

# Our sustainable future: the role of the Basel Convention

## I. Background

Generation of hazardous and other wastes, including household wastes, continues to rise globally with consequential impacts on human health and the environment. The Basel Convention aims to protect human health and the environment against the adverse effects of the generation, management, transboundary movement and disposal of hazardous and other wastes. This document describes some of the problems of those wastes and explores why and how development agencies and other donors need to take action to assist in improving the current situation. This document is meant to inform donors about the Convention and the needs of developing countries and countries with economies in transition.

## II. Basel Convention

The Basel Convention on the Control of Transboundary Movements of Wastes and Their Disposal is the most comprehensive global environmental agreement on hazardous and other wastes. There are 170 Parties to the Basel Convention. The benefits from the implementation of the Convention are widespread: it plays an important role in protecting human health and the environment, in meeting sustainable development goals, and in the reduction of poverty.

The Convention regulates the transboundary movements of hazardous and other wastes and obliges its Parties to ensure that these wastes are managed and disposed of in an environmentally sound manner. Parties are also required to minimize transboundary movements to the extent consistent with the environmentally sound and efficient management of such wastes, and treating and

disposing of wastes as close as possible to their place of generation.

To meet the short- to medium-term needs of countries and in order to build capacities, Parties under the Basel Convention are exploring new and innovative ways to access bilateral and multilateral assistance.

International cooperation and assistance is critical in that many Parties to the Convention lack adequate infrastructures or know-how for managing hazardous wastes properly or lack the capacity to control the import/export of such wastes. This problem is particularly significant because the Convention does not have a stable financial mechanism for capacity-building and technological transfer. Although a Technical Cooperation Trust Fund has been established for ad-hoc voluntary contributions, this voluntary fund has not provided what developing countries and countries with economies in transition need to meet the global and local waste challenge.

## III. Waste is a global issue

Because of the frequency of cross-border movements of hazardous and other wastes around the world, waste is not merely a local or national issue, it is a global issue. In the past unscrupulous practices – which are still evident today – were employed: to transport the hazardous wastes generated in one country to a developing country for “treatment and management”. Often, the wastes were shipped to countries that did not know what they were receiving, nor did they have the capacity or technical expertise to handle the wastes. When this happened, wastes usually entered into the ecosystem, or were randomly burned, or left to rot, contaminating the local water supply and

becoming a source of illness and diseases. In short, wastes must be properly handled or the consequences on human health and the environment can be hugely significant.



Too often, hazardous and other wastes have been considered a local problem of limited relevance to national or global priorities. Governments are facing conflicting demands and priorities for development and the protection of human health and the environment with limited or even diminishing

resources. Consequently, governments are inclined to devote fewer resources and less attention to developing their capacity to manage hazardous and household wastes, including for the implementation of the Basel Convention.

The critical challenge is to integrate responses to global threats from hazardous wastes into social and economic development policies at the international, national and local levels. This can be done by raising awareness of impacts, by linking or coordinating the policymaking process across the international, national and local levels, and by coordinating planning and budget allocations at the national local or sectoral level.

#### IV. Impacts of waste on ecosystems and public health

The extent of the impacts of increased waste generation on the environment and human health is directly related to the degree to which those wastes are properly handled and managed. The pollution or contamination caused by the improper management of wastes can have alarming consequences on human health and the environment on which we rely on for many of our resources. Industrial, household or hazardous wastes left over from, for example, electronic products as they are shipped for use or repair may be improperly disposed of near agricultural land, residential locations or water sources when they become obsolete. This is a problem of particular concern for developing countries and countries with economies in transition.

