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HEALTH ENVIRONMENT NEXUS-THE CASE OF DEVELOPING COUNTRIES

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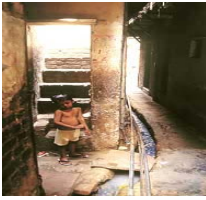
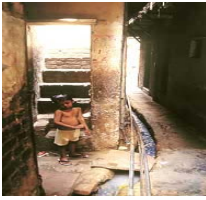


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Executive Summary

The world has through its multi-lateral environmental agreements, adaptation activities (agenda 21) and sustainable livelihood (local agenda 21) tried to identify the synergies between health and development. The lack of responses addressing interlinkages of health and development in certain instances has led to conflicting goals between policies at local, national, regional and international levels.

However, since health is a catalyst of environmental problems and hence development, it is necessary to consider health and development in the context of their roles in promoting, facilitating and implementing integrated responses to addressing challenges of development, therefore the need for strengthening inter-sector collaboration for health and development.

The paper examines the health-development nexus, the complexities of the drives-pressures-state-impact-response (DPSIR) of health and environment and the need and degree to which countries, governments or development agencies could strengthen the inter-sector partnership for health and development.

The paper also examines efficient and effective measures, benefits, approaches and mechanisms for reinforcing the inter-sector collaboration for health and development. In view of complexities of health and development, wider experience should be shared globally to tap richer experience from far and wide since they are dynamic and cross-cutting issues that cannot be handled in isolation but rather through collaboration.



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Chapter 1

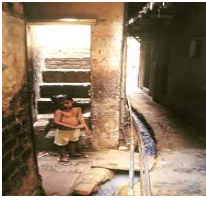
HEALTH-ENVIRONMENT NEXUS

The world has through its multi-lateral environmental agreements, adaptation activities (agenda 21) and sustainable livelihood (local agenda 21) tried to identify the synergies between health and development. The lack of responses addressing interlinkages of health, environment and development in certain instances has led to conflicting goals between policies at local, national, regional and international levels.

Over the decades, the environment and health nexus has remained much the same. But many man-made factors have risen in prominence and impact, including air, water, and soil pollution; the influence of industrially produced chemicals in consumer items (such as plastics) as well as drugs and chemical residues in food (Leitner, 2005). Most recently, the Millennium Ecosystem Assessment (MA) has comprehensively studied the consequences of the profound changes that human intervention has brought to the planet's ecosystems and climate. The result has never being better since man's quest for and participation in development has resulted into much health related issues.

Protecting health is the principal objective of protecting the environment. The vast majority of environmental policies and regulations worldwide are motivated by public-health concerns, and most economic valuation exercises have found that health impacts constitute the largest portion of environmental damages. It has long been recognized that the environment in which people live from the household to the global level significantly affects their health. Until recently, however, it was not possible to quantify the magnitude of health impacts from exposure to various environmental factors. Nor was it possible to compare the cost-effectiveness of preventive measures to reduce such exposure with health-sector activities that cure the resulting illnesses. The opportunity to do so emerged from work on the "global burden of disease," which uses a standardized measure of health outcomes (Disability-Adjusted Life Years, or DALYs) across various causes of illness and death (Kseniya 2000, Health and Environment).

In India, a developing country, majority of the poor live in rural areas and depend directly on natural resources and ecological services for their livelihoods. Over 60 percent of the county's workforce depends on agriculture, fisheries and forests for their livelihoods and the dependence of poor on natural resources is more as compared to the non-poor (Agarwal 1995). The exploitation of the environment at the extraction levels lead to a major degradation of the environment which incidentally contain the medicinal plants and organisms relevant for maintaining good health.



It has long been recognized that the environment in which people live – from the household to the community to the global level – significantly affects their health. Every year in developing countries an estimated 3 million people die prematurely from water-related diseases and 2 million people die from exposure to stove smoke inside their homes. The largest proportion of these deaths are among infants and young children, followed by women, from poor rural families who lack access to safe water, sanitation and modern household fuels. Over 1 million people die annually from vector-borne malaria, with the vast majority of deaths in poverty-stricken Africa. Another million people die from air pollution in the urban environment, and there is a reason to believe that here too the poor suffer most.

Thus environmental health is yet another dimension of the multi-faceted nature of poverty. The links between poor environmental health and other dimensions of poverty are complex and multiple, reinforcing each other in various ways. Poor people typically face greater environmental health risks in their surroundings because they live in unhealthy locations – such as low-lying and marginal lands – and lack basic infrastructure services, like clean water and sanitation.

They are more vulnerable because they are less able – as a result of insufficient education and information, daily drudgery and hardship – to adjust their behaviour to moderate their exposure. Additionally, they are the most susceptible to the effects of such exposures because of the simultaneous effect of several factors, such as exposure to indoor smoke and water-borne pathogens, exacerbated by malnutrition and inadequate health care (Ian Johnson and Kseniya Lvovsky 2000)

By the 1980s, 40 per cent of the world's population was living in urban areas. Most of them live in developing countries, and projections for 2025 indicate that four out of every five urban residents in the world will be in developing countries. In theory, living in urban centres offers great potential gains, such as health benefits. However this theory is broken by the reality that the urban poor or poverty and its ramifications in the developing world. An estimated 30 - 70 per cent of the urban population in developing countries live in extreme poverty (Gobar Times 2002).

