TECHNICAL DISCUSSIONS ON
STRATEGIES FOR HEALTH FOR ALL
IN THE FACE OF RAPID URBANIZATION

MAY 1991

URBAN POLICIES
AND HEALTH STATUS

WORLD HEALTH ORGANIZATION
GENEVA
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1. Introduction

In cities around the world the living conditions of hundreds of millions of people threaten their health, impose misery and have potential catastrophic social consequences. The manifestations of the urban crisis vary greatly among countries and regions. But hardly any large city in developing and industrialized countries is immune. Conditions are worse for poor people, particularly in developing countries.

The crisis in the urban environment is having a health impact even greater than could be expected from the current concern about the environment with regard to changes in the natural environment and the global climate, the loss of rainforests, pollution of seas, lakes and rivers, acid rain, and loss of plant and animal species. For hundreds of millions of people, the urban crisis is already destroying lives, health, and social values.

Urban growth has outstripped society's capacity to meet human needs, leaving hundreds of millions of people with inadequate incomes, inadequate diets and inadequate housing and services. All too often urban development is associated with destruction of the physical environment and the resource base needed for sustainable development, leading to illness, accidents, crime and other social pathologies.

Improving the health of the city environment and its inhabitants demands an understanding of the city as a whole - how it works, how the different parts fit into the whole, where the infrastructure and basic service systems work, and where they do not. Awareness of historical precedents helps such an understanding. Solutions require collaborative and joint efforts, by people and their governments (local, regional, national), by politicians, by community organizations, and by professionals. Virtually all sectors of government and business have an impact on health. Regrettably, the institutional capacity to prevent health-damaging environmental change and foster health within urban development is inadequate nearly everywhere.

There is increasing recognition that without a healthy population, sound development is not possible.

In developed countries, where population growth has slowed to very low rates, the major impacts of urban development on health and the environment result from technological change, psychosocial problems such as drug abuse, crime, mental illness, vandalism, poverty, increased consumption of resources, changing diet, changing residential patterns, shifts in transportation, and exhaustion of the environment's capacity to absorb wastes. Many of the cities need to extend and replace deteriorating infrastructures and to control pollution more effectively.

In developing countries, the major impacts of urban development on health and the environment result from:

- rapid and massive urban population growth, both in the increasing number of megacities and in secondary cities;
- crowding and "densification" of human settlements, with overcrowding, congestion and traffic, and increased occupation of urban land subject to landslides, floods and other natural hazards;
- ever-growing numbers of people living
in extreme poverty, many of them - especially women and children - at high health risk;
- increasing biological, chemical and physical pollution of air, water and land from industrialization, transportation, energy production, and the increasing generation and improper disposal of commercial and domestic wastes; and
- the overwhelming of the financial and administrative resources of cities to provide such infrastructure as water supply and sanitation, to offer adequate employment and housing, to manage wastes, and to ensure security, environmental control, and health and social services.

Urban health problems occur in all countries, but are most severe in developing countries, because (a) their urban populations - and particularly those living in poverty - are growing so fast, (b) environmental changes have produced a pattern of health problems that includes both the diseases typical of underdevelopment, and the diseases typical of developed communities, (c) the resources for response are relatively meagre, maldistributed and misplaced, and (d) inadequacies in governmental structures and policies inhibit effective responses. At the same time, the concentration of economic, technological and human resources in cities provides a stronger basis for action than is found in more dispersed settlements.
2. Urban Health Problems

It is likely that at least 600 million urban dwellers in the Third World live in what might be termed “life and health threatening” homes and neighbourhoods, and have inadequate or no access to effective health care - although official statistics may claim much better coverage than that known to exist in reality (such as claims of 99-100 percent coverage in many poor third world nations). “

There are few statistical data on the health problems of low income urban dwellers. The extent of disease, disablement and premature death among the poor in urban areas has almost certainly been underestimated because of the lack of studies carried out in poor communities.

“The facts about the urban poor are hidden because figures for their health and nutritional status are often omitted from the statistics or presented as aggregated data, along with the figures for more prosperous neighbourhoods. For the rapidly increasing numbers of urban poor, health conditions may in some respects be even worse than they are for the rural poor, and are deteriorating. In any attempt to deal with the needs of the urban poor, better information is required, since its absence makes it difficult to know the extent of their problems, to persuade people that these problems exist and to formulate effective responses to them.”

