Industrial environment

Industrial production is important for economic growth and employment opportunities. But it can also cause health problems and long-term environmental impact. Poor people, among them women and children, work under hazardous and polluted conditions and are subject to increased threats to their safety and health. There are means to reduce the adverse effects of industrial activities by promoting clean technology and worker health and safety.

PHOTO: SARA STENHAMMAR

Rubber industry in Colombo, Sri Lanka.

Industry in the developing countries can vary in size and technology from a one-man roadside workshop to huge industrial enterprises, such as oil refineries. Sometimes certain industries are concentrated in a specific area of a city by tradition, for example, the tanneries in Dhaka. The companies there are small but numerous, which results in considerable water pollution and waste problems.

In some developing countries the government or city authorities provide relocalisation to industrial parks. Common facilities can be provided there for treatment of effluents or recycling of waste. However, the facilities need to be designed for the different effluent streams and well maintained in order to achieve acceptable environmental performance.

Environmental issues associated with industry originate from:

- Emissions from transports
- Risks of transporting hazardous chemicals
- The use of materials, water and energy
- Releases to air, water and land; waste generation
- Products containing hazardous materials or potentially causing problems when they are used or discarded
- Accidental releases from plants and fires.

The World Business Council for Sustainable Development has introduced the concept of eco-efficiency. Several environmental management systems exist, of which the international standard ISO 14001 is the most well known. Application of the standard means that the company has an official environmental policy and works in a direction of continuously improving their environmental performance, in a verifiable manner. Other sustainable production tools entail eco-design of products, environmental and energy labelling schemes, consumption and quality standards for processes, performance benchmarking and procurement of environmentally certified raw materials.

Key issues

Health and Environment

A considerable number of people live too close to industrial plants and are directly affected by the pollutants emitted. They are also more at risk for accidental releases and fires.

Workplaces in developing countries often lack proper ventilation and are not at all designed with health and safety in mind. Poor people, among them women and children, work under hazardous and polluted conditions and are subject to increased threats to their safety and health. Working conditions can be very primitive, with no protection for skin, eyes and respiratory system, for example in the tanning or asbestos industries. Clean water for drinking or washing hands might not be available, nor suitable work clothes.

Industry may deplete the natural

CLEAN PRODUCTION

Clean production (CP) is a widespread term that means the continuous application of an integrated preventive environmental strategy to processes and products to reduce risks to humans and the environment. CP for production processes includes conserving raw materials and energy, eliminating toxic raw materials and reducing the quantity and toxicity of all emissions before they leave the process. For products the strategy focuses on reducing impacts throughout the entire life cycle of a product. For example, the largest impact of a refrigerator might not be the releases during production, but the energy consumed when it is used or the releases of the refrigerant to the atmosphere at the end of its life.

resources such as water and cause groundwater levels to drop significantly, thereby threatening the future water supply of entire cities. The growing demand for wood by Chinese industry has a major impact on deforestation and desertification in Indonesia.

Social aspects
Children in developing countries who work are subject to increased threats to their health. Chemicals will harm a growing individual more than a grownup.

Pregnant mothers are especially susceptible, and can pass the risk on to the foetus or newborn, causing intergenerational risks.

Institutional aspects
Government policies are often focused on short-term rapid economic growth and too little on long-term sustainable growth that considers environmental and social factors. As a result, government agencies often face conflicting (short-term) economic and (longer term) environmental targets, and hesitate to close down a factory for environmental reasons due to loss of local jobs and economic growth.

Government policies and legislation also mostly cover environmental pollution (end of pipe) but to a lesser extent excessive resource consumption (reduction at source).

The responsibility for some issues may be fragmented among municipal and central government authorities. There might be a lack of appropriate environmental legislation and standards for industry and/or lack of capacity for enforcement of existing regulations. The same applies to worker health and safety regulations.

Corruption may occur, for example, regarding localisation of industrial activities.

Strategic areas for support

To address the adverse effects of industrial activities, the following areas of support should be considered:

- Capacity development, including institutional reforms
- Enactment and enforcement of legislation to protect the environment and workers
- Support for introducing environmental management systems, clean production and network building in order to increase exchange of information
- Physical planning and environment impact assessments
- Promotion of worker health and safety
- Capacity development in sector organisations such as industrial associations, chambers of commerce and NGOs, as well as government at all levels
- Hazardous waste management.

Support is rarely provided for individual industries.

To be aware of

An Environmental Management System does not guarantee good environmental performance. It depends on the content of the system and the interests of the industry in implementing the system and improving its performance.

An industrial plant needs periodic maintenance in order to perform well. That applies to the production units as well as the equipment installed for water, gas and waste treatment. Capacity building activities with a mix of participants from industry and authorities have been successful. Improved environmental performance at a company can make it more competitive on the market.

Examples of Sida support

■ Sida supports the "Greenhouse Gas Emission Reduction from Industry in Asia and the Pacific" project. It aims at helping Asian businesses become more energy efficient, and thereby reducing greenhouse gas emissions and costs.
■ Sida has supported projects in the Philippines with the aim of building the capacity of industry and government authorities to handle environmental issues, through demonstration projects, training and networking.

Swedish resources

Sweden has a long tradition in industry such as pulp and paper, iron and steel, vehicle manufacturing, pharmaceuticals and food. This includes expertise in environmental, health and safety issues. There is competence in the field of environmental management systems, life cycle analysis, clean production and abatement technologies.

Sida references

Available at www.sida.se

Fighting Poverty in an Urban World, Sida Policy (2006)

Urban Issue Paper on Air Pollution Management

Urban Issue Paper on Chemicals Management

Urban Issue Paper on Public Environmental Management

Urban Issue Paper on Urban Solid Waste Management

Urban Issue Paper on Urban Transport

Climate and Development, Sida's position (2004)

Guidelines for Sida's support to Corporate Social Responsibility, Position Paper (2005)

Pure Water – Sida Strategy for Water Supply and Sanitation (2004, a short version also exists)

Checklist to Sida Strategy for Water Supply and Sanitation

Published separately
Tannerfeldt, G and Ljung, P (2006) *More Urban – Less Poor, An introduction to urban development and management*, London, Earthscan

REMINDERS

- ☐ Is legislation in place that controls industrial activities regarding environment, safety and health and is it implemented properly?
- ☐ Do the responsible authorities have the capacity to implement the legislation?
- ☐ Is there legislation on worker health and safety in place and is it implemented properly?
- ☐ Has the country ratified the international conventions on chemicals and waste (Stockholm, Rotterdam and Basel conventions) and on greenhouse gases (Kyoto protocol)?
- ☐ Is information available regarding industrial emissions to air, water, land and waste?
- ☐ Is there a focus on resource efficiency in addition to pollution control?
- ☐ Are there mechanisms for involving civil society?

SIDA29155en

Sida
SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
SE-105 25 Stockholm • Visits: Valhallavägen 191 • Tel: +46 8 698 50 00 • www.sida.se • sida@sida.se
Urban Division: urban@sida.se • www.sida.se/urban