

UNEP CONCERN FOR THE FUTURE ENVIRONMENT PLANNING

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Abstract - The United Nations are seeking a renewed international development strategy that would bring about a more stable, more dynamic and less vulnerable world economy. Sound environmental management is to be part of development patterns in all their components, and particularly in agriculture, human settlements and industry. Using practical examples, the roles of the United Nations family and of the world wide community of environmental engineers are illustrated. Necessary actions include: (i) assessment of the economic, social and environmental impact of projects; (ii) land use planning and project siting; (iii) articulation of standards in keeping with resources; (iv) development and use of resource conserving technologies that are soft on environment and cost effective; (v) co-operation between all interested partners, government, industry, professionals towards the operation of an efficient capacity for exchange of technical information.

Meeting here in Stockholm in June 1972, the United Nations Conference on the Human Environment considered the need for a common outlook and for common principles to inspire and guide the peoples of the world in the preservation and enhancement of the human environment. The protection and improvement of the human environment, the Conference proclaimed, was a major issue, affecting the well-being of peoples and economic development throughout the world.

In a few weeks, the General Assembly of the United Nations will meet in Special Session to consider and adopt a New International Development Strategy. To the hopes raised when the strategy for the second development decade was agreed, disappointment succeeded, as the goals of that strategy, for a variety of reasons, were not fully achieved.

Clarification of issues in the relationship of the concept of development with the less familiar one of environment has been a major concern of the United Nations Environment Programme since it was created following the 1972 Stockholm Conference. The following insights in this respect are now generally accepted:

1. Development is a continuing global phenomenon, occurring in all countries, rich and poor.
2. Among the various possible development patterns and lifestyles, some are preferable because they take into account environmental considerations. They lead to sustainable development. Indeed, the environmental issue is pregnant of progress, because pregnant of change.
3. Environmental concerns can often be defined under other headings, such as natural resource use or public health. But what gives environment its vital significance is its meaning of "total surroundings", implying interconnectedness. Environment means, for example, resource use in relation to other things (such as health or future economic prosperity).

4. The solutions to environmental problems are to be found in what we define as environmental management. The function of environmental management is to require that environmental considerations be given due recognition in decision-making. Rather than a separate, sectoral discipline, it is the process through which environmentally rational decisions are made and implemented for all human activities that have a bearing on the environment.

5. Sound environmental management responds to local, national and regional conditions and needs. There can be no criteria for irrationality or wastefulness of natural resources use that could be valid at all places, at all times and for all resources. The need for the protection of the environment and for taking environmental considerations into account must be integrated with development plans and priorities.

6. In the most developed countries, many environmental problems are related to industrialization and technological development. In developing countries, many environmental problems are caused by poverty, and rational development is the remedy.

Mr. Chairman, sound environmental management is to become part of development patterns in all their components, and particularly in agriculture, human settlements and industry. The poorest of the poor may, if left unaided, literally cut the ground from under their own feet by desperate assaults upon their environment as their only hope of immediate survival. The Third World's forest cover is presently being destructed at an estimated rate of 25 hectares per minute. The forest users must be offered a better alternative than the "slash and burn" practices of their ancestors, or they will be gradually decimated by starvation following massive soil erosion and desertification. Cultivation of poor land to increase food production may similarly lead to reduction in the soil resource heritage, and thus increases in food production today may well be at the expense of total food production tomorrow. As regards the use of agro-inputs, like fertilizers, insecticides, there is still a lack of effective mechanisms to make information on potential adverse effects available.

Hundreds of millions of human beings will, within twenty years, live in human settlements that still have to be conceived and built, with supporting infrastructure. Immense problems of housing, of transportation, of sewerage and solid waste disposal will occur. Transitional urban settlements and squatter areas will set problems of their own. The housing problem in itself is often less crucial than the dangerous unavailability of safe drinking water, the worst environmental hardship for millions living far below the minimum level required for a decent human existence.