Case studies in some cities have highlighted the fact that those living in poorer districts face more serious health problems than those living in richer districts (see Box 1), infant mortality rates, for instance, being far higher among poorer households within cities, compared to the city average. These and other studies also suggest that the health problems of the poor majority in these cities are generally understated because so many of the poor are not included in health statistics or health studies. Some studies show that the health problems among poorer urban groups are qualitatively different from those among poorer rural groups, and may in some instances be more serious, especially in relation to nutrition.

A debate as to whether the rural or urban poor suffer most is one which for most nations cannot be settled, and in many ways is misleading. There may never be sufficient precise, accurate data to allow this question to be settled. It would be necessary to carry out detailed studies on relatively large samples of poor people drawn from a variety of rural and urban areas in a large number of third world nations. Such studies would probably reveal major differences in the scale and nature of health problems suffered by the inhabitants of different rural areas and urban areas, so no generalized “urban health picture” or “rural health picture” would emerge for comparison. But there is sufficient hard evidence to suggest that hundreds of millions of poor urban dwellers have very serious health problems which could be greatly reduced through new approaches. Moreover, new detailed studies are likely to show that ill health, disablement and premature death are more closely associated with people’s age and gender and household income than with whether they lived in large cities, smaller urban centres or rural areas.
COMPARISONS OF HEALTH PROBLEMS BETWEEN RICH AND POOR AREAS WITHIN CITIES

India: Bombay and Delhi. In some low income settlements (bustees) in Delhi, the child mortality rate was found to be 221 per 1000 but reached nearly twice this rate among poorer castes within these settlements. In Bombay, the crude death rate on Bombay Island (the central city area) was twice as high as that of the suburbs and three times that of the extended suburbs.

Pakistan: Karachi. In three low income areas, it was found that between 95 and 152 infants per 1000 live births died before the age of one year, compared with 32 per 1000 in a middle class area.

Philippines: Manila. A series of surveys in the mid-1970s revealed disparities between health problems in a large squatter settlement (Tondo) and non-squatter areas of the city. In Tondo, the level of severe malnutrition among infants and young children was three times the level for non-squatter areas. Tondo's infant mortality rate was 210 per 1000 live births compared to 76 for non-squatter areas. The proportion of people with tuberculosis in Tondo was nine times the average for non-squatter areas while diarrhoea was twice as common. In Tondo, anaemia was twice as common and typhoid four times as common.

Panama: Panama City. A 1979 study found that of 1,819 infants with diarrhoeal diseases, 68 percent came from those living in slums or "shanty towns, with zero infection rates observed among children in better quality housing.

Haiti: Port-au-Prince. It was found that one in five infants living in slums died before their first birthday and another one in ten between their first and second birthdays; these were almost three times the mortality rate in rural areas and many times the rate in the richer areas of Port-au-Prince, where infant and child mortality was similar to that in urban areas of the United States.

Brazil: Porto Alegre. A 1980 study examined differentials in health between people living in shanty towns (one fifth of Porto Alegre's population) and those living elsewhere. Infant mortality rates among residents of shanty towns were three times as high as among the non-shanty-town residents. Neonatal mortality was twice as high and post-neonatal mortality more than five times as high. Mortality from pneumonia and influenza was six times higher in shanty towns and from sepsis and meningitis eight times higher.

Brazil: São Paulo. Infant mortality rates varied by a factor of four, depending on the district. In the core area, 42 infants died for every 1000 born alive while in one of the predominantly poor peri-urban municipalities, the rate was 175 per 1000 live births. Infant death rates from enteritis, diarrhoea and pneumonia on the city's periphery were twice as high as in the core area.

Sources. Most of these examples are drawn from Harpham et al, 1988.
The studies reviewed in Boxes 1 and 2 suggest that infant mortality rates or the incidence of some of the most serious, common diseases are several times higher in poor districts compared with city averages or the rates for richer districts. Most of the figures certainly underestimate the health problems faced by poorer groups because they rely on averages within districts or cities. Most highlight the health problems of poorer groups, because they contrast average health statistics for districts with a majority of poor inhabitants with averages for the whole city, or for districts with a majority of rich inhabitants. Contrasting health statistics for poorer groups and richer groups would certainly reveal an even greater disparity.

