

International conventions and their implementation in national law

Taking the first steps towards a toxics-free world

The uncontrolled use of chemicals still jeopardizes the life and health of millions of people in urban and rural areas of developing countries. The United Nations are trying, by means of various agreements, to regulate the trade in and use of hazardous chemicals. Now the challenge is to transpose these agreements into national law and thus bring them to life. For many developing countries, this is a major undertaking.

On the markets of Nairobi, Bangkok, Buenos Aires or Tashkent, narrow paths separate the stalls where farmers exhibit their limes, mangoes, apples, beans, onions and more. Sounds of laughter and bartering can be heard. Yet the wares traded are not always quite so innocent. Far more than in central Europe, harvests in developing and newly industrializing countries are threatened by pests and diseases. Many farmers therefore use plant protection products which are banned in the EU because they are hazardous. These farmers often wear no protective clothing. Dangerous chemicals are also used frequently in commerce and industry without any precautions being taken.

Is growth toxic? It certainly looks that way! As countries develop, increasing amounts of chemicals are produced and used. In that process, many countries in Africa, Asia and Latin America are unable to protect their populations from hazardous chemicals. Although almost all such countries have made relevant laws and appointed competent authorities, the implementation and monitoring of these laws is often rudimentary. And how could it be otherwise? These countries lack qualified people and technical equipment, i.e. they lack the measuring devices and laboratories needed to inspect the contents of barrels and other receptacles for chemicals at the country's borders or elsewhere. What use are limit values for dioxin emissions from the stacks of waste incineration plants if there are no authorities at hand capable of monitoring emissions? Furthermore, these countries are not in a

position to remove the obsolete chemicals which arose from their failed policies over the past few decades. The UN Food and Agriculture Organization (FAO) therefore estimates that 45 countries in Africa and the Near East are home to 50 000 tonnes or more of hazardous pesticides stored in barrels, many corroded, which await environmentally-sound disposal. These are nothing short of a ticking time bomb!

There is hope for the future, however: the United Nations intends to improve the situation by means of international agreements. It is using two types of agreement. The first type regulates the trade in toxic substances and began with the Basel Convention in 1989, which lays down regulated channels for the transboundary movement of hazardous wastes from the industrialized to the developing world. This Convention has since prohibited such waste exports. Although the Convention does not apply worldwide, the EU has already converted it into European Community law. As a result, no more toxic waste can legally leave Europe for developing nations. In 1998, the Rotterdam Convention was born. Developing countries can use this to prohibit imports of certain toxics (see box on the Prior Informed Consent – PIC – Convention). The second type of agreement the United

Obsolete pesticides are often stored in corroding barrels – a ticking time bomb!



Photo: GTZ

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POPs: end of the road for the dirty dozen

On 17 May 2004, the Stockholm Agreement on Persistent Organic Pollutants (POPs) of 23 May 2003 came into force. On the current list of POPs are a dozen chemicals or groups of chemicals: eight insecticides (aldrin, chlordane, DDT, dieldrin, endrin, heptachlor, mirex, toxaphene), one fungicide (hexachlorobenzene, HCB), the polychlorinated biphenyls (PCBs), which are used in many countries as an insulating fluid in transformers, and dioxins and furans, by-products which result from incineration processes. By mid-March 2005, 151 countries had signed the Stockholm Convention and 95 had ratified it. The first meeting of the Conference of the Parties took place between 2 and 6 May 2005 in Punta del Este, Uruguay (see www.pops.int for further information).

Nations is using is prohibition. In 1987, the Montreal Protocol on Substances that Deplete the Ozone Layer signalled the end of the road for CFCs, which have such a devastating effect on stratospheric ozone. In 2002, the international community used the Stockholm Convention to prescribe a dozen persistent organic pollutants (POPs, see box).

PIC: a question of common courtesy

The trade in chemicals often bypasses the authorities in developing and newly industrializing nations. In practice, the controls which are formally required by law are either not performed or do not work there due to a lack of infrastructure. The Rotterdam Convention was designed to assist in such cases. At the heart of the Convention is the Prior Informed Consent (PIC) Procedure, according to which hazardous chemicals may only be imported with the express consent of the importing country.

A European company wishing to import such chemicals into an African, Asian or Latin American country will have to approach the developing country through the authorities in an industrialized nation and request permission. Under the PIC procedure, the developing country has several options: it may permit or prohibit the import, and an unanswered import request is understood to have been rejected. If the importing country does consent to an import, it is hoped that it will monitor the use of the hazardous substance. Thus the Rotterdam Convention attempts

to guide the trade in hazardous substances through regulated channels. However, its ultimate aim is to protect humans and the environment. The United Nations Environment Programme (UNEP) hopes that the PIC procedure will help bring about a significant reduction in the number of deaths due to pesticides – provided that all countries apply the Convention consistently.

