

Health and Sustainable Development

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“Man should not try to conform to the environment created by social and technological innovations; he should instead design environments really adapted to his nature”. (René Dubos)

If sustainable development is to mean anything, people must be healthy enough to benefit from it and not have their lives cut off prematurely. Development without health is meaningless. But the processes which are likely to occur in a world undergoing globalisation, climate change, urbanisation, population increase and many other changes, will impact upon human health in complex ways. Some of them will benefit us, others will create new or augmented threats to survival and health, while many others will have a complex mixture of effects.

The environment is a major determinant affecting about a quarter of human morbidity and mortality, so environmental changes will affect human health; and already a great part of the human family is attempting to survive in appalling environmental conditions. The fact that many people are not able to adapt to such circumstances, while others are forced to do so is the antithesis of sustainable development.

There are two key health issues within sustainable development. The first is to provide the rudiments of basic environmental health interventions to the 20% or so of the world's population who lack the most basic sanitary necessities. The second is to remove the historical distinction made between 'environmental health' and the health consequences of socio-economic development.

The latter point requires some explanation. 'Environmental health' refers to actions specifically undertaken to make the local environment more conducive to human health (provision of adequate safe water and reducing air pollution, for example). Health consequences of development include effects of deforestation, urbanisation, irrigation, and other developments upon disease risks. They are 'side-effects' of changes undertaken for other reasons. These two aspects of an environment conducive to health must converge in the 21st century. The idea that environmental

changes can be viewed in isolation has had its day. Development of a new domestic water supply without reference to context is not possible in this crowded planet with limited resources, and on which so many diverse, and sometimes polluting, activities are taking place.

The basic environmental needs for a tolerable existence are not met for a substantial part of the world's population. These needs are for an adequate supply of safe domestic water (1.1 billion lack this), adequate disposal of human waste (2.4 billion don't have this), limiting indoor air pollution from cooking fuels (believed to kill over 2.5 million people a year), some protection against injuries and from the effects of pollutants such as lead from leaded petrol, highly toxic industrial effluents and pesticides, unprotected food and inadequate housing. Minimum satisfactory levels of these for all must be a preliminary to sustainable development.

As the numbers of people on the planet, and the proportion of people crowded into cities rise rapidly, provision of basic environmental needs becomes more difficult and the health effects of neglect get worse. Particularly devastating are the results of complex emergencies in conditions of high population density, where many people may flee or be otherwise displaced, leading to a large aggregation of destitute people with no

KEY CHALLENGES:

- **Socio-economic development and environmental change present potentially adverse health consequences and opportunities for improvement. Awareness of these should pervade thinking about all forms of development and change**
- **Existing efforts to address domestic environmental health problems of the poor require much greater attention**
- **Health-indicator monitoring and disease surveillance should be integrated with emerging global observing systems for climate, oceans and terrestrial measurements**
- **A range of proposed and existing trade agreements have implications for substantial harm or benefit to human health. More needs to be done to ensure that the health impacts of trade are considered during negotiation and implementation of trade agreements**

environmental health provision. The terrible scenes at Goma in Rwanda show this starkly.

Huge changes have been made to the human environment as a result of socio-economic development: urbanisation has affected the largest numbers of people while land and water development (deforestation, irrigation, industrialisation) have affected the greatest areas. For half a century increasing efforts have been made to draw attention to the direct and indirect health consequences of these developments and to persuade those who make or finance them to insist on adequate provision to limit the adverse health effects.

Climate change and human health

The effects of global climate change upon health are beginning to be seen, in spite of the difficulties of excluding alternative potential causes of the changes observed. Vector-borne diseases and intestinal parasites, that depend on stages of life-cycle development at environmental temperature, already show a relation to ambient temperature in their latitudinal and altitudinal distribution and are likely to extend their range and intensity of transmission, most especially into the densely populated highland areas of the tropics. The most important of these diseases is malaria which already causes a million deaths and 300 million bouts of severe illness annually, but the insect-borne viruses have great epidemic potential. Climate change also has complex effects on patterns of rainfall, and hence on the distribution of temporary surface waters and on humidity. These determine the availability of breeding places and the adult survival of such vectors as mosquitoes.

While the rise of temperature aids growth of food poisoning organisms, an increased frequency of extreme climatic events (heat waves, cold spells, floods and storms) will lead to deaths, injuries and illnesses on a scale which will depend on patterns of development.

There are now abundant illustrations of where local developments have either had disastrous effects on health or have, by careful planning and execution with health effects in mind, led to a reduction of disease burden. Given the long residence time of carbon dioxide in the atmosphere and the substantial inertia in the atmosphere/ocean/climate system, even if the world shows a much more determined effort to limit greenhouse gas emissions than at present and reduce global changes eventually, great local commitment and ingenuity will be essential to reduce health risks in the medium term.

Responding to climate change

Developing countries will need substantial incentives to cut emissions or to forego increases in emissions, including the transfer of non-polluting renewable energy and energy-efficient technologies. Reducing fossil fuel combustion will also have substantial direct near-term health benefits, such as preventing numerous air-pollution-induced deaths annually worldwide from both indoor and outdoor sources. Reducing population growth in the South will facilitate attempts to

curb the demand for fossil fuel energy. Development policies must encompass effective poverty reduction strategies, access to culturally acceptable methods of family planning and to greenhouse gas mitigation technologies.

Some degree of global warming now seems certain. Thus, adaptations to climate change will be required, such as housing designs that enhance summer-time cooling, the 'greening' of inner cities, and the strengthening of coastal defences. Health-indicator monitoring and disease surveillance should be integrated with the three nascent global observing systems for world climate, oceans and terrestrial systems. Multidisciplinary research into the identification, understanding and modelling of health impacts needs support, as do inter-governmental and interagency collaborations to develop health early warning systems that can facilitate timely, environmentally friendly public health interventions.

The health impacts of trade liberalisation

There is no consensus on the relationship of trade, development and health. Some macroeconomists have argued that agreements facilitating trade liberalisation help poor countries to catch up with rich ones, thus alleviating poverty, and improving health. Others disagree, looking at individual components of other trade liberalisation packages based on similar policies (such as the North American Free Trade Agreement and Structural Adjustment). They argue that the overall effect of current trade experiments has been to undermine health through the erosion of hard-won health and environmental standards, the shifts of public services into private control with little regulation, the uncontrolled movement of capital with effects on labour conditions, the movement of toxic industries to low labour-cost environments and the increase of income inequalities.

A number of trade agreements impinge more directly on health systems and prevention, such as the General Agreement on Trade in Services which affects health services, or the drug/vaccine implications of the agreement on Trade Related Intellectual Property Right Systems. But just as important are the agreements on the application of Sanitary and Phytosanitary measures (SPS) and Technical Barriers to Trade (TBT). SPS requires governments to prove 'harm' before being allowed to prevent importation and exportation of potentially harmful products or processes. TBT stipulates that products must be compared with 'like' products regardless of production methods or practices. Both SPS and TBT will impact on national policies for food safety, including pesticide regulation and biotechnology, and have implications for production, labelling, packaging and quality standards of drugs and foods and for environmental standards. Finally the still-contested Agreement on Agriculture may create openings for the still agriculture-dependent South, but may also affect opportunities for organic agriculture, pesticide reduction and sustainable development. The agreements together will have an enormous impact on an important aspect of human health – food and nutrition – through influencing the conditions and ownership of agricultural and food trade. ●