There is general acceptance today that industrialization must necessarily play a central role in the process of economic development. It is seen as the dynamic element and a main instrument for the full utilization of the development potential. Developing countries, excluding those centrally-planned, will by 1990 account for barely 20 per cent of gross world production though they contain 57 per cent of world population. Agriculture and industry, growing at their present rates in the developing countries, cannot fully absorb constant additions to their labour force. Industrial development, therefore, needs to accelerate significantly in these countries. As the world population will

exercise severe and increasing pressures on resources, industrial development and protection of the environment must be the twin goals of a contemporary society. In the ongoing restructuring of industry, and reassignment of lines of specialization on a global scale, the transfer of appropriate and environmentally-sound technology is expected to play a major role.

Mr. Chairman, you may have noticed that the few introductory words I have spoken had a rather abstract tone. However, I know that I am addressing a conference of fellow specialists, who know the difference between biological and chemical oxygen demands, and have a sensitive feeling about residual organics in drinking water. Rather than ideas, I intend to present now essential actions that I feel should be taken to ensure that sound environmental management is applied to industrialization.

First, national procedures should be established everywhere for the assessment and evaluation of the industrialization process from the strategic planning stage. This calls for an assessment and evaluation of the potential impacts of industrial development plans and projects.

The need for methodological tools to this effect was recognised by the UNEP Governing Council, which requested the establishment of practical guidelines in relation to environmental impact assessments, relevant to the needs of developing countries. In this context, while emphasis must be put on the effects of pollution and other disturbances on the physical environment, wider issues of a socio-economic nature are to be covered. The UNEP guidelines are to be published late in 1980, and it is hoped that they will be of interest and use to all organizations involved in industrial development.

In a first part, the guidelines deal with the setting up of appropriate institutional frameworks within which environmental impact assessments can be carried out. They address the relationship between environmental impact assessments, the carrying out of strategic and feasibility studies for individual industrial projects, the siting of industry and the problem of managing development. They also describe the nature of the expertise necessary to carry out a review of the potential environmental impact of proposed industrial development.

The second part of the guidelines is primarily concerned with the techniques which are recommended for the actual carrying out of an environmental impact assessment, and indicates the resources which have to be allocated for the carrying out of the assessment. Emphasis is put on a need to recruit an appropriate multi-disciplinary team. The intention is to help achieve environmental impact assessments which are communicated in terms which are easily understood and which are directly relevant to the decision-maker and communities concerned.

A supplementary volume of compiled information is aimed at a technical level for the specialist team assessing ecological effects and pollution. It gives for example a review of different ways of monitoring air pollution, information about the more common dose-response relationships between pollutants and their effects and lists some standards adopted in various countries. To be useful, the investigation of the potential environmental effects of a proposed industrial development should occur at the feasibility stage at the latest.

A second essential action concerns the siting of industry. Many of the major siting options are denied consideration by regional or national policy decisions. At a more local level there are nonetheless significant choices to be made between potential sites. In the context of the methodology proposed by UNEP, these are to be dealt with as alternative project proposals and studied in parallel at all stages.

Environmental criteria for siting include effects on climate and air quality, geology, availability of water, water quality, soils, ecology, environmentally sensitive areas, health, agriculture, fisheries, social and community structures, cultural characteristics, income and distribution of income.

Examples of adverse effects which are difficult to remedy by design or management are - the loss of prime agricultural land, the collapse of traditional community structures and values, unmanaged urban expansion etc. There must be considerable consultation between interested parties before the short list of sites to be assessed is agreed.

The third necessary action is the establishment of environmental control standards and of systems of incentives and disincentives such as effluent charges, taxes, rebates and subsidies. These must be articulated by national and local authorities in keeping with the resource base. They require appropriate institutional frameworks that facilitate decision-making and action in respect of the choice of alternatives catering to the best interests of the people. The institutional set-up must also include the government machinery at various levels, to deliberate and decide on matters relating to environmental and developmental policies and activities, and a machinery for popular participation in the exercise.