For instance, a study in India found a tenfold difference in infant mortality rates between the poorest families (180 infants dying per 1000 live births) and the richest families. In the example of Delhi given in Box 1, the infant mortality rate among the poorer households within the bustee was found to be twice the average for the whole bustee. There may also be serious disparities between different household members. The fact that children are especially vulnerable to diseases associated with poor housing and living conditions is evident from the above statistics. Women's vulnerability during pregnancy and childbirth is also evident in the very high levels of maternal mortality in most Third World nations. In many low-income settlements there may be a significantly higher incidence of certain diseases among women, linked to the fact that they take most of the responsibility for child-rearing and spend more time within the settlement and its contaminated environment. For instance, they may suffer more from the diseases associated with inadequate water and sanitation, or the respiratory problems associated with smoky living environments, because they spend more time inside the house where cooking or heating is done on open fires or cheap stoves, using coal or wood.

Virtually all the homes and neighbourhoods of poorer groups share two characteristics with serious impacts on health: the presence in the living environment of pathogenic microorganisms, especially those in human excreta, because of the lack of infrastructure or services to remove and safely dispose of them; and crowded cramped housing conditions.

A lack of readily available drinking water, of sewerage connections or other systems to dispose of human wastes, of garbage collection and of basic measures to prevent disease and provide health care ensure that many diseases are endemic, particularly diarrhoea, dysenteries, typhoid, intestinal parasitism and food poisoning. These, combined with malnutrition, so weaken the body's defences that measles, pneumonia and other common childhood diseases become major killers.

Most urban centres in Africa and Asia have no sewerage system at all - including many cities with a million or more inhabitants. Rivers, streams, canals, gullies and ditches are where most human excrement and household wastes end up, untreated. For those cities with a sewerage system, rarely does it serve more than a small proportion of the population - typically the richer, residential, government and commercial areas. Garbage collection services are inadequate or nonexistent in most resi-
Box 2

CURRENT KNOWLEDGE OF THE RELATIVE HEALTH IMPACT OF ENVIRONMENTAL PROBLEMS IN URBAN AREAS OF DEVELOPING COUNTRIES

Over 100 studies have been reviewed and their findings summarized, according to the format proposed by the urbanization panel of the WHO Commission on Health and Environment. Urban health conditions are classified into three groups: communicable diseases; noncommunicable diseases; and psychosocial diseases or health impairments. From the reviewed studies, some of the environmental factors associated with disease morbidity and mortality in developing countries may be identified.

The studies present a general picture of urban populations in developing countries suffering the “worst of both worlds” in their mortality profile. They experience both the problems of underdeveloped populations (deaths from infectious diseases and a predominance of post-neonatal deaths over neonatal deaths) and the problems of industrialized populations (deaths from lung cancer, heart disease and accidents). Brazil provides the best data owing to more complete registration of deaths in that country. When disaggregated, the data show that there are large intra-urban differentials in this mortality pattern.

A number of descriptive studies examine intra-urban differentials in mortality from all causes and point to the link between poverty and increased mortality but without reference to intermediate variables. This is true also of many morbidity studies, which explore the determinants of ill-health and use “poverty” as a proxy indicator for the analysis.

The studies which examine urban differentials in mortality and morbidity tend to focus on communicable diseases, particularly those transmitted through the gastrointestinal tract. The literature dealing with links between urban environment and urban mortality concentrates on infant deaths and deaths from communicable diseases, and gives too little attention to other conditions such as respiratory infections and accidents.

There are several studies linking the quality and accessibility of water with infant mortality from communicable diseases. Access to an “individual water supply emerges as an important variable. The studies note interaction of behavioural factors and the importance of maternal education.

Supposedly causal studies relating urban environmental conditions with mortality should be interpreted with caution; some suggest associations of environment and mortality derived from total population-based data, while others are facility-based or limit their investigation to a particular age or socioeconomic group.

The studies imply that deaths from communicable diseases affect poor urban groups, and that the infants and children of these groups are particularly at risk. A similar pattern emerges from studies examining morbidity and communicable diseases.

The main picture that emerges from the analysis of mortality overall is one of noncommunicable degenerative diseases in urban areas having a significant impact as the predominant cause of mortality for total populations, and as the main cause of death across socioeconomic groups for adults. The link between poverty and higher mortality from noncommunicable diseases with and without reference to intermediate variables is evident.

