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## Hazardous Chemicals Management *The Rotterdam and Stockholm Conventions*

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In the 1960s and 1970s, there was significant growth in the international trade of chemicals. Some of these were toxic pesticides while others were hazardous chemicals that caused deaths or serious poisoning in humans. Many of these also caused problems when released into the environment where water sources and animal and plant life were also poisoned. Environmentally sound management of chemicals is so vital that it prompted the international community to take measures to safeguard people and the environment from such deleterious effects of the chemicals.

The development of the International Code of Conduct for the Distribution and Use of Pesticides by the Food and Agriculture Organisation (FAO) in 1985 and the London Guidelines for the Exchange of Information on Chemicals in International Trade by the United Nations Environment Programme (UNEP) in 1987 were the forerunners that received particular attention. One of the basic functions of the Code, which was voluntary in nature, was to serve as a point of reference, particularly until such time when countries had established adequate regulatory infrastructure for pesticides. The London Guidelines were aimed at enhancing the sound management of chemicals through the exchange of scientific, technical, economic and legal information regarding banned or severely restricted chemicals in international trade. It called for cooperation between exporting and importing countries with the ultimate responsibility of protecting

human health and the environment at the global level. In 1987, both FAO and UNEP were instructed to include the Prior Informed Consent (PIC) Procedure in both of these instruments. Two years later, in 1989, the voluntary procedure was adopted and executed jointly by both FAO and UNEP. The PIC procedure means the procedure for formally obtaining and disseminating the decisions of importing countries as to whether they wish to receive future shipments of certain pesticides or industrial chemicals which have been banned or severely restricted.

However, the PIC Procedure was then only a voluntary mechanism and at the Rio Earth Summit in 1992, the international strategy for action on chemical safety highlighted the importance for the application to be made mandatory through an international legally binding instrument. The year 2000 was set as the target date for the implementation of such a procedure.

### The Rotterdam Convention

UNEP and FAO, then jointly convened five sessions of the Intergovernmental Negotiating Committee (INC) from March 1996 to March 1998 with the primary aim of developing an international legally binding instrument for the application of the PIC procedure for certain hazardous chemicals and pesticides in international trade. The INC's 5th session concluded with the approval of the texts of two documents, i.e. the Convention on the PIC Procedure for Certain Hazardous Chemicals and Pesticides in international Trade and the Resolution on Interim Arrangements. The two documents were adopted in the Conference of Plenipotentiaries in Rotterdam on 10 – 11 September 1998. The Resolution on Interim Arrangements was needed to continue the voluntary PIC procedure until the Rotterdam Convention becomes legally binding

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# Fair & Wider World Trade

**It took the world 125 years to use the first trillion barrels of oil. We will use the next trillion in a mere 30 years. Availability of energy and use/misuse of natural resources will be the defining issue of this new century. As populations grow and economies take off, given the impetus of global trade, both energy sources and natural resources will deplete at rates that will cause intense competition fueled by scarcity. Fairer and wider world trade is key to avoidance of the frightful spectacle of nations and peoples disputing over scarce resources. To paraphrase the cry of the 1960s hippy generation: "Make Trade, Not War" is reflective of the times we live in. Fair global trade is perhaps the best insurance we have to avoid global disputes.**

Fair world trade is underpinned by the promise that it leads to a more sustainable and efficient allocation of resources and wealth in a highly interdependent world. We cannot en-

WORLD TRADE & DEVELOPMENT IS BOTH A FRIEND AND FOE OF THE ENVIRONMENT.

tirely stop energy consumption and use of natural resources by putting the brakes on global trade. After all, global trade is a harbinger of good things and good times to come for millions the world over. Here then is a classic conundrum by any definition: World trade and development is both a friend and foe of the environment. At first glance this seems an impossibility. But is it?

So very often, problems of the developing world in relation to world trade have been subjected to piecemeal panaceas. It is sad that the advocates of freer trade neither have the 'place and time' worldview

of the environmentalist in the field with irrefutable facts of the degradation of nature all around him. Make no mistake that the agenda of wealth creation through global trade involves the active participation of corporations, government and every citizen of the world to ensure its success. And what guides this agenda is the spirit of innovation, collaboration and conservation. This same spirit should guide all those who want to see a better, cleaner and greener environment. Seen in this light, the circle can be squared. Fairer world trade and a greener environment are not mutually exclusive. Both can be the expression of mankind's enlightened mind.

