Editorial

THE ROLE OF WHO IN HUMAN ECOLOGY AND HEALTH[1]

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There seems little doubt that the World Health Organization can help developing countries avoid much of the environmental damage accompanying industrialization and urbanization by assisting them in applying knowledge and experience gained by developed nations. However, it is also necessary to be pragmatic, since broad coverage of the environmental field as it relates to health is beyond the capabilities of WHO.

Development and economic growth is a basic goal of all the World Health Organization's Member States. During the next few decades, billions of dollars will be invested in social, industrial, and resource utilization projects. All the nations of the hemisphere are under intense pressure to exploit energy resources, improve agriculture, utilize new territory, and develop industries.

Environmental health problems in developing countries span an enormous range—from acute gastroenteric infections and chronic parasitic diseases to effects resulting from exposure to chemical contaminants. These problems—together with the problems associated with dispersion of human populations through migration, colonization of new lands, and increasing urbanization—can be expected to result in modifications of the physical, social, and economic environment that may have a profound impact on human health.

In considering the environment and development, the health sector's primary focus must always be on people's health and well-being. This is fundamental to the philosophy behind the goal of "Health for All by the Year 2000," which recognizes the close and complex links that exist between health and socioeconomic development and the fact that, therefore, the strategy of "Health for All by the Year 2000" will be based on the mutual reinforcement of health development and socioeconomic development policies.

It is now broadly recognized that healthy people, and the energy they expend in intellectual and physical labor, provide a crucial input for development. At the same time, health is an important product of development, because health depends first and foremost on such factors as nutritious food, safe water, a clean environment, decent shelter, safe working conditions, and an effective health care system that places due

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emphasis on prevention. Economic growth can contribute substantially to bringing about these conditions; however, emergence of such conditions will also depend in large measure on how economic growth takes place. Hence, to a considerable degree, developing countries can avoid the environmental damage that has accompanied industrialization and urbanization in developed countries by applying the knowledge and experience the latter have gained.

The term "human ecology" in relation to human health problems can be defined broadly. Consequently, we must be pragmatic in defining the role of the World Health Organization (WHO) in this area, particularly since needs always exceed available resources, and broad coverage of the field as it relates to health is beyond the capabilities of WHO. It is therefore essential that a few of the critical problem areas being faced by WHO Member Countries be identified, with an eye to developing a WHO plan of action. Some potential areas of concern are as follows:

Industrial development is estimated to have achieved only 10 per cent of its potential in the Third World countries. In Latin America, where more progress has been made, about 80 per cent of the area's industrial growth is yet to come. Thus, there is a great opportunity to plan industrial development, taking into account the relationship between technological and economic progress and environmental values. Damage to the environment and human health can be prevented only if reliable information on the environmental impact of development projects is available at the planning stage of those projects or before their consummation.

The countries of the world are also experiencing unprecedented population growth and resource exploitation. In Latin America, where more than half the population is still living in rural areas, major cities are expected to become some of the world's largest urban complexes within the next two decades. The sheer magnitude of this continued urban growth, especially with respect to population density and industrial development, creates environmental degradation that has adverse effects on human health, economic development, and ecological balances—effects similar to those now being experienced by most highly industrialized nations. Furthermore, ecological problems are so complex that uninformed interference with ecological balances may have a critical impact, not only in terms of economics and esthetic values but also in terms of human survival.

In this same vein, population growth demanding increased food production brings with it many problems—including ones associated with poor agricultural practices, soil erosion, excessive fertilizer runoff, and overexposure of agriculture workers to hazardous chemicals.

Over the past few years, world attention has focused on energy needs, and current high energy costs have stagnated economic development in many developing countries—a circumstance requiring stepped-up investigation of alternate energy sources, most of which have environmental problems associated with their development. Among these alternatives are biomass resources and large hydrologic development projects.