Cont'd.
The literature on morbidity from communicable, noncommunicable and psychosocial diseases in urban areas of developing countries has been reviewed. Studies analysing morbidity are more numerous than those looking at causes of mortality in urban areas, but even so they do not show a comprehensive or uniform pattern of linkages between urban environment and health. Analysis of infant morbidity in relation to water accessibility, water quality and sanitation shows some of the strongest associations of environmental variables and disease outcomes.

Many studies point to the complex synergism of environmental and social risk factors for communicable and, more particularly, noncommunicable diseases. Some studies suggest that health outcomes in urban areas derive ultimately from the socioeconomic, not the physical environment. Studies of some communicable diseases, and of intra-urban differentials are rare. There is a dearth of good studies on urban differentials in respiratory infections. The vulnerable group which is most commonly studied is children. There is an abundance of studies which demonstrate a high prevalence of diarrhoea and helminth infection in children of slums, shanty towns and squatter settlements.

Evidence of intra-urban differentials in nutritional status is plentiful, and shows poorer groups (particularly women and children) to be at a distinct disadvantage. There are few studies on chronic disease in urban areas of developing countries. Where data on mortality are available, diseases of the heart and neoplasms are shown to represent a significant mortality burden. These have been termed "diseases of affluence", but their existence in urban areas of developing countries suggests that they might be more aptly titled "diseases of modernization", in which modernization is a composite determinant of ill-health and mortality, involving diet, health behaviour and psychosocial factors. At present this modernization seems to be most notable in urban rather than rural areas of developing countries, which tends to implicate urbanization as a determinant of mortality from noncommunicable diseases such as heart disease, malignant neoplasms or hypertension-related conditions. It seems probable that the rural/urban division is to some extent an artificial one. Intra-urban differentials in mortality and morbidity from noncommunicable disease (where they exist) indicate that the greatest burden is upon the poor.

For adults in urban areas, data indicate that the interaction of psychosocial and economic variables produces a mortality and morbidity pattern largely idiosyncratic to an individual city and its people at the time. Descriptive studies of adult mortality do exist and data can be disaggregated for urban areas; but there are few studies which have attempted - or been able - to identify psychosocial causal mechanisms acting on adult health in the urban environment. Those that do tend to originate from developed countries, and many point to links between poverty and mortality. In identifying intermediate variables in the urban environment, most studies produce results specific to a particular urban setting.

Poverty, as a composite index of deprivation extending from command over economic resources, access to education, social support and self-esteem to control of housing and physical environment quality, remains the most significant predictor of urban morbidity and mortality.
dential areas in third world cities; and an estimated 30-50 percent of the solid waste generated within urban centres is left uncollected. It accumulates on streets, open spaces between houses and wasteland, causing or contributing to serious health problems. And it is poorer households that suffer most since it is overwhelmingly in the poorer areas of cities that there are no services to collect garbage or service levels are very inadequate.

Another characteristic common to most of the homes and neighbourhoods of poorer groups is crowded, cramped conditions. This ensures that diseases such as tuberculosis, influenza and meningitis are easily transmitted from one person to another, their spread often being helped by low resistance among the inhabitants due to malnutrition. It is common for poorer households to have less than one square metre of space per person in their homes. In the most extreme cases, even small rooms are subdivided to allow multiple occupancy - as in Hong Kong where many people live in beds stacked three high in dormitories, with each bed surrounded by a cage for privacy and protection against robbery: in one dormitory, 130 persons were found living in this way. In Calcutta, in the “hotbed” system, bunks stacked one above the other in tiny rooms available for rent by the hour, with two or more persons renting the bed within any 24-hour period.

In terms of the broader city environment, the problems usually fall into four broad categories:

- **Air pollution.** The main contributors to the pollution and their relative importance vary greatly from city to city. In cities with high concentrations of heavy industry, the industries themselves are usually the main contributor. In many cities, congested streets, poorly maintained motor vehicle engines and often high levels of lead additive in petrol contribute greatly to air pollution. Thermal power stations burning coal or oil with a high sulphur content are often major contributors. In some cities, households’ use of wood or coal as their main fuel is also a major contributor at city level, as well as a major contributor to respiratory problems for the people using these fuels. High levels of air pollution in certain major industrial centres have been linked to a high incidence of bronchitis, asthma and pneumonia.