For a start, both world trade and a cleaner environment are global phenomena. Secondly for both to be sustainable requires wealth creation. And thirdly wealth creation inevitably results in better awareness, better education and a better quality of life. All the foregoing is meaningless in a world spinning out of control, nature wise. Is there any evidence that global wealth creation and the spirit of innovation, collaboration and conservation can go hand-in-hand with a safer global environment?

Take General Electric for example. GE is the world's largest corporation by far. In the coming months, the hard charging managers of strategic business units will be judged not only by the usual measures such as return on capital, that investors typically care about, they will also be held accountable for helping to save the planet. Every GE business unit will have to cut its emissions of carbon dioxide (CO<sub>2</sub>). GE's new goal is to cut its overall greenhouse gases emissions by 2012 to 1% below the levels of 2004. At the same time green technologies are being pursued with missionary zeal. Invoking the colour of American money, the war-cry now is the new mantra that: green is green! Even more striking is GE's position on climate change. GE officials now proclaim publicly that global warming is a real problem and call for American government regulations to deal with it. But ultimately green will turn green only if GE's customers and other stakeholders actually want greener products. Here is where governments and the man-in-the-street have a useful voice and say on whether we really want a greener world. Clearly a command-and-control system of emission on other green targets set up by governments will not succeed without the participation of corporations and equally enlightened citizens.

Things are indeed changing. Corporate global citizenship is not



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just a buzzword. It now entails the fundamental changes in the way top management thinks and acts. Globalisation offers great business opportunities but it also entails the duty to build and nurture sustainable global systems, whether wealth creation or a greener environment. Perhaps all parties have come to realize that more of the same will take us to the tipping point and with it the point of no return. Gloom and doom should swing now to a new optimism and with it greater efforts towards sustainable businesses. ■

FAIR WORLD TRADE IS UNDERPINNED BY THE PROMISE THAT IT LEADS TO A MORE SUSTAINABLE AND EFFICIENT ALLOCATION OF RESOURCES AND WEALTH IN A HIGHLY INTERDEPENDENT WORLD.

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and enters into force once fifty countries have ratified it. The Conference also invited the INC to establish an interim subsidiary body to (i) carry out the functions that will be permanently entrusted to a Chemical Review Committee; (ii) define and adopt PIC Regions on an interim basis; (iii) adopt, on an interim basis procedures, for banned or severely restricted chemicals; and (iv) decide on the inclusion of additional chemicals under the interim PIC procedure.

### Main Provisions of the Convention

- Export of a banned or severely restricted chemical can only take place with the prior informed consent of the importing Party
- A Party is required to inform other Parties of each ban or severe restriction on a chemical it implements nationally
- It is possible for a developing country Party or a Party with an economy in transition to inform other Parties that it is experiencing problems caused by severely hazardous pesticide formulation under conditions of use in its territory
- An exporting Party is required to inform the importing Party before the first shipment and annually thereafter of any export of a chemical that is banned or severely restricted for use within its territory
- When exporting chemicals that are to be used for occupational purposes, it is necessary for the exporting Party to send to the importer, an up-to-date safety data sheet
- Each Party must designate one or more national authorities to act on its behalf to carry out the administrative functions required by the Convention.

### Implementation of the PIC Procedure in Malaysia

Malaysia has been an active participant of the voluntary PIC procedure for many years. There are two Designated National Authorities (DNA) in the country, namely, the Pesticides Board under the Ministry of

Agriculture for pesticides and the Department of Environment under the Ministry of Science, Technology and the Environment for industrial chemicals. Currently, the Convention is not in force yet as there are only 49 ratifications (though it is expected to be in force in early 2004 with one more ratification). However, Malaysia is already Party to the Convention as it had deposited its instrument of accession at the United Nations on 4 September 2002. In Malaysia, though there is no specific legislation per se yet in relation to the PIC Procedure, the control of import and export of hazardous pesticides and industrial chemicals are managed using the Prohibition of Import Order 1988 and the Prohibition of Export Order 1988 under the provisions of the Customs Act 1967. The pesticides and industrial chemicals listed in the PIC list are either banned or severely restricted and no import or export can take place without the prior consent of the relevant DNA.

The first Conference of the Parties (COP-1) to the Rotterdam Convention on Prior Informed Consent (PIC) Procedure for Certain Hazardous Chemicals and Pesticides in International Trade was held in Geneva, Switzerland from 20 -24 September, 2004. The Malaysian delegation led by the Honourable Minister of Natural Resources and Environment comprised representatives of the Ministry of Natural Resources and Environment, Department of Environment, Department of Agriculture, Ministry of Foreign Affairs and Attorney General's Chambers.