Environmental health basically refers to those aspects of human health, including quality of life, that are determined by physical, biological, social, and psychosocial factors in the environment. Most causes of disease, injury, and death in developing countries lie outside the purview of the health sector. They cover a broad spectrum, ranging from physical factors such as inadequate sanitation, water, drainage, waste removal, housing, and household energy to behavioral factors such as personal hygiene, sexual behavior, driving habits, alcoholism, and tobacco smoking. (Kseniya Lvovsky 2000)



Chapter Two

Health Environment Interface

Environmental hazards/ecosystem degradation is a root cause of a significant health burden. It is the major cause of 25% of the burden of disease globally and out of 35% of disease burden in very poor regions such as sub-Saharan Africa.

In many developing countries unsafe water kills 1.7 million, the result of mostly diarrhoeal diseases. Emissions from indoor smoke from solid fuels kills 1.6 million people in sub-Saharan Africa. This definitely is a deforestation related issue.

More so malaria is known to kill 1.2 million people within the developing world. These fatalities are the result of the construction of water/irrigation dams and waste from modern sewage systems constructed at most rapidly developing cities in the developing economies. The massive switch to the usage fossil fuels in countries such as Cairo, Nigeria and Accra results in 800 000 deaths annually. Air pollution related deaths are not limited to the usage of fuels alone but spans across the effects of the extensive use of agro-chemicals. Such change in agriculture results in the deaths of 224000 people in developing countries (Twisuk Pungeng 2004). The wrong applications of fertilizer in certain communities are known to cause extensive cases of increased infertility in men. This is very prominent in tomatoes growing areas of Ghana since these farmers are known to taste the fertilizer to ascertain its potency. Climate change as a result of changing weather and life patterns is known to eliminate over 150000 people in developing countries. This includes those arising from more extreme weather and natural disasters.

Major drivers for deteriorating health due mainly to poor management of the environment include Market liberalization and globalization. This has resulted into new pressures on traditional subsistence economies and natural ecosystems in developing countries.

Social access to/allocation of natural resources has also led to insecure land tenure, and poverty which incidentally are major catalysts to deteriorating health in tropical Africa.

Patterns of resource consumption are also changed nationally, regionally and globally.

Most political leaders of many developing countries fail to use environmental resources sustainably. Their Patterns of political power and governance are mainly of short-term interests rather than long-term perspective. Ethnic and political rivalries have resulted in instability and violence in many communities. This had led to unresolved conflicts in many communities in the Democratic Republic of Congo, Ethiopia and La Cote d'ivoire.

Population pressures related to growth and migration to urban areas has resulted in high dependency ratio and its attending pressures on natural resource use. Social amenities and infrastructural facilities have become inadequate as a result of such explosion in population. Grassroots awareness illness may be seen fatalistically. Basic livelihood needs are a first priority, and links between health, environment and economic wellbeing



are not well perceived. It is also justifiable since the physiological need should be perceived prior to environmental security hence the loose end becoming the health of the people. Inappropriate farming practices including but not limited to shifts from subsistence to export-oriented agriculture may impact soil and water conservation practices & biodiversity, as well as health as a result of exposures to agro-chemicals, nutrition, and food security (Twisuk Punpeng 2004)

Environmental pollution has been identified by the Chinese government as one of the four leading factors that adversely affect people's health and lead to early deaths. While it is widely known that pollutants damage people's health, the morbidity and mortality from respiratory diseases, digestive system illnesses and cancer have been very high and continue to rise in China, where damages from air pollution, contaminated drinking water and poor water sanitation are especially serious.

The spread of HIV/AIDS to rural Africa oblige to analyze attentively the relationships between the pandemic and overall sustainable development. In the Abuja Declaration on "HIV/AIDS, Tuberculosis and Other Related Infectious Diseases" endorsed by the Special Summit of OAU in April 2001, the African Heads of State and Government recognized that the epidemic constitutes not only a major health crisis, but also an exceptional threat to Africa's development, social cohesion, political stability, food security as well as the greatest global threat to the survival and life expectancy of African peoples. (Committee on Sustainable Development 2001)

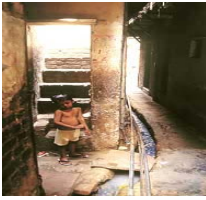
The populations of rich countries also enjoy better general health; the total burden of illness and death from all causes per million people is about half that of developing countries. However, the disease burden from environmental risks is smaller by a factor of ten. This underscores the basic, although often overlooked, fact that while growth in industry, power generation, transport and other attributes of economic development brings new environmental challenges, the largest environmental threats to human health come from the poor living conditions that result from the lack of development and growth.