In Latin America, recent studies suggest that air pollution levels are so high in many cities (São Paulo, Rio de Janeiro, Belo Horizonte, Bogotá, Santiago, Mexico City, Monterrey, Guadalajara, Caracas, and Lima-Callao) that a high priority should be given to their control. Over two million children may suffer from chronic cough as a result of urban air pollution that is responsible for an excess of 24,300 deaths a year in Latin America. This same source estimates that some 65 million person-days of work were lost to respiratory-related problems caused by air pollution. While the authors emphasize that these are rough estimates, they give an idea of the order of magnitude of the problem. Local topographical and climate conditions can exacerbate problems, as in Mexico City where thermal inversions help trap pollutants within the valley in which the city is located.

- **Water pollution.** One major problem is
the lack, in most cities, of sewers and drains and plants to treat sewage. Many major cities and most smaller urban centres have no sewerage system at all. The other major problem is industrial liquid wastes, most of them dumped in contravention of the regulations.

- **Toxic/hazardous industrial and commercial wastes.** These are disposed of in water bodies or land sites without special provision for prior treatment to render them less damaging to human health and the local environment or without measures to ensure that the disposal isolates them from the environment.

- **Waste water and flooding.** Systems to dispose of waste water and control flooding are generally inadequate.

Meanwhile, there is often little or no incentive for industry and commerce to cut down polluting emissions since few enterprises are penalized and the penalties, when finally imposed, are so small as to have little deterrent effect.

There is also an interaction between the city and its wider region, which usually includes large areas considered to be rural. The inhabitants and natural resource base usually suffer from a series of environmental impacts associated with city-based activities or city-generated wastes, for example:

- the destruction of coastal and estuarine fisheries as a result of water pollution from city-based enterprises, as recently documented in respect of many cities in India, China and Malaysia, Lake Maryut in Alexandria, the Gulf of Paria in the Caribbean, Manila Bay, the Bay of Dakar, the Indus Delta;
- city water supplies taking priority over farmers’ water needs for irrigation;
- air pollution from city-based industries damaging vegetation, as recently documented in respect of many Chinese and Indian cities or certain Brazilian cities.

There are also problems of solid wastes from city enterprises, being dumped on poorly prepared and maintained landfill sites. In most cities, there is little or no separation of toxic wastes from those which can be safely disposed of through landfill, and there is no proper management of the sites. The result is contamination of water used by farmers or rural households for their own consumption.
3. Urban Policies for Improved Health

Relatively few countries have national, comprehensive urban development policies, and most lack the resources and governmental structures to evolve them. Both "vertical" separations (between levels of government) and "horizontal" separations (between sectors) limit the feasibility of introducing coherent policies and programmes.

Generally, more serious constraints to coherent policies and coordinated action arise from sectoral organization (the "horizontal" dimension). In many countries, an urban policy is no more than a patchwork of sectoral policies - for land use, economic development, housing, pollution control, traffic, etc. When major responsibilities are assigned to different levels (e.g., national economic development and local land use planning), coordination difficulties increase. Meshing intersectoral action is time-consuming - if not infeasible - when each sector is organized in a way thought to best suit its own mission; for example, different organizational structures for health, education and public works in most countries make coordinated action difficult.

Countries differ markedly in their capabilities to formulate and implement policies, with developed countries generally having a better capacity. Most developing countries lack the human and technical resources to deal with the full range of their urban development needs. Planning and technical resources are likely to be found in isolated cells within sectoral ministries and large city departments, isolated not only from one another, but often from the mainstream of the decision-making and activities. Technically able personnel are often frustrated by structural barriers, inadequate processes, and resource shortfalls.

Local constraints may be even greater than national, as municipal governments are often paralysed by lack of delegation of authority and revenue-raising powers, skilled human resources, and information. Also, regional entities to harmonize the actions of separate local governments in metropolitan areas are rare.

It will therefore not be possible to handle the above problems with any measure of success without a major conceptual shift, for a number of reasons:

- The problem of the urban poor is of such magnitude and diversity that current approaches to its solution will be too slow to be effective. Experience has proved that merely doing more of what is being done now will not meet the need.
- The changing nature of urban needs makes it dangerous to begin with fixed, preconceived ideas.
- In many countries, it is being recognized that sound urban development is crucial both for a strong economy and for the well-being of the citizens. Community and individual health is an important, but not the primary, factor to be kept in view. For health leaders, health protection and promotion goals must be pursued within the broader urban development framework, in which health values should be strongly and consistently advocated.
The extent of the conceptual shift that is required varies from country to country, and city to city, in relation to the current stage of development, the rapidity of urban growth, and the availability of personnel and financial resources. It is clear that in all cases much greater involvement of communities themselves - and of local authorities - is needed in identifying, developing and implementing the necessary measures for health protection and promotion. The resources required include not only financing and staff resources, but also the people who are the beneficiaries of social development: the whole human resource must be tapped.

