenyls (PCTs) | 2 | | | | | nc | | r-im | | | | | | | | | | | | | | | | | |
| 28 | Toxaphene (Camphechlor) | 1 | | | | | nc | | | | | | | | | | | | | | | | | | | |
| 29 | Tris (2, 3 dibromopropyl) phosphate | 2 | | | | | nc | | r-im | | | | | | | | | | | | | | | | | |
| | Total | 102 | 11 | 0 | 11 | 17 | 27 | 3 | 5 | 2 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 |

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