### Stockholm Convention on Pops

Persistent organic pollutants or POPs are a small group of organic chemicals that exhibit the combined properties of persistence, bioaccumulation, toxicity, and long-range environmental transport. These carbon-based compounds remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of living organisms and are toxic to humans and wildlife.



### Historical Perspective

In March 1995, UNEP Governing Council invited IOMC that was responsible to promote coordination among international organizations involved in implementing Chapter 19, the IFCS and the International Programme on Chemical Safety (IPCS) to initiate an assessment process regarding an initial list of 12 POPs namely, the pesticides: aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, mirex and toxaphene; industrial chemicals: hexachlorobenzene and polychlorinated biphenyls; and unintended by-products: dioxins and furans. In response, IFCS convened a Working Group meeting of experts in June 1996 that concluded that sufficient information existed to demonstrate the need for international action to minimize the risks from the 12 POPs, including a global legally binding instrument.

The 1st session of the INC on POPs established the Criteria Expert Group (CEG) to elaborate proposals for science-based criteria and develop a procedure for identifying additional POPs as candidates for future international action. After five sessions, ranging from June 1998 to December 2000, negotiations were concluded on the POPs convention, and it culminated in the Conference of Plenipotentiaries on the Stockholm Convention on 22-23 May 2001 in Stockholm, Sweden. There were 127 governments, including, Malaysia, that adopted the Stockholm Convention on Persistent Organic Pollutants. Malaysia signed the Convention on 16th of May 2002 but has not ratified it yet. The Convention will enter into force after 50 countries deposit their instrument of ratification. Malaysia's Focal Point for this Convention is the Ministry of Natural Resources and the Environment.

### Provisions of the Stockholm Convention

Broadly, there are four main areas of the Convention and these are: control provisions pertaining to intentionally produced POPs, unintentionally produced POPs and stockpiles and wastes; procedure for adding new POPs; financial and technical assistance; and general obligations. The Convention seeks the elimination or restriction of production and use of all intentionally produced POPs, both pesticides and industrial chemicals. The chemicals for elimination are aldrin, chlordane, dieldrin, endrin, heptachlor, hexachlorobenzene, mirex, toxaphene and polychlorinated biphenyls. The use of DDT would be allowed for vector control until safe, affordable and effective alternatives are in place. Countries need to identify, label and remove PCB-containing equipment from use by 2025 and manage those wastes in an environmentally sound manner no later than 2028.

### Status of the 12 POPs in Malaysia

The Pesticides Act, 1974 was enacted to ensure that pesticides imported, manufactured and sold in Malaysia are effective for their intended use and have no adverse effects on crops, man and the environment. Under the Act, various rules and regulations have been formulated and implemented for the registration, use and manufacture of pesticides. The registration of aldrin, dieldrin and heptachlor were not renewed. Chlordane was deregistered in 1997 while DDT was deregistered only recently in 1999. The import and export of PCB is also banned. The disposal of PCBs

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# World Trade and Environment: Friends or Foes?

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**T**rade barriers are coming down at the same time that environmental awareness is increasing in many parts of the world. Trade and environmental interests sometimes clash, as governments, industries, environmentalists and consumers push their competing agendas. Expanded trade, however, is a key feature of economic globalization, and an unmistakable trend linked to economic growth. More trade seems inevitable as the world's economy grows. What this will mean for the environment is not quite as clear. There is no doubt that trade activities have an impact on natural resources and the environment. However, the physical and economic links between trade and environment are complex. There is no conclusive evidence that trade in itself necessarily harms the environment. Rather, trade often magnifies the environmental effects of economic activities.

The effect of freer trade on environmental quality depends on several factors, such as the level of production, variable input use, land use, technical change, and the assimilative capacity of the natural resource base. Three separate mechanisms are at work, namely, (i) the scale effect, which describes what happens when trade liberalization changes the level of economic activity (for example, both economic activity and pollution levels may increase under freer trade); (ii) the composition effect, which characterizes intersectoral changes reflecting a country's comparative advantage (for example, agricultural production expands while chemical output declines); and (iii) the technique effect, which portrays changes in production methods due to trade liberalization.

