Environmental Health and Sustainable Development

Despite its importance to sustainable development, very little information exists on environmental health linkages. Being multisectoral, it escapes focused attention during project design. Recently, however, the World Bank conducted a study on Sub-Saharan Africa infrastructure operations to assess their environmental health dimensions and lessons learned which could be transferred to projects without unduly complicating project management. The result is a three-volume report: Bridging Environmental Health Gaps.

Making a detailed analysis of the water supply and sanitation subsection, particularly factors related to waste management, the study explores how environmental health considerations could be addressed in Bank-assisted projects.

Volume I contains environmental health background material as well as a checklist for integrating environmental health into projects. It reviews 203 SSA infrastructure projects from 1984-1994, 62 Project Completion Reports, 124 environmental reviews, and 25 National Environmental Action Plans. The analysis shows that these documents contain very little input from health specialists.

Volume II offers a cross-sectoral analysis of the literature. Drawing from some 2,000 books and articles, and about 300 published Bank documents, it summarizes the major themes of the literature, demonstrating that, outside the health sector, health has not played a significant role in setting policies and priorities.

Volume III discusses the compatibility of environmental and health considerations, their policy implications for the Bank, and recommendations for future work with other agencies.
Recommendations look at tapping the potential of sectors outside health to improve human health.

**Definition**

The study defines environmental health as *the body of knowledge concerned with the prevention of disease through control of biological, chemical, or physical agents in the air, water, and food, and the control of environmental factor which may have an impact on the well-being of people* (Frank J. Lisella, ed., *The VNR Dictionary of Environmental Health and Safety*, Van Nostrand Reinhold, New York, 1994). Environmental health differs from public health in that it stresses prevention and concentrates on the human living environment. In its broad sense, environmental health reduces exposure to adverse environmental conditions and is often discussed as "occupational and environmental" health. In a narrow sense it looks at diseases and injuries associated with:

- water supply and sanitation, and solid waste disposal, e.g., diarrhea;
- poor water resources management and poor drainage, e.g., malaria and schistosomiasis;
- crowded housing and poor ventilation of household smoke, e.g., respiratory infections;
- exposures to vehicular and industrial air pollution, e.g., respiratory diseases and cancers;
- alterations in feeding and breeding grounds of disease vectors like mosquitoes, e.g., dengue fever;
- "occupational health" problems which become public health problems because of their extent, e.g., pesticides intoxication;
- exposures to naturally occurring toxic substances, e.g., arsenic poisoning; and
- alterations to the natural resource base which create safety problems, e.g., mudslides and flooding.

**Define half a problem - devise half a solution**

A mistaken notion has developed that what is good for the environment is also good for public health. This has led to a potentially damaging chain reaction that runs from national policies to household activities. Starting with basic ignorance about the linkages between ecology, health, and human behavior, the reaction concludes with the wrong messages for setting sustainable policies, promoting economic incentives, and encouraging changes in behavior. The most notable manifestation of the chain reaction is over-emphasizing pollution control while ignoring other equally important public health issues. The following are indicative examples:

*Cut-and-paste science inevitably leads to cut-and paste priorities*. Incorrect emphasis can be put on data, resulting in incorrect emphases in remedial measures. Air quality indexes, for example, reflect ambient air but seldom monitor air at nose-level or, more important, indoors, where unventilated household smoke can be far more serious than automobile exhausts. Incorrectly interpreted, pollution data might emphasize transport, industry, and energy while neglecting housing, where people spend most of their time.

*Unclear sectoral responsibilities lead to incomplete solutions*. Since responsibilities for
environmental health are undefined, agencies end up making a series of perfunctory inputs rather than contributing to an overall guiding principle. For example, reducing automobile emissions does not address already-settled lead which can recirculate in dust for up to 30 years.

*Sustainable development is confused with sustainable pollution abatement.* By focusing on pollution, diseases like TB cholera, dengue, and malaria, which are staging comebacks globally, are seldom factored into environmental reports. In the water-scarce Middle East, for example, sustainable development strategies have focused on reducing air and water pollution and improving water use but have not addressed the human response to water scarcity - household storage or local impoundment. Both actions can spread habitats of mosquitoes and other disease-spreading vectors. And malaria is still endemic in over 100 countries, with a global population-at-risk of over 2 billion, 150 million new cases, and 1.5 million deaths annually.

**Lessons just beginning**

Since the Bank's experience with environmental health has been limited, so have the lessons. The overall message, however, is simple: most causes of disease, injury and death in developing countries - inadequate sanitation, poor personal hygiene, road accidents, tobacco smoke, pollution - lie outside the control of the health sector. Yet, the sectors that exert direct health impacts do not set their policies on health criteria. In fact, the Pan-American Conference on Health and Environment on Sustainable Development (1995) was the first conference held to discuss the linkages between health, environment, and economy. It brought together ministers from the three areas to examine factors outside the health care system. The assumption was that the concept of sustainable development demands the integration of different disciplines. Experience had already shown that many development projects created more problems by what they forgot than what they did.

An impressive array of lessons have come out of the water/sanitation subsection, specifically the *Appropriate Technology in Low-cost Water Supply and Sanitation* initiative of the 1970s and the United Nations *International Drinking Water Supply and Sanitation Decade* of the 1980s. They point to the value of integrating water supply with sanitation drainage, community education and hygiene practices. In a phrase; *handwashing became as important as engineering.*

The study identified a best practice in the application of a technique - comparative risk/exposure assessment - which epidemiologists have used for about a decade but ecologists have yet to use. The technique helps identify the multiplicity of sources that might otherwise be missed from a single-sector focus, even though it accentuates pollution. Thus far, only a few such studies have been conducted, but they demonstrate the advantage of a comprehensive view of environmental health problems when setting policies and priorities - even while, to the contrary, agencies and professions become more specialized.

**Advantages**

Some of the advantages that the environmental health approach offer the Bank and its clients...
are as follows. It helps to:

- get a better idea of the potential for and the limitations to projects in improving health;
- identify populations at risk;
- estimate the economic cost of health damage;
- make more effective investments in infrastructure;
- reduce research and monitoring costs by promoting information exchange on environmental health issues;
- reinforce other environmental programs dealing with pollutants;

**Recommendations**

The study proposes:

promoting a set of cross-sectoral best practices and guidelines within the Bank;

- facilitating "targeted collaboration" among Ministries Of Health and other ministries and agencies in borrowing countries;
- devising better estimates of thumbnail calculations such as the one that suggests that the infrastructure sector can exert an effect on 44% of the burden of disease in SSA (the figure was derived merely by looking at health improvement from the vantage of potential solutions;
- raising the understanding of the linkages between respiratory disease and infrastructure, especially housing, to the same level as that of water/sanitation related diseases
- getting a better grasp of the "urbanization" of traditionally rural diseases and their linkages to climate change and remedial measures in infrastructure.


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