In this regard it should be kept in mind that modification of the physical environment by a single undertaking, such as construction of a dam, can effect the flora and fauna of a large geographic area and have a profound impact on vector-borne diseases. In addition, such water development projects can produce adverse health effects resulting from the influx of workers and settlers to the project site—workers and settlers

who may penetrate sparsely populated forests, become vulnerable to disease, and bring about changes in biological and ecological conditions.

Other environmental health problems are posed by the hazardous and toxic waste-products resulting from industrial development that are released to the environment, travel various pathways, come into contact with man and other species, and injure health. Such wastes are usually released in a form that the environment is unable to break down and recycle naturally. The magnitude of the actual and potential danger can be illustrated by the fact that about 60,000 chemicals are used in daily life, between 200 and 1,000 new chemicals are marketed each year, and over 1,000 are used in formulating pesticides alone. Yet health-related standards governing the use of such chemicals have been developed for less than 200 of them, and we do not even know the potential hazard of the majority of chemicals now accumulating in the environment.

Industrial development is also having known adverse effects on workers' health. For example, agricultural workers are being overexposed to hazardous pesticides, and chemically contaminated food is already a problem of unknown magnitude in several countries. Detecting these deleterious effects of hazardous and toxic substances is a complex undertaking calling for a sustained effort over time. However, it is imperative that ways be found to spare developing countries the high price in environmental and health deterioration that the industrialized countries have had to pay. We must consider devising ways to assist governments in establishing surveillance systems for the early detection of health hazards caused by chemical pollution of the environment and to develop further the recently launched WHO International Chemical Safety Program.

The notion that social, educational, and health programs must accompany industrialization is an increasingly accepted concept. Many individuals and government representatives have stated that their countries need technical cooperation to help formulate and implement environmental and health impact assessments of development projects. Most international and bilateral financing agencies are actively engaged in such environmental assessments. However, it has been our experience that Ministries of Health approached in this connection, generally say they have relatively limited capacity to conduct the extensive investigations required.

Therefore, consideration must be given to integrating and analyzing existing knowledge, fostering links between sectors within social systems, and evaluating the consequences of planned and unplanned actions. We must assist governments in studying the effects of development programs on health, designing ecological strategies for the control of diseases, analyzing the risks to health from environmental pollution, and helping to train local scientists. In cooperation with other agencies, we must also prepare guides that will identify the critical parameters and methodologies needed to develop health impact assessments, in the expectation that these documents will provide governments with the information needed to initiate their own assessment programs.

Health authorities are also greatly concerned about the present lack of organized and conveniently available information on human health effects of environmental influences. Such information is of critical importance to planning and other official agencies seeking to place development and the human health consequences of development in proper perspective.

Much technical and other information required for the sound planning needed to avoid adverse environmental conditions is available in institutions around the world.

The characteristics of industrial processes that produce offending contaminants and cause damage to the environment and human health are, in large measure, quite well known. Likewise, measures for preventing damage from such industrial processes have been developed. Indeed, much more information on damage prevention and control measures is available than is actually being utilized. It is also true, of course, that in some instances there may be a need for adapting this information to local conditions; and in other cases the prevention and control measures may be improved by further study and investigation. What is needed, then, are mechanisms for creating a monitoring network and for collecting, analyzing, and using this information in developing control programs.

These brief remarks have served only to outline a few important concepts. The overriding need is to act—and to avoid deferring action until we have exhaustively defined the nature and extent of the problems or have acquired a complete understanding of the interrelationship of the causative factors. It would thus seem appropriate that a few critical areas of ecological importance should be identified for action by WHO and its Member Countries.

As participants in this meeting on the role of WHO in human ecology and health, your knowledge of these problems is a vital ingredient in the forthcoming discussions. Each of you is urged to draw on your knowledge and experience to help WHO develop policies, plans, and programs that might be initiated with countries in a collaborative effort. In this regard, it is hoped that in the process of designing strategies and actions you will consider the multisectorial character of health actions and the need for a multidisciplinary approach to problem-solving. The latter approach, in particular, is important if WHO and its Member Countries are to achieve more effective and harmonious results with the limited available resources.