In the process of protecting the environment, environmental regulations are proliferating. According to the World Trade Organization (WTO) Environmental Database (EDB), which contains information on governmental

environment-related measures, the share of environment-related notifications under the WTO Agreement on Technical Barriers to Trade has increased from 10 percent in the early 1990s to 15 percent in recent years. Environmental (and health-related) requirements are also becoming more stringent and complex. For example, standards and regulations concerning maximum residue levels (MRLs) for pesticides and other chemicals are an issue of concern to developing countries. An increasing number of hazardous substances are banned, for example, in the food, textiles and electronics sectors. New legislation is also emerging concerning traceability. Standards and regulations are also being implemented to achieve the objectives of multi-lateral environmental agreements such as the Montreal Protocol and the Basel Convention. In some countries, increasing emphasis is being placed on integrated product policies and producer responsibility, based on instruments such



as take-back obligations, non-regulatory measures (including information-based instruments and self-regulation) and life-cycle analysis.

Environmental requirements, however, have potential effects on market access especially by the developing economies. The impact on developing country exports might be positive in those cases where developing country manufacturers have a comparative advantage in an environmental-friendly produce. The impact could also be negative. Developing country exports might be inhibited by environmental requirements if developing country manufacturers have limited information, resources or capacity to comply with environmental requirements in export markets. Studies undertaken by organizations such as UNCTAD, the Organization for Economic Cooperation and Development (OECD), the World Bank

and by members of the WTO, have explored the impact of environmental requirements on market access for developing country goods. The studies have concluded that no overall generalization can be drawn regarding the scale of market-access problems created by environmental requirements. Valluru and Peterson (1997) and Diakosauvas (1994) assess the impact of environmental regulation on agricultural trade. The evidence suggests little support for a significant negative regulatory effect. Xu (1999) examines the impact of stringent environmental standards on the international competitiveness of environmentally sensitive industries. He finds that the export performance of these goods for most of the 34 countries included in his data set was unchanged between the 1960s and the 1990s, despite the emergence of environmental standards in most

developed countries since 1970.

Environmental requirements may also exert long run effects on international investment flows and firm location. Just as labor-intensive industries may concentrate where labor is abundant, polluting industries may concentrate in countries with less stringent environmental policies, *ceteris paribus*. One concern is that developing countries, in particular, may use their lower environmental standards to attract foreign investment and stimulate economic growth. Another is that countries that are moving toward stricter environmental regulations will encourage industrial and capital flight toward countries offering "pollution havens." There is no conclusive evidence however to support this pollution-haven hypothesis, particularly concerning the importance of differing environmental standards for foreign direct investment in the food and agriculture sectors. Pearson's survey (1987) finds little evidence of industrial flight to developing countries as a result of differing environmental standards. Xu (1999) also finds no evidence of pollution-intensive bias in the allocation of the FDI among industries. In another study, Pearson (1976) estimates that developing countries may have increased their export revenues by 2.1- 4.6 percent by lowering their environmental standards. Duerkson and Leonard (1980) conclude that there is no evidence of widespread relocation of U.S. industries to pollution havens. However, Beghin Potier (1997) investigating pollution abatement costs and US-Mexico trade find some evidence to support the pollution-haven hypothesis.

Environmental regulations may also raise production costs, and hence reduce competitiveness in the short term, but long term effects are less certain as

firms adjust and innovate. A 1992 study by the Office of Technology Assessment indicated that some firms adapted to regulations in ways that offset any early cost disadvantage and, over the long run, those firms have even benefited from the regulations. Runge *et al.* (1988) found that the regulations, in turn, altered input values and imposed costs on producers, inducing a change in input use and the subsequent choice of alternative technologies. Thus, changes in relative factor prices stimulate innovative activities. Both private producers and public research institutions innovate to remedy the constraint imposed by the policy-induced factor scarcity. Runge *et al.* (1988) also argue that environmental regulation can act as a signaling mechanism that stimulates research into environment-conserving technologies.

So, is the world trade and environment friends or foes? Freer trade generally increases the rate of economic growth, which can harm the environment if polluting activity increases with growth, but can improve the environment if resources are reallocated to less polluting activities, or if growth leads to the adoption of environmentally friendly technology. Economic growth is also recognized as a crucial factor in increasing the demand for environmental quality. The available evidence on the environmental impact of trade policy reform and integration in output and factors markets does not support the pessimistic conjecture of a wholesale specialization in dirty activities. There is convincing evidence that under an import substitution strategy, countries have specialized in pollution-intensive manufacturing activities for which they are not truly competitive. Outward orientation has reduced the pollution intensity of output in several countries through a composition effect (Birdsall Wheeler, 1992).