The impacts on human health and the environment from the improper management of hazardous wastes can be significant. Some examples include:

- (a) Mixed waste dumps which include industrial, household and agricultural wastes increase human exposure to carcinogens such as dioxins and furans;

- (b) Persistent organic pollutants and other obsolete pesticides and heavy metals, such as nickel or cadmium from batteries, may contaminate soil and water systems. During an extreme weather event such as a hurricane, the contamination can be massive in scale and costly to remediate;
- (c) Releases of toxic substances from burning PCB-containing transformers, electrical and electronic waste (e-waste) and other wastes in open dumps contaminate soil and water, which can result in human ingestion of poisonous substances such as dioxins, and the atmospheric contamination contributes to respiratory disease. Mercury containing hospital products that are improperly disposed can impact humans;
- (d) Countries vulnerable to natural disasters such as earthquakes or hurricanes run the risk of contamination from toxic chemicals if they have not been properly stored, if they have been dumped in an open field or gully or if they have not been properly disposed of so that leakage occurs when natural disasters occur; contamination of toxic chemicals can easily spread by water to other countries and severely impact water sources. Asbestos waste exposure can also aggravate this type of situation due to the friability of asbestos;
- (e) Inappropriate storage and treatment of biomedical and health-care wastes, such as used HIV-contaminated syringes, and the improper storage of expired pharmaceuticals can lead to human exposure to toxic chemicals, infectious diseases and contamination of water and soil, posing hazards to human health and the environment;
- (f) Inadequate extraction of the methane gas produced in landfills by fermentation of organic matter can lead to self-ignition or explosion of the landfill body and subsequent hazardous emissions of pollutants such as dioxins and furans when PVC and other plastics burn;
- (g) Inadequate personal protective equipment and safety procedures for the protection of workers in the dismantling of ships or other end-of-life equipment, can lead to exposure to a number of dangerous substances, in particular asbestos, which can cause lung disease.

The poor, and particularly women, children and the elderly, are the most vulnerable to such impacts; this is particularly true where they are dependent on a particular ecosystem for their survival and their income.



## V. Economic consequences

The mismanagement of hazardous wastes can have severe economic consequences:

- (a) The costs of restoring the environment and reversing the impacts on health and the environment can be very high, and the process can take many years to complete;
- (b) Special technologies, equipment and experts are needed in working to restore the environment, particularly when dealing with hazardous wastes that require particular expertise and know-how. This applies, for example, to special wastes like biomedical wastes, which contain infectious and toxic substances such as mercury, and electronic wastes, which contain heavy metals;
- (c) Some countries risk losing important income flows from tourism if hazardous wastes and other wastes are mismanaged and pollute the natural resources upon which that income-generating industry relies. This is a situation which many coastal areas are beginning to face as their coral reefs begin to die off because of the wastes being discharged into the ocean; the local dump is next to rivers or the ocean with open or spontaneous fires, or used oils leaking out, along with other hazardous wastes.

- (d) Stocks of obsolete pesticides are often improperly stored and deteriorating with the containers left leaking into the community's water supply and soils that are used for agriculture or pasture diminishing the economic benefits derived from such land.

Many used and end of life products, particularly computing equipment, can be reused or recycled in ESM rendering a profitable resource, such as precious metals.

## VI. Waste as a resource

Many products at the end of their useful lives can be an important source of raw materials. The recovery of materials from such wastes provides an important means of generating income, especially for the informal sector. This is particularly true for certain metals and electrical and electronic wastes, from which precious metals and other materials can be reclaimed. Such materials include gold, copper, platinum, palladium, lead and mercury: metals that can be an important source of revenue.

For countries with limited natural mineral resources, the recovery of materials from products or items that have reached the end of their useful lives can bring genuine benefits as the materials are recovered and used again. This

is particularly important as virgin materials and resources are being depleted.

The Basel Convention thus promotes environmentally sound management practices which can contribute to sustainable development.

## VII. Environmentally sound management

An underlying principle of the Basel Convention is environmentally sound management of wastes. Environmentally sound management is a minimum baseline which Parties to the Convention are required to achieve. It means that Parties must take all practicable steps to ensure that hazardous wastes and other wastes are managed in a manner that will protect human health and the environment from the adverse effects which may result from such wastes. It also requires constant improvement.

Consequently, environmentally sound management encompasses minimization and prevention of the generation of wastes and requires a constant emphasis on the proper handling of wastes in respect of their recycling, recovery, treatment, storage and final disposal. The technical guidelines adopted by the Conference of Parties to the Basel Convention represent the base upon which Parties can work towards meeting their environmentally sound management obligations under the Convention.