POPs: travellers without passports

The non-sustainable use of plant protection products and industrial chemicals is harmful, and not only to the place where they are used. Canadian scientists were surprised to discover at the end of the 1980s that the blood and mother's milk of Inuit people on Qikiqtarjuaq, a small island in the eastern Baffin Islands, contained high levels of environmental contaminants. What this means is that some toxic chemicals are capable of accumulating in people and animals in the remotest of areas, far from major industries and built-up areas. The United Nations plans to remedy this situation by means of the Stockholm Convention on Persistent Organic Pollutants (POPs, see box on page 56). As these substances mainly spread around the world via the winds, UN Secretary-General Kofi Annan has dubbed them «travellers without passports».

In contrast to the Rotterdam Convention, the Stockholm Convention aims to minimize the application and release of these substances. In some cases, states have agreed during negotiations to an outright ban on a substance. In other cases, they have permitted the use of a substance under certain conditions. The most high-profile example of this is DDT, a toxic insecticide which may be used if necessary, under World Health Organization supervision, to combat the anopheles mosquito which carries the malaria parasite.

International agreements: paper tigers or panaceas?

International agreements such as the Rotterdam and Stockholm conventions are neither paper tigers nor panaceas in the fight for a future free from toxic substances. But what both of these Conventions do is provide arguments for a more sustainable chemical industry, even within the constraints on employment and living conditions which prevail in developing nations. The interrelated nature of the global economy means that manufacturers and users of chemicals in

countries such as Argentina, Ghana and Thailand are increasingly paying attention to upholding minimum standards. And CropLife, the global federation representing the plant protection industry, does not view the additional bureaucratic effort involved in the PIC procedure as a substantial barrier: quite the reverse. In CropLife's view, the advantages of the Convention, namely transparency and openness, far outweigh the administrative disadvantages. Although the Rotterdam Convention does not prohibit anything, it does clearly signal that care must be taken with the substances concerned, as they can cause serious damage to human health and the environment unless their application is clean and regulated. The Convention's strength lies in the exchange of information. It directs the attention of the authorities in developing nations towards those substances that appear on the PIC list, i.e. which the international community deems highly hazardous.

Yet the Convention is certainly no panacea. «Courtesy» plays a very minor role in economics; what matters most is money. Moreover, corruption is widespread in many countries. Bribery will ensure that hazardous chemicals continue to enter the country under the noses of the authorities; these chemicals will endanger people and the environment. It is also possible for a consortium to help a developing country secure money from a development bank in order to buy pesticides. This consortium will then quite legitimately supply the chemicals. Pesticides not actually needed end up in forgotten stockpiles, tomorrow's obsolete chemicals. From the legal perspective, the consortiums are no longer responsible, since once a developing country has consented to an import under the PIC procedure, it is responsible for the safe use of the hazardous chemicals in question. Most developing countries, however, are not sufficiently well equipped to fulfil this responsibility.

Many small steps towards transposition

Since 1997, the Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ), in some areas in cooperation with the European Commission, has been helping Argentina prepare for the Rotterdam Convention. Experts are trained at national workshops, and the issue of chemical safety is introduced into the country's political agenda. The first improvements are already emerging: the use of all pesticides based on chlorinated plant protection products has been banned and the

trade in specific substances restricted, meaning that PVC can no longer be used in toys for children under three years of age. However, these really are only the first steps. The authorities still lack the means to monitor compliance with the legislation or to conduct their own investigations into the effects these chemicals have on people and the environment. As soon as discussion of a worldwide ban on a particular chemical begins, scientists and companies start preparing for the time when the ban comes into force. They develop replacement substances or offer their services for the disposal of obsolete stocks or the safe handling of chemicals. This is what Uhde GmbH does. Uhde is one of the world's leading engineering companies in the planning and construction of chemical plants, refineries and other industrial facilities. Since mid-April 2005, it has been in a public-private partnership with GTZ. The aim of this partnership is to popularize basic and expert knowledge of industrial and occupational safety through training courses. The partnership also offers to improve companies' production processes by giving them expert advice on saving resources, protecting workers, reducing their impact on the environment and thus generally improving economic efficiency.