The search for environmentally prudent alternatives in development must permeate all sectors. Thus, forums for decision-making on matters of environment and development therefore need to be multi-disciplinary in composition and representative of various sectoral interest. Another requisite lies in the attitudes, perceptions, information and knowledge of the people themselves, in respect of what is environmentally prudent and in their best interests, and what is not. Dissemination of environment-related information and environmental education and training must play a valuable role in bringing about an alliance between technical and popular evaluations of various alternatives for development.

Fourthly, technologies that are resource conserving, soft on environment and cost effective must be developed and used. The UNEP focus of attention has been and continues to be on low-waste and non-waste technology. Industrialized countries have at their command, through their control of science and technology, massive knowledge and experience in this field, which this conference exemplifies. They are planning to work together to refine their experience and to develop it into useful applications. This has been agreed by the U.N./ECE High Level Meeting on the Protection of the Environment last November. Such programme of work should be of great interest and benefit to developing countries. But the global diffusion of knowledge and experience in low-waste and non-waste technology still remains elusive.

While UNEP helps channel information on technology and experience in its use to developing countries, through INFOTERRA and the Industry and Environment information system, it fully appreciates the weakness of confining itself to imitative transfers. Adapted, appropriate industrial technology should be identified. The word "appropriate" acquires meaning only when one specifies "appropriate" to what or to whom. A narrow, purely economic, concept of appropriateness based on the capital and labour endowments of a country or region must be rejected as overly restrictive and one-dimensional. A three-dimensional view is called for in which the environmental and social dimensions are as important as the economic, and blended in a fair mix. The case for environmentally-sound and appropriate technologies, particularly in developing countries, is not built upon a rejection of industry and the process of industrialization as such. The experience of developed countries, however, has included both successes and failures, with corresponding lessons.

Finally, co-operation must be achieved between all interested partners, government, industry, workers' organizations, and academic experts towards the operation of efficient systems for exchange of technical information on industry and environment. Here, special mention may be made of UNEP's computerized INFOTERRA and IEO information systems. I believe that many of you could usefully register as INFOTERRA information sources, and provide inputs into the UNEP Industry and Environment file.

Mr. Chairman, an ongoing consultation with governments and industry for a variety of specific industrial sectors, was launched four years ago by the Industry and Environment Office of UNEP, which is located in Paris, closer to many of you than our Nairobi, Kenya, headquarters. Through this consultation we are kept informed of progress in many countries. In Malaysia, 1978 regulations established inland water standards for petroleum refinery effluents. A Mexican pulp and paper firm developed a small recovery unit of its own design to fit its modest capacity of 25 tonnes of pulp per day, and later built three larger units, two for pulp from wood and one for sugar cane bagasse. The Indian Institute of Technology in Madras reported on current Indian efforts for controlling automotive air pollution and promoting fuel economy and safety. The process department manager of VENALUM, the Venezuelan aluminium industry, shared with us process data on the efficiency of their effluent treatment plant, of Norwegian design. All these, and many contributions from developed and developing countries are reported in our quarterly newsletter or stored for us in the memory of the UNESCO computer.

Mr. Chairman, when Mrs Indira Gandhi, prime minister of India, addressed the Third Conference of the United Nations Industrial Development Organization, two weeks ago, she referred to ecological soundness of industrialization policies as a prerequisite. The representative of Tunisia, in the name of the group of all developing countries present at the Conference, stated in substance that the necessary redeployment of industries did not imply that developing countries should receive from the North the poisoned gift of polluting industries. There is no doubt that a global consciousness about environmental matters has developed. This would not have occurred if technical solutions had not existed, or if political agreement on the concept had not been reached. You will this week clarify the technical state of the art, and specify avenues for further progress. I wish your meeting success. Please rest assured that UNEP, and all its sister organizations in the United Nations system, are promoting a type of development which will embody the results of your work. The future has already started. Thank you Mr. Chairman.