## VIII. The Millennium Development Goals and the Basel Convention

The greatest challenge of the twenty-first century is to provide every human being with a long, healthy and fulfilling life free of poverty and full of opportunities to participate in the life of the community. The Millennium Development Goals flow from the Millennium Declaration<sup>1</sup> adopted by all 189 United Nations Member States in September 2000.

### Millennium Development Goals

1. Eradicate extreme poverty and hunger.
2. Achieve universal primary education.
3. Promote greater gender equality and empower women.
4. Reduce child mortality.
5. Improve maternal health.
6. Combat HIV/AIDS, malaria and other diseases.
7. Ensure environmental sustainability.
8. Develop a global partnership for development

They set clear targets for reducing poverty and other sources of human deprivation, and for promoting sustainable development. There are eight goals (summarized in the box on this page) and 18 specific targets.

The Millennium Development Goals provide a common framework for the international development community, giving a guide for policy and programme development and for assessment of their effectiveness. The targets are ambitious, and include curbing poverty, hunger, disease, illiteracy, environmental degradation and discrimination against women by 2015.

The Goals, particularly number eight, underline the need for shared responsibilities of developing countries and countries with economies in transition to pursue poverty reduction and good governance, and of developed countries to support the efforts of developing countries and countries with economies in transition by increasing aid, opening trade to exports from developing countries and countries with economies in transition, and providing debt relief.

## IX. Basel Convention synergies with the Millennium Development Goals

The Ministerial Statement on Partnerships for Meeting the Global Waste Challenge<sup>2</sup> adopted in 2004 by the Conference of the Parties at its seventh meeting underscores the linkages between the environmentally sound management of hazardous wastes with wider issues that have key implications for the attainment of the Millennium Development Goals, in particular water protection, improved sanitation, solid waste management and economic and social development. It also calls for reduction of the impacts of hazardous wastes on human health and the environment and calls for a fundamental shift in emphasis from remedial measures to preventive measures, such as reduction at source, reuse, recycling and recovery. Lastly, it recognizes the need for greater efforts to mobilize new and additional financial resources to build partnerships to meet the global waste challenge. Achieving the environmentally sound management of wastes is therefore especially relevant to goals one, four, five, six, seven and eight.

## X. Benefits to integrating environment and development

Sustainable development entails the integration of the economic, social and environmental objectives of a country in order to maximize human well-being for the present generation without compromising that of future generations.

1 General Assembly resolution 55/2.

2 UNEP/CHW.7/33, annex V.

The current emphasis of development policy is on the reduction of poverty, the protection and improvement of human health, economic development and market reform. Effective implementation of the Basel Convention can contribute towards meeting many elements of the development agenda. Indeed, it is arguable that the broader sustainable development objectives cannot fully be met without addressing those issues which the Basel Convention aims to address.

Environmentally sound recycling and material recovery can make a positive contribution to sustainable development in terms of reducing pressure on virgin materials, thus safeguarding landscapes from expanding mining activities and reducing the environmental problems and economic costs associated with the disposal of wastes and hazardous wastes.

## A. Poverty reduction

Nearly a billion households, particularly the rural poor, rely directly on natural resources for their livelihood. Development assistance policies, as mentioned above, focus particularly on reduction of poverty, protection and improvement of human health and economic development and reform. Access to funds to meet sustainable development goals and eradicate poverty can be provided at the national and regional level as part of a country's comprehensive development framework.

The protection and preservation of natural resources upon which people rely for food, water, fodder, fuel, shelter and their livelihoods may be promoted by the effective implementation of the Basel Convention. The poorer members of the population in particular rely on the availability of such natural resources, lacking the means to find alternative sources to maintain their livelihoods. In addition, the environmentally sound management of wastes has beneficial effects on human health, reducing disease and illness and, by so doing, enhancing the capacity to undertake gainful employment. It can also create new employment opportunities.

## B. Human health: reduction of mortality and combating disease

Unsound management and dumping of wastes can have significant impacts upon health. Such impacts can range from direct exposure to poisons and carcinogens, to the introduction of hazardous chemicals that have leaked into the soil and ground water and into the food chain.