In Indonesia, GTZ joined forces with the Indonesian-German Environmental Program (ProduksiH), based at the Indonesian Ministry of Environment, to produce a handbook for small enterprises on the safe use of chemicals. The handbook «Chemical Management Guide – Improve Chemical Management to Gain Cost Savings, Reduce Risks and Improve Safety» is intended to convince companies that the safe and economical use of chemicals will not only lower the health risk to workers but also reduce production costs and increase product quality. The prospects for success are good, as the handbook uses case studies from Indonesia.

As dioxins and furans are POPs, many developing nations are beginning to reassess their waste management policies. These nations are faced with a problem, as they do not know what levels of dioxins are produced where, and to what extent human beings are already contaminated with these carcinogens. Thailand summoned help from Germany for its initial assessment. During a GTZ pilot project, experts from GfA in Münster visited Thailand in the autumn of 2000. They took and analyzed samples from locations which included a cement works, a lead foundry, two incinerators – one for household and one for medical waste – and a crematorium. The results showed that action was needed. Thailand then initiated a debate which resembled the debates held in western Europe some

20 years ago. What should be the limit values for emissions from industrial facilities? Should waste be stored, or was incineration the right way forward? Thailand has not yet decided, but in Phitsanulok City in central Thailand, a GTZ-assisted project has improved the sorting of household waste and combined the municipal rubbish tip with a mechanical-biological treatment plant, thus avoiding the need to build a costly waste incinerator.

On the way to substitution

The chemicals on the PIC or POP lists have gained notoriety the world over. They are considered highly hazardous. Environmental and development organizations such as Greenpeace, the Worldwide Fund for Nature (WWF) and the Pesticide Action Network (PAN) can use these lists to raise public awareness and demand alternatives. These major environmental organizations repeatedly refer to the opening paragraphs of both Conventions, under which it is permitted to add further chemicals to the lists periodically. Which chemicals should be added is something the parties to the Convention decide at conferences of the parties. The procedures for inclusion are complicated, but may over time become routine. UNEP therefore estimates that five additional chemicals will be added to the Rotterdam Convention list each year until all problem chemicals are traded within a regulated framework. This means that the Convention is accelerating the flow of information on hazardous chemicals from industrialized to developing countries. This may be the Convention's greatest achievement.

Convention on the Prior Informed Consent Procedure

On 24 February 2004, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade of 10 September 1998 came into force. The Convention introduced the PIC procedure for certain hazardous substances. Annex VII to the Convention lists those chemicals and groups of chemicals, of which there are currently 37, which must be handled according to the PIC procedure anywhere in the world. This list mainly contains pesticides, but also industrial chemicals such as compounds of mercury, polybrominated and polychlorinated biphenyls (PBBs and PCBs), and five different types of asbestos. By mid-March 2005, 85 countries had ratified the Convention. An additional 23 states have signed it. The first Conference of the Parties took place between 20 and 24 September 2004 in Geneva (information available at www.pic.int).

Among the chemicals which will be declared POPs over the next few years, their use to be banned or restricted, are notorious plant protection products such as endosulfan, lindane and parathion, as well as organic tin compounds such as TBT and flame retardants such as brominated diphenyl ethers. A notable feature of the Stockholm Convention is that, from now on, no new chemicals with POP properties may be placed on the market anywhere in the world.

PAN plans to achieve still more under this Convention. All pesticides which cannot safely be used by the disadvantaged are to be added to the PIC list. Here, «the disadvantaged» means users who have no way of knowing how to apply a given pesticide correctly, for example because they are illiterate and cannot read the user instructions. Where pregnant women are at risk from applying pesticides on the fields, these should also be added to the list. PAN sees the Rotterdam Convention as a step towards achieving full transparency about pesticide exports. Only when organizations like PAN can find out which pesticides are being shipped where, can they support countries in Africa, Asia and Latin America in their attempts to improve the protection of their own populations.

Outlook

Both Conventions remain merely drops in the ocean. Environmental experts fear that at least 90 percent of the road towards a world free of toxic substances lies ahead. Many more hazardous chemicals exist than are included in the lists. In the EU alone, over 6 000 chemicals are deemed to be hazardous: some are flammable, others carcinogenic. Nor will treating the symptoms suffice. If one rusty barrel polluting one well is removed, new barrels will often emerge from neighbouring streets. In five years' time, they too will be completely corroded.

There is indeed much work to be done, as the United Nations have acknowledged. Since October 2003, the UN have consulted all interested parties at national level, representatives of industry and environmental protection organizations on a comprehensive approach to the safe handling of chemicals worldwide. The result is the SAICM process (the Strategic Approach to International Chemical Management, see www.chem.unep.ch/saicm/). The participants aim to agree by the end of 2005 on proposals for further measures, such as precautionary bans on additional hazardous substances and assistance so developing countries can handle these substances safely themselves.