All agencies and authorities should act to enable communities and local governments to carry out their functions to the fullest measure, and this will require governments to change from a posture of trying to solve many urban problems directly, to one of acting in an enabling role, as a facilitator of solutions. This implies a degree of decentralization and devolution of power, i.e. a move from a centralized to a more localized approach involving community action. Urban development can be enhanced if there is close coordination with primary health care, stressing environmental factors in disease prevention and control.

Intersectoral coordination must be effected at all levels, beginning with the local level where it is most likely to be feasible, to ensure coherence and effectiveness in programme planning and delivery.

Women have always had an important role to play in development and health, although this is seldom recognized. No health promoting action is likely to be effective unless women’s needs, roles and potential contributions are respected.
4.Possible Approaches for Countries and Cities

4.1 Strengthening the capacity for urban development

In this section, a number of changes are suggested for strengthening the processes of urban development in order to promote environmental health, with respect to policies, resources and the involvement of sectors and communities.

4.1.1 Policy and programme coherence

Urban policies at all levels may relate urban development to principles of sustainable development, and require consideration of environment and health in all development actions. Urban policy may call for health-promoting urban development programmes for environmentally compatible housing and transportation structures, pollution control, delivery of safe water and food with adequate nutritional value, use of non-toxic building materials, and removal of wastes, without irreversible loss of natural resources, or destruction of natural landscapes, in and outside towns and cities.

Coherent public policies for health may be developed. All agencies concerned with energy, food, agriculture, macroeconomic planning, housing and other issues, may examine the health implications of their policies and programmes, and adjust them to promote health and a healthy environment. Governments at all levels may formulate urban environmental policies and plans, and integrate environmental considerations in all urban development planning efforts. Policies for land-use, traffic and transportation that support health and the environment will also be needed.

Suitable structures and processes may be developed to ensure intersectoral coherence in the planning and implementation of urban development by government agencies, the private sector, nongovernmental organizations and community groups. High-level consultative bodies are necessary, but not sufficient: intersectoral coordination requires that workable structures reach down to the front-line of each sector, as it interfaces with the communities. Feasible processes - for information management and exchange, planning, decision-making, programming and logistical support - may likewise be developed, in ways that permit progressive revision in the light of experience.

The introduction of information technology can foster interdisciplinary management approaches, since computerized systems encourage inter-agency consultation by referring users to aspects of a problem that fall outside their normal purview.

4.1.2 Decentralization

There may be significant decentralization to the local level of responsibilities for planning and managing urban development and of powers to raise revenues. Local governments may serve as the interlocutor between communities and higher levels of government. Within local areas, especially in large cities and metropolises, responsibilities for various functions may be decentralized to the lowest level com-
compatible with efficient management and technological requirements.

One aim of intragovernmental cooperation is to make decentralized elements of the national government structure more directly responsible for their actions, and to require them to take a more activist role in collaborating with other levels of government.

The environmental conditions and health status of communities need monitoring, with emphasis on health problems in informal settlements. The principal health problems are to be found in informal housing, and there is value in the use of simple indicators of inadequate housing and environmental conditions. The measurement of health differentials between different parts of a town or city can be useful to guide municipal authorities in the planning and management of environmental programmes.

4.1.3 Preventing rapid urban growth

The limitations of control measures are recognized. However two approaches are valid. There is the need for national population policies that translate into effective family planning programmes. All people, and especially women, need knowledge about family planning techniques, access to services and availability of materials. But there are usually powerful economic and social reasons for large families, related to such factors as high child death rates, the economic value of child labour and the importance of children to parents' upkeep in old age. Social and economic underpinnings of large families have to be addressed concomitantly with the promotion of family planning services.

Family planning services should be non-coercive, decentralized to community level, participatory, integrated with primary health care services and female literacy programmes, and backed by ready access to materials (pills, devices).

There is a need for urban and rural development policies whereby measures can be taken in potential problem areas - urban areas that are growing fast - to provide incentives for people, for industry, for the private sector, and for government agencies, to reduce the concentration of population.