The management of healthcare wastes poses another challenge. The unsafe disposal of healthcare wastes such as used medical equipment, contaminated syringes, body parts, as well as of obsolete stocks of pharmaceuticals, exposes the general public to high risk of disease. Environmentally

sound management of medical wastes, as well as other hazardous wastes, can prevent the spread of disease, improve human health and contribute to the reduction of mortality rates. It is especially relevant as the impact of mercury for example.



## C. Environmental sustainability

Addressing the entire life-cycle of hazardous chemicals enables countries to determine where to prevent, minimize and mitigate environmental harm and health risks, and to develop responses and solutions that improve environmental performance of economic operators through integrated waste management. For example, the separate collection and treatment of hazardous wastes from municipal or household waste streams promotes the safe handling, treatment and disposal of both waste streams. Such measures may also reduce contamination from such wastes, and serve to promote the sustainable use of our environment.

## D. Global partnerships for development

The Basel Convention is an instrument that enables and requires the effective coordination of local, national, regional and global environmental policies for its effective implementation.

Such coordination is required not only with regard to policy-making, but also with capacity building and the technical aspects of implementation.

The Conference of the Parties to the Basel Convention has recognized that capacity building should be accomplished in partnership, between interested countries, regional and international institutions, agencies and other bodies. Such partnerships should engage stakeholders from both recipient and donor countries, as well as other stakeholders from both the private sector and civil society.

## E. Developing markets

Reuse and recycling services may help to increase employment opportunities, for example, in the collection, separation and recycling of materials, and provide a valuable source of raw materials which may be of benefit to the wider economy. Currently, in many countries, such activities are frequently undertaken by the informal sector.

Consistent with the obligations under the Basel Convention, hazardous and other wastes can only be shipped for disposal or recycling to a destination where they can be managed in

an environmentally sound manner. If a country chooses to engage in the waste management industry, and wishes to import wastes for that purpose, it is likely that this sector will only develop in a sustainable manner if the country can demonstrate that it will manage such wastes in an environmentally sound manner.

Effective planning, taking into account the lifecycle approach, and promoting environmentally sound practices for the management of wastes, can also have economic benefits.

## F. Security

Effective implementation of the Basel Convention requires that legislation be in place and that enforcement agencies, including customs, be provided with the necessary skills, knowledge and facilities to monitor shipments of hazardous wastes and to detect illegal shipments of such wastes.

Addressing such aspects of implementation of the Basel Convention brings with it two important benefits. Firstly, enhanced detection of illegal shipments prevents improper disposal of hazardous substances; illegal shipments are those most likely to be disposed of in a manner that can later pose risks to human health and the environment.

Secondly, the skills gained by enforcement agencies serve to promote their overall capacity to regulate shipments. For example, the investigative skills needed to detect and prevent the illegal traffic and smuggling of toxic and chemical substances that could pose a threat to security are very specific and require special training and expertise. Similarly, expertise in the handling and management of hazardous waste will enhance the handling and management of other dangerous substances, including those covered by other international treaties. Thus, the replicate effect is high.

## XI. The return on investments in the environmentally sound management of wastes

Donor and industry investments in activities that help nations to realize their Basel Convention obligations will have multiple global and regional benefits. Some examples are:



- (a) Foundational capacity for all aspects of the management of chemicals and medical waste will be improved, e.g. at-source separation of wastes and appropriate handling and disposal requires a waste management system);

- (b) Emissions of methane from solid waste disposal on land are expected to double from an estimated level of 32 Mt/y in 1998 to over 62 Mt/y by the year 2025, with all of this increase projected to come from developing countries. The reasons for this projected increase in developing countries are growth in their populations and expanding and modernizing economies, which are resulting in more waste generated per capita and, in industrializing nations, waste composition that more closely resembles that of developed nations. Hence, environmentally sound management of wastes is needed as one strategy contributing to success of the UN Framework Convention on Climate Change;
- (c) Global impacts of persistent organic pollutants will be reduced through efforts to address the waste phase such as with PCBs and obsolete stocks of these pesticides. In addition to those chemicals subject to the Stockholm Convention, the Basel Convention covers many wastes that are also persistent organic pollutants but are not subject to the Stockholm Convention, though they could be added in the future;
- (d) Work force productivity will be improved as there will be less risk of exposure to toxic and hazardous wastes by workers, contributing to objectives of International Labour Organization conventions on worker safety;
- (e) Proper management of wastes will create opportunities for environmentally sound management to become a growth industry and will help promote a green chemical industry (for instance, the better design of products working toward more products that are biodegradable at end of life);
- (f) Improved waste management will contribute to a "level playing field" across industry, while promoting best practices as the standard for implementation of waste management.

