

Environmental Health

Wanted: designs for health in the urban environment

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Lessons have to be learnt from the mistakes and oversights for which planners have been responsible as urban populations have escalated during the latter half of the 20th century. For people living in densely populated cities the best possible health can only be achieved if due consideration is given to the creation of a broadly favourable environment. The causes of urban deprivation and ill health, and the approaches needed to tackling them, are discussed below, with special reference to conditions in European cities.

In 1900 about 80% of the world population lived in rural areas. By 2000 this will be the proportion living in urban areas, owing mainly to restructured production and the ensuing migration from rural areas by vast numbers of people.

In 1990 about 45% of Europe’s population lived in cities of more than 50 000 inhabitants. Some European cities have absorbed exceptionally high numbers of immigrants. Vienna, for example, receives between 20 000 and 30 000 annually, and approximately 350 000 have arrived in Athens since 1990. Immigration on this scale, particularly during a period of economic recession, puts great pressure on social, medical and welfare services, as well as on the housing and job markets. Overcrowding and poor hygiene result, and there may be ethnic differences in respect of health and mortality rates. The incidence of tuberculosis has increased significantly in certain European cities affected by immigration.

A patchy picture

Although urban planning has yielded many improvements in living conditions, not all cities and districts have benefited to the same degree. Some neighbourhoods in France, for example, have unemployment levels that are double the national average (1). Such places commonly have relatively high numbers of immigrants from non-European countries, relatively large households, and a housing stock that includes many unrenovated high-rise buildings constructed between 1945 and 1970. Serious environmental, socioeconomic and political problems exist in many cities, especially in Eastern Europe.

In about three-quarters of European cities with more than 500 000 inhabitants, air pollution with one or more compounds exceeds the
acceptable maxima specified in WHO air quality guidelines at least once in a typical year. Furthermore, in many cities the maximum acceptable ambient noise level of 65 decibels is frequently exceeded.

Relatively high levels of urban poverty and malaise are localized in certain cities and urban neighbourhoods of both Eastern and Western Europe. In Glasgow, mortality rates from all causes among people aged 25–64 years are 40% higher than those in nearby Edinburgh (2). In Strathclyde, where Glasgow is located, the groups most vulnerable to poverty and poor health are the unemployed, the elderly and persons in one-parent households. Inequalities of professional status, income, housing and working conditions are reflected in and reinforced by inequalities in health and well-being. Loss of employment can be linked to a twofold increase in the risk of mortality from cancer and cardiovascular disease among men aged under 60 years (3). Black male residents in Harlem, a district of New York City, have a shorter life expectancy than those in other American neighbourhoods, and are less likely to live beyond the age of 65 than men living in Bangladesh (4).

Not only the economic, social and physical characteristics of neighbourhoods, but also lifestyles affect morbidity and mortality rates. The diet of people who live in deprived urban areas is usually high in sugar, starch and fats, because these are cheaper than foods high in protein, minerals and vitamins. Smoking is more prevalent in these areas, as well. Accidents are among the principal causes of death and injury in the urban environment. In the United Kingdom, for example, accidental injuries, drownings and poisonings comprise the single largest cause of deaths in children of 4–14 years of age. The economic and human costs of accidents present policy-makers with a major challenge. Preventive policies and measures are required rather than mere responses to tragic accidents.

**Crime and delinquency**

Poverty, characterized by unemployment, low income, poor housing, inadequate social support and little or no access to education, is a significant indicator of urban morbidity, mortality and social malaise. Urban riots, group violence and social unrest have increased in frequency over the past 15 years, as have the recorded instances of delinquency, vandalism and theft. There are also many instances of sexual abuse of women and children but they go unreported and so do not appear in crime statistics.

Apart from its cost in damage or loss of property, and in policing and criminal justice, crime has a wide range of negative effects on urban communities, including insecurity, fear, and victimization. There is a strong correlation between the geographical incidence of criminal offences and economic and social indicators of disadvantage and poverty. However, it should be observed that relatively few people are involved in delinquency and crime.

Traditional measures aimed at counteracting delinquency, crime and violence have proved ineffective, yet prisons account for about a quarter of the cost of law enforcement and criminal justice in some European countries. When policies for urban areas are being formulated it is necessary to consider the needs of specific categories of people, such as children and the disabled. It is unsatisfactory to ignore the diversity of populations and to provide for an imaginary average individual.