4.1.4 Involvement of communities, nongovernmental organizations, and the private sector

To respond to the problem of the urban poor, governments at all levels may play an enabling role in helping every urban individual to improve his or her living conditions and neighbourhood. There may be a process of consultation with the community in the framing and updating of laws, regulations and standards, which can provide an incentive to citizens to improve their housing and living conditions.

At all levels of decision-making, whether international, national or city, attention may be given to involving community groups and all relevant sectoral agencies.

The private sector may be brought into the process of supporting environmental health, so that it becomes part of the solution rather than the problem. Measures that might be considered include increased public/private coop-
eration in meeting needs identified by the community, the provision of tax incentives, and, as appropriate and compatible with the public interest, the use of private entities to provide environmental health infrastructure and services.

4.1.5 Resources

Resources may be mobilized at all levels, starting with the adoption of national pricing policies on environmental resources and services that provide for recovery of the marginal social costs (externalities) of production and use. In particular:

- Municipalities may be empowered and motivated to generate local revenues through taxes and user charges, as well as provided with needed intergovernmental transfers and access to credit for financing health and environmental infrastructure and services, while households are also provided with the access to credit that is vital for improving basic shelter and starting up productive activities.

- Subsidies may be required to help the poor, especially during periods of economic crisis and adjustment, although they must be carefully targeted so that they reach the most needy.

- Efficient pricing policies may be adopted, and more efficient use made of limited resources at all governmental levels.

4.1.6 Additional mechanisms

In dealing with the complexities of urban development at local level, maximum reliance may be placed primarily on indigenous skills and resources to build capacities to improve environmental health conditions.

Approaches to improved and healthier urban development based on networks of groups and/or agencies within a city, or networks of cities, are useful in developing innovative programmes to deal with defined problems. City networks may be formed to achieve a variety of goals, e.g. the Metropolis city network was formed to promote urban development and housing, environmental protection, urban transport, the urban economy, urban management, and health; and the CITYNET network of the United Nations Economic and Social Commission for Asia and the Pacific seeks to promote better urban management. For its part, the WHO Healthy Cities Project has been successful in putting more emphasis on health in the agenda of municipal governments, and assisting them to adopt health promoting public policies; to develop better urban environmental health services; to address the wider issues of sustainable development; and to reorient urban health services towards a preventive, community-based model of services. The benefits of networks of cities can be briefly summarized as:

- sharing of information and technologies between members;
• sharing of scarce resources to solve joint problems, e.g. developing effective urban management strategies;
• jointly developing of standards or codes of good urban policies and management practices; which has the effect of exerting pressure on all members of the network to adopt them, for no member wishes to become a bad example;
• serving as a force to influence national policies and norms to promote healthy urban development, for instance by encouraging the decentralization of urban management functions and urban development decision-making, from the national government level to the municipal government level, to allow local participation.

A continuing improvement in the environmental knowledge and planning skills of programme and project managers should be sought through such means as training and retraining.

4.2 Strengthening environmental health management and technology

To ensure the application of appropriate environmental health technology and to provide effective management of manpower and material resources in a diverse urban setting, priority should be given to action in several fields.

4.2.1 Re-orientation of environmental health

National and municipal environmental health programmes may be evaluated and re-organized, recognizing that for environmental factors to have a positive impact on health, protective and promotive actions are required in all sectors and by individuals, families and groups in the community. Environmental health units’ capabilities may be increased, thus enabling them to influence sectoral and community actions, and fulfill programme responsibilities in an efficient way.

4.2.2 Training

The training of new environmental health personnel and the retraining of existing personnel may be upgraded for action on the current and emerging problems of large and rapidly growing urban conurbations. This training may deal with water and sanitation facilities, including low-cost, on-site disposal systems now increasingly used in many cities; drainage and solid wastes disposal, and vector control; the more complex environmental health problems caused by automobile pollution, industrial pollution and wastes, noise, and congestion in transportation; inadequate housing and slums; and the increasingly complex factors involved in ensuring food safety. In some countries, more personnel should be trained in health risk assessment, environmental health impact assessment, hazardous and toxic wastes disposal, and interpretation of ambient monitoring data.
Changes in education and training may be introduced to ensure that related professional groups (architects, engineers, urban planners, industrial designers) are knowledgeable about environmental health. At the same time, environmental health personnel must be capable of participating in planning for land use and urban development.