## XII. Basel Convention sound delivery infrastructure for maximizing benefits on investments

*Basel Convention regional and coordinating centres:* There is now a "critical mass" of 14 operational Basel Convention regional and coordinating centres in place, located in Argentina, China, Egypt, El Salvador, Indonesia, the Islamic Republic of Iran, Nigeria, Russian Federation, Senegal, the Slovak Republic, Samoa (South Pacific Regional Environment Programme), South Africa, Trinidad and Tobago and Uruguay.

The Basel Convention regional and coordinating centres provide an effective service delivery mechanism for action at the regional level. Their role includes promoting information exchange and on-the-ground delivery of technical expertise. As such, they offer an opportunity for donors' investments to realize economies-of-scale, particularly recognizing the vast geographic areas involved in such delivery and studies that indicate that the more localized the provision of service the better its quality. While at the global level much can be accomplished, there are many regional and local issues and challenges that are best addressed at the local level.

### **XIII. Support for the future**

For countries to realize their obligations with respect to the environmentally sound management of wastes under the Basel Convention, continued technical and financial support will be critical. Developing countries and countries with economies in transition, in particular, need support and assistance to secure such resources to implement the provisions of the Basel Convention and, while doing so, to serve their wider sustainable development objectives.

Securing funding for capacity-building and technology transfer for countries so as to ensure the environmentally sound management of hazardous and other wastes is a challenge. This is largely due to the growing intensity in the competition for Government and other international funds that are available.

Collectively, advances in the environmentally sound management of wastes will have a major impact on the attainment of global objectives for reducing the quantity and hazardousness of wastes, improving health and protecting the environment through the environmentally sound management of wastes by 2030, as elaborated in the Johannesburg Summit Plan of Implementation and the Strategic Approach to International Chemicals Management.

National implementation of environmentally sound management of hazardous and other wastes will make a significant contribution to the fulfilment of the provisions of other multilateral environmental agreements such as the United Nations Framework Convention on Climate Change, the Stockholm and Rotterdam Conventions, as well as regional conventions such as the Bamako Convention on the Ban of the Import Into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa and the Convention to Ban the Importation into Forum Island Countries of Hazardous and Radioactive Wastes and to Control the Transboundary Movement and Management

of Hazardous Wastes Within the South Pacific Region (also known as the Waigani Convention).

To achieve these objectives, developing nations are increasingly looking to the international donor community for technical and financial assistance that will help them to implement their obligations under the Convention.

Such assistance will be important because most developing nations have limited expertise and administrative capacity for environmentally sound waste management. As well, they often lack the physical infrastructure required to support the most basic waste management measures.

#### **A. What can be done?**

While financial support for sustainable development exists for capacity-building, accessing funding to build capacities at the national level can be an obstacle for many countries. This and other obstacles at the national and sometimes the regional level will affect access to assistance for many developing countries and countries with economies in transition.

International donors and financial institutions can play an important role by ensuring that the environmentally sound management of wastes is made one of the priorities to be taken into consideration when supporting efforts aimed at reducing air and water pollution, which directly impact the health and productivity of the poor.

### **XIV. Sustainable future**

The environmentally sound management of hazardous and other wastes contributes to the goals of sustainable development. As economic development expands, so does the generation of wastes and its resulting impacts on human health and the environment, if not properly managed. Implementing the principles of environmentally sound management and reducing the amount of hazardous and other wastes being generated will help to promote the achievement of development goals and help to preserve our natural environment.

Given the scarcity of scientific and technical resources to address the risks and diseases resulting from the mismanagement of hazardous and other wastes, it is incumbent on developed countries to help provide the technical information, technology transfer, assistance and resources needed to assist developing countries and countries with economies in transition and to put into place appropriate control systems and systems to ensure the sound management of hazardous and other wastes.



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