Environmental health risks, therefore, can be grouped into two broad categories. Traditional environmental hazards affect developing countries and the poor most. Their impact exceeds that of modern health hazards by a ratio of 10 for Africa, 5 for Asian countries (except for China), and 2.5 for the Middle East. Water-borne diseases, caused by inadequate water supply and sanitation, impose an especially large health burden in the African, Asian and Pacific regions. In India alone, more than 700,000 children under five years old die annually from diarrhoea. More than half of the world's households use unprocessed solid fuels, particularly biomass (crop residues, wood and dung) for cooking and heating in inefficient stoves without proper ventilation, exposing people – mainly poor women and children – to high levels of indoor air.



In Africa alone, malaria is responsible for about 800,000 deaths annually. A study of environmental health in the Indian state of Andhra Pradesh found that the burden of disease from traditional risks falls disproportionately on the poorest 40 per cent of all households. At the same time, environmental health outcomes show significant variations that cannot be simply explained by a household's economic status, and hence reflect indicators of human development other than income measure alone (Ian Johnson and Kseniya Lvovsky 2000)

Aside the negative implications of poor environmental management, it is important not to confuse environmental hazards and environmental degradation. Most of the urban poor face very serious environmental hazards in their homes and their surrounds and in their workplaces. Such hazards cause ill health, injury, and premature death, contributing significantly to urban poverty. However, most environmental hazards do not cause environmental degradation. For instance, the inadequacies in provision for piped water, sanitation and drainage often means serious problems with insect borne diseases such as malaria and dengue fever but these do not degrade any environmental resource. The small makeshift homes in which so many urban poor live make accidents a common cause of serious injury or premature death, and present serious environmental hazards but do not cause environmental degradation (David Satterthwaite 2000)



Chapter Three

Addressing Health-Environment Issues

More effective links between poverty reduction and environmental management depend on accountable, effective, and innovative urban authorities. Priorities include ensuring provision for basic services for the poor and making land available for housing that does not damage surrounding ecosystems. Also, management of consumption and waste generation and disposal in higher income areas is vital to addressing such interrelationships. International agencies can support this by going beyond more projects to strengthening the capacity of urban authorities to work with urban poor groups and develop appropriate responses (David Satterthwaite 2000).

Better infrastructure and energy services for households and communities are key measures in mitigating the most daunting environmental risks to health. So are interventions to improve housing and to control vectors, including effective health-care systems and equitable education policies. For example, measures like improved water and sanitation, household energy, housing, vector control and pollution management could prevent up to 29 per cent of the total burden of disease in sub-Saharan Africa. Health sector interventions that target the disease clusters associated with these environmental risks could reduce it by a further 28 per cent.

Providing water supplies to rural households has been found to be among the most cost-effective preventive health interventions in India. Reducing modern risks calls for measures to prevent and abate pollution. These, in turn, require setting and enforcing environmental standards, developing a culture of environmental compliance and creating effective incentives (Ian Johnson and Kseniya Lvovsky 2001)

Deterioration of the environment could turn to improvement as economic development progresses and income increases up to a certain level. From a historical observation of trends in industrialized countries, this appears to be true; the achievement of both GDP growth and improvement in certain environmental indicators, such as air and water quality as well as a reduction in resource intensity, has been possible. It is seen that economic growth is gradually “de-coupled” with growth in energy demand. The above phenomenon might reflect progress towards less-polluting and more resource-efficient technologies as economies develop.

It may also indicate a shift in industrial structure from resource-intensive industries to more knowledge intensive industries as well as an increase in the relative importance of the service sector, which is less material resource-intensive compared with manufacturing sectors. Furthermore, industrialization and the rising incomes of these countries may be accompanied by increased awareness of and education on the benefits of improving local

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environmental quality, such as urban air quality (Report of the World Summit on Sustainable Development 2002).



Chapter Four

The Way Forward

The environment-health nexus emphasizes that improvements in people's health require a holistic, multi-sectoral approach to mitigating major risks by integrating cost-effective efforts in infrastructure and human development areas, and by building effective institutions at all levels of governance, including in the communities themselves. A holistic approach is particularly important for improving the health of the poor, who are most vulnerable both to the main environmental hazards and to deficiencies in health service delivery. The World Bank Environment Strategy – developed in extensive consultation with various stakeholders in client countries, other donors and international non-governmental organizations – considers environmental health a top priority and calls for a greater focus on this principal development outcome in Bank operations across all relevant sectors (Ian Johnson and Kseniya Lvovsky 2000).

The future also would look better if there is a review of parameters such as driving forces in environment and health decision making as well as doing away with barriers to better environment, health decisions and policy. In addition, developing countries would need to have more proactive policy-makers in countries. Opportunities for international agencies and partner countries to take action together should be enhanced.

Health ministries of developing countries should focus on curative programs and service delivery including policy assessment and regulatory action. However they should have insufficient influence on upstream policy decisions. Ministries naturally protect their own sectoral interests, programs, budgets and jobs; it is therefore prudent that such protectionist attitude is carried off to have an outflow on the environment and its resources. Having blurred boundaries of jurisdiction can also leave environment and health to fall through the cracks. It is therefore important that legal inadequacies on the environmental are curtailed to ensure an effective mode to ensuring environmental protection and conservation.



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