Environmental health personnel may train social leaders, such as staff of nongovernmental organizations, in relevant aspects of environmental health, as well as working with educators and the media in order to inform the public at large about environmental health problems and desirable practices in environmental improvement and health protection.

4.2.3 Information management and research

Environmental health work may be supported by adequate information drawn from monitoring the disease burden of the community (lost years of life, disability, disease rates, etc.) and relate these data to environmental conditions. Where capacity is lacking, information support systems may be developed or strengthened to ensure that programme formulation is relevant to health problems and needs.

Information exchange among sectoral agencies involved in urban development may be institutionalized, so as to keep all participants informed about the health aspects of environmental conditions and proposed development projects. This applies particularly to interpretation of the health implications of environmental monitoring data. Related longitudinal studies of the process of environmental improvement and its impact on health should also be undertaken.

Other steps may be to encourage and expand the application of appropriate technology, and assess its impact using health service research techniques; and to establish research facilities and capabilities where necessary and link the research with the activities of related units at national and district levels, and of policy-makers, planners, and user communities.

4.3 Strengthening community action

Community action is the foundation for sustaining environmental health in the urban setting. To make best use of this foundation, a number of steps may be taken:

4.3.1 Community action partnership

One effective approach is to develop strong partnerships based on shared goals for multisectoral action to meet environmental health needs, linking government and community organizations and involving other social entities in the community setting, such as nongovernmental organizations, politicians, academics, unions, professional bodies and businesses.

4.3.2 Methods of action and human resources

Steps may include:

- finding ways to multiply community-based initiatives to address environ-
mental health problems and related social problems (such as poor quality housing and illegality) which detract from human well-being in the urban setting;

- where they are needed and lacking, making provision for salaried community facilitators to work with low-income communities in problem identification, group organization, and development of links with government agencies;
- recruiting community volunteers to participate in information gathering, mobilization and monitoring, perhaps paying some from the low-income groups on a part-time basis;
- ensuring preparation of professionals in environmental health and related fields (including those in the private sector) to work with community groups;
- involving schools in the education of children to become agents for change in the home and in their neighbourhoods, with respect to hygiene and care of the environment.

4.3.3 Financing community action

Steps may include:
- developing schemes to solicit contributions, including contributions in kind, to take action on agreed objectives and projects;
- finding ways to ensure that responsible organizations in low-income communities can obtain credit from local financial institutions for meeting their housing and other environmental health needs;
- identifying unused or misused public resources, including public land and buildings and reallocating them for use by community groups for grass-roots projects with community involvement in the planning process.
5. Possible Approaches at International Level

5.1 International agencies might:

1. Adopt agendas based on the linkage between the urban crisis and the growing threat to sustainable life and development from the degradation and mining of Planet Earth.

2. Intensify recent moves to consider environmental, social and health criteria in project allocation and other resource-transfer decisions, while increasing the share of development assistance for the social sector.

3. Find new ways for aid and development assistance agencies to channel funds to community organizations (or to nongovernmental organizations working at community level) in order to address environmental health problems.

4. Improve the processes of interagency consultation and coordination in relation to urban development and its environmental health aspects in order to maximize the impact of limited monetary and technical resources available to assist countries and cities - an activity that should encompass multilateral and bilateral international agencies, external support agencies, and key nongovernmental organizations.

5.2 The World Health Organization might:

1. Improve the information base for use by countries and cities in dealing with the health aspects of urban development so as to support the formulation of urban policies, the planning of programmes and activities, and the effective use of resources.

2. Strengthen technical cooperation with Member States in the area of urban environmental health, giving priority to applied studies, training, information system development, information exchange, and the provision of expertise at regional level, such cooperation being conducted in collaboration with other agencies, with maximum use made of strengthened and expanded regional centres and collaborating centres for environmental health.

3. Support the extension of the Healthy Cities project on a global basis, with appropriate adaptation to regional and country conditions.

4. Take the lead, within the framework of technical cooperation among developing countries, in organizing regional networks and panels of interdisciplinary experts to analyse and advise on trends with regard to the health aspects of urban development, and community leaders to advise on approaches and methods to strengthen community action and local government capacity.
Selected References


9. Murphy, D. Hong Kong: Some are left out. Housing by People in Asia (1990) (newsletter published by Third World Network and the Asian Coalition for Housing Rights)