Although people under the age of 18 have legal rights they do not constitute a political
constituency. Unemployment rates in several European countries are highest among young people, whose needs may be given low priority. Whereas, for example, land-use planning regulations in many cities commonly specify requirements for car parks, no provision may be made for places where children and young persons can pursue cultural and leisure activities. Too many children suffer because there is no political will to recognize their needs. Some of the consequences of this neglect are youth unemployment, homelessness, smoking, alcoholism, drug addiction and suicide.

**Housing and the wider environment**

Shortcomings in the indoor environment are likely to have implications for health and well-being because a high proportion of people’s time is spent in their homes. This is especially true of certain categories of people, for instance older members of the community, and children. However, it should also be borne in mind that environmental quality depends as much on decisions about the use of land, materials and construction methods as on the layout and volume of services and energy sources in buildings and urban neighbourhoods. The relationships between indoor and outdoor environments are partly influenced by people’s activities and lifestyles. In the United Kingdom, for example, it has been found that buildings contribute appreciably to the greenhouse effect because of the quantities of carbon dioxide they emit in addition to other pollutants (5).

Unfortunately, much of the rented housing stock built in Europe since 1945 did not benefit from a preliminary consideration of relationships between internal conditions and the wider environment. Outside walls often have poor thermal insulation, with the result that energy is wasted, condensation occurs and the growth of fungi is favoured. In many high-rise residential buildings the quality of the air cannot be satisfactorily regulated by cross-ventilation, and sound insulation is frequently inadequate because of noise transmission in mechanical ventilation ducts.

It is not surprising, therefore, that respiratory illnesses and allergies have become a significant cause of morbidity and mortality.

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Furthermore, certain new or formerly unidentified diseases have been linked to environmental conditions in buildings. Thus room humidifiers, ventilation systems, cooling towers and hot and cold water supply ducts can nurture *Legionella pneumophila*, the bacterium which causes legionnaires’ disease. It can be transmitted throughout the indoor environment or discharged externally in the immediate vicinity of buildings.

Are mechanical ventilation and air-conditioning systems really necessary? Would it not be more environmentally sustainable to refrain from constructing rooms devoid of daylight and natural ventilation? Would it be possible to employ alternative principles and practices for the creation of urban environments and housing design even where high-density residential schemes are necessary? It is vital to evaluate projects systematically in terms of their ecological, health and economic implications.

Are the manifestly inadequate responses to urban health challenges and, indeed, to global environmental problems, attributable to a lack of knowledge, an inability to use knowledge effectively in conjunction with innovative technology, or to other factors? In other words, are there underlying problems of substance or procedure which can explain why many of the decisions that have been taken have led to widespread urban deprivation, poor health and social malaise? Policy-makers have defined and isolated problems too narrowly. It is now widely accepted that an integrated cross-sectoral approach is required if solutions are to
be found to the problems of creating and maintaining satisfactory urban and global conditions. The interpretation of quantitative and qualitative data across different sectors and over extended periods is essential. Before policies are finalized and projects implemented there should be collaboration between professional bodies, community groups and public and private institutions in order to review their possible consequences in ecological, social, health and economic terms.

Clearly, substantial institutional and social barriers have to be dismantled before individuals and community groups can effectively participate in policy-making. Nonetheless, a systematic approach to environmental education, communication and information transfer can undoubtedly provide links between professionals, policy-makers and citizens. This is particularly important when bottom-up and top-down approaches are used in a complementary way. Partnerships between national authorities, civic administrations, citizens, community associations and local businesses can lead to the application of cross-sectoral approaches, as has happened in the Healthy Cities Project (6).

Traditional sectoral concepts and approaches should be redefined so that policy-making, instead of being concerned mainly with remedial measures, is oriented towards tackling the basic causes of social, economic and health inequalities in cities. Little has been made of the links between health, urbanization and environmental policy, yet it is crucial to acknowledge the importance of the urban environment in connection with such matters as resource management and the accommodation of diverse ways of life. Social, urban and environmental policies should become major components of the domestic agenda so as to promote social cohesion and the quality of life in cities.

References