Environmental protection, as part of the economic development process, can be characterized by a continuum of

institutional quality that guides and sustains economic activity. There is a supply and demand side to the quality of institutions protecting the environment, and both are influenced by the trade orientation of an economy. On the demand side, economic growth implies higher income and increasing demand for environmental protection and standards. At much higher levels of income, environmental problems that are more remote in space and time eventually become prominent; this typically occurs after graduation from the developing economy stage. On the supply side, governments in developing economies have scarce amounts of resources and human capital to allocate to the provision of competing institutional functions, including environmental protection. These governments are accumulating policy and institutional experience. Institutional knowledge can be transferred across industries and borders. Hence, the free movement of institutional knowledge reinforces the sustainability of economic development. Environmental side-agreements to trade agreements could facilitate such knowledge transfer. Cleaner technology innovation and adoption in industrial countries have been driven by environmental regulation. Combined with foreign direct investment (FDI) and the use of technology-laden imported inputs, this cleaner technology can be transferred to developing economies.

Thus whether trade contributes to environmental degradation depends to a great extent on two factors: the strength of national environmental regulations, and the degree to which international trade regimes reinforce or undermine them. If a country's ability to regulate pollution and exploitation of natural resources is already weak, international trade can amplify existing problems. Whether trade rules strengthen or weaken environmental regulation depends on how trade and environmental policies mesh. Well-designed and enforced environmental

policies are more likely to ensure that trade liberalization will bring economic growth and gains in environmental quality. Economic growth and higher incomes engendered by free trade may also lead to a greater social preference for the resources available to achieve environmental improvement.

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# Poverty, Trade and the Environment

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**S**ound and equitable management of natural resources and ecosystem services is critical to sustained poverty reduction and achievement of the Millennium Development Goals (MDGs) agreed by world leaders at the 2002 World Summit on Sustainable Development in Johannesburg. The 2005 World Summit in New York assessed progress and achievements since the international endorsement of the Millennium Declaration in 2000. Since then, there has been widespread confusion and neglect concerning MDG 7: Ensuring Environmental Sustainability, especially on measures to improve and efforts to tackle the critical linkages between environmental sustainability, poverty reduction and achievement of the other MDGs.

Today, poverty is seen as multidimensional, dynamic, complex, institutionally-embedded, and gender - location - specific phenomenon (World Bank, 2000a: 4). The poor are not a homogeneous group, but experience poverty in different ways, requiring a range of policy responses and measurements. Eradicating poverty is the greatest global challenge facing the world today and an indispensable requirement for sustainable development, particularly for developing countries. In terms of the linkages between poverty and environment, these are inevitably complex and diverse, reflecting the diversity of poverty dimensions and experiences.

The environment is a broad term with many interpretations and definitions. The term 'environment' may be used narrowly, with reference to 'green' issues concerned with nature such as pollution control, biodiversity and climate change; or more broadly, including issues such as drinking water and sanitation provision (often known as the 'brown agenda').

Trade and foreign investment are important drivers to achieve the economic growth that could make sustainable development possible. Sustainable development cannot be achieved - especially in the developing countries - without substantial economic growth and changed patterns of investment.

At the same time, not all economic growth supports sustainable development. Indeed, the apparent disregard of the trade policy community for the sometimes harmful effects of trade-generated growth is one of the sources of tension with the environmental and development communities. Lack of linkage between the different policy arenas has led to trade policies that inadequately support - and sometimes undermine - sustainable development.

The same can be said for foreign direct investment (FDI). Appropriate investment can spur sustainable development, but much investment in developing countries has been environmentally, socially and often economically questionable.

What complicates the possibilities of simultaneously reducing poverty and improving the environment is the binding constraint on current consumption of the poor: many have no option but to continue to exploit their environment in an unsustainable way.

## Extent of the Problem

For the purposes of our discussion, "sustainable development" is defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs"<sup>1</sup>. Poverty is the

and environmentally sustainable development".

By defining the poorest to be the poorest 20% of the population among the total population, it has been estimated that 60% of the world's poorest live in ecologically vulnerable areas, including rural areas of low agricultural potential and urban squatter settlements. The poor have moved to the ecologically vulnerable areas because they are poor, i.e. living costs in these areas are low. Alternatively the areas inhabited by the poor have always been ecologically fragile or of low potential.



intra-generational distributional aspect of sustainable development. Therefore, alleviation of poverty is contained as part of sustainable development. However, "sustainable development" is often referred to as "environmentally sustainable development"<sup>2</sup>. It is understood in this paper that poverty and the environment in effect means "Alleviation of poverty

## The Linkage

Sustainable development must recognize the interconnectedness or links between human beings and the environment if true environmental and social justice is to be obtained.

The links can be established in three ways. First, the property rights on the environment are cru-