

# ENVIRONMENTAL PLANNING AND HEALTH IN NIGERIA



*Essays in Honour of*

**PROF. TIMOTHY  
OLAYIWOLA EGUNJOBI**

**Edited By:-**

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Bolale Wahab, Lekan Sanni, Ipingbemi O.**



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## Chapter Four

# Urbanisation, Environmental Health and Planning

*Lekan Sanni & Olusiyi Ipingbemi*

### Introduction

In this new millennium, one of the greatest challenges facing planners, city managers, seasoned administrators, politicians and various other individuals, professionals and organisations concerned with human welfare and development is the twin problem of urbanization and environmental health. All over the globe, within various cultures and various ideological camps, the twin problem of urbanization and environmental health has become so highly pronounced that it is the major topical issue in most symposia, workshops and conferences. The present chapter focuses on contributing to the existing literature on the challenges posed by urbanization and environmental health to development planners, especially in their quest to enhance the welfare of the human race. The approach of the chapter is to first review global trends in urbanization, and then the diverse conceptualizations of 'health' and 'environmental health'. Next is reviewing the existing literature on the intricate relationships between urbanization and environmental health. The third part, titled 'the way forward', focuses on proffering possible solutions to the challenges of enhancing environmental health conditions in our communities, and maximizing the potential of urbanization as an engine of growth.



## Global Trends in Urbanisation

Urbanisation, that is, the agglomeration of people in cities and towns, is a global phenomenon that poses a lot of challenges to planners, politicians, policy makers and all individuals and professionals that are responsible for, or interested in human welfare and development. The resultant challenge is rather very daunting and intriguing when one considers the fact that the modern trends in global urbanisation is rather a very recent phenomenon. For instance, though human beings emerged from their forebears more than 4.5 million years ago, the vast majority of the millions of years were spent without man evolving a city. Earliest cities arose about 10,000 years ago, and were found mainly in Southeast Asia and the Mediterranean region, most especially around The Tigris and Euphrates Rivers. These cities, though very significant in their era, were relatively very small in area extent and were fewer in number than what the world is experiencing at present.

Modern trends in urbanisation owe much to the industrial revolution which started about three hundred years ago in Great Britain, from where it spread to other parts of Europe and the world at large. Various factors have been identified for the industrial revolution's ability to spur rapid urbanization in Europe, first in Great Britain, and later in other parts of Europe. Prominent among these were development of industries from small-scale cottage industries to large-scale factories employing thousands of workers. Towns and cities developed and grew very rapidly, with those located in areas of good natural resources based on communication links, with easy access to water and raw materials, experiencing the highest level of immigration.

For the first time in history, factories were built relying mainly on steam-powered engines, producing environmental health hazards. It is pertinent at this point to elaborate a bit on the term 'environmental health'.



## Environmental Health

To understand 'environmental health' as used in this chapter, it is important to start with our conceptualization of 'health'.

### Health

Health, according to the constitution of the World Health Organization (WHO), is 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'. Implicit in this definition is the fact that health is guaranteed only when certain basic needs are met; these include food, housing, water and a pollution-free environment (Egunjobi, 1991: 34). The conception of health has been extended further to include 'sense of well-being and security' (WHO, 1992). The enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being (WHO, 1948). The importance of health is further emphasized by the United Nations' Agenda 21, where it is explicitly stated that:

'Globally, the state of human health serves as a key indicator for the conditions of the natural environment and the success of sustainable development. Sound development is not possible without a healthy population. Most development activities affect the environment in a way that typically causes or exacerbates health problems. At the same time, a lack of development adversely affects the health of many people' (UNO Agenda 21).

There is, thus, a growing realization that the physical, socio-cultural and economic environments have implications for health and ill-health. This, in turn, explains why issues relating to health are no longer left to the confines of medical doctors, nurses, midwives and other clinically-oriented health workers. Other professionals, such as planners, architects, teachers and agriculturists, have a lot to contribute to human well-being. In



essence, the individuals, households and communities share in the responsibility to prevent ill-health and seek health promotion (Egunjobi, 1993: p.34). Spatial variations have also been observed to exist in the level of peoples' 'health status'. For instance, one of the important parameters that distinguish the developed group of countries from the less developed ones is the people's health status which in the latter is still very low. The less developed countries are characterized by high infant mortality rate, high prevalence of communicable diseases as well as high level of illiteracy and ignorance. Poverty is widespread among the people while their urban and rural environments are essentially unsanitary (Egunjobi, 1993: p.34). Convergence of opinions in the health literature points to the existence of close relationships between the level of health and socio-economic status via high education (Northridge, 2001; United Kingdom, 2005); lucrative job (U.S. Department of Labour Occupational Safety and Health Administration, 1999; and Information Ventures, 2005); substantial income (Gravelle, 1998; Judge, 1995; Lynch et al, 2000; Sturm, and Gresenz, 2000; Muller, 2002), decent housing (Lynch et al, 2000; Office of Deputy Prime Minister, 2003; Schrememachers, 2003; Cassidy and Vaughan, 2005; and Social Care Institute for Excellence, 2005); adequate nutrition (WHO, 2003; Popkin, 2003; Department of Health, 2004; and Hicks, 2005); and high quality of personal health behaviour (UNEP GEO, 2000; and Hicks, 2005). More recent publication by The Republic of South Africa (1996) opines that: 'increasing levels of income, education and the empowerment of women are positively associated with better health and declining fertility and mortality rates...' (Republic of South Africa, 1996: p.x).



## **Environmental Health**

Diverse definitions of 'environmental health' abound in the literature. The one being adopted in this chapter is that of MacArthur and Bonnefoy (1998), in which environmental health is seen as involving 'those aspects of public health concerned with the factors circumstances, and conditions in the human surroundings that can exert an influence on health and well-being' (MacArthur and Bonnefoy, 1998).

Environmental health practices, therefore, address emerging health risks arising from the pressures that human development places on the environment. Environmental health factors include 'lack of good drinking water; poor sanitation; and storage method' (USA's Population Reference Bureau, 2004).

The need for emphasizing environmental health approach to health care delivery became very urgent in the 1970s when the realization was rife that substantial improvements in health would not be achieved without the improvement of social and economic conditions. This led to the Thirtieth World Health Assembly in Geneva in 1977 to bring into focus the need for social justice in achieving health for all, for every individual on the planet (Dhillon and Phillip, 1991). The Primary Health Care (PHC) approach was proposed as the precious cornerstone on which the new health care delivery system rests. PHC was defined as:

essential health care based on practical, scientifically sound and socially acceptable methods and technology, made universally accessible to individuals and families in the community, through their full participation, and at a cost that the community and the country can afford and maintain at every stage of their development in the spirit of self-reliance and self-determination (WHO, 1979).

The whole notion of PHC system and the philosophical basis on which it is enunciated are clearly manifested in this



definition. Featuring prominently in the definition are the concepts of community participation, intersectoral collaboration and appropriate technology (Egunjobi, 1993: 35). Since then, environmental health approach has been universally accepted as the most potent approach to health care delivery.

### **Urbanisation and Environmental Health**

As explained earlier, the world is at present experiencing unprecedented trends in urbanisation, and urban growth rates in developing nations are exceeding those of the developed world by five times, with Africa and Asia expected to grow exponentially. It is documented that:

between 2000 and 2025, the world's urban population is expected to double from 2.4 billion (in 1995) to 5 billion and that city-dwellers will rise from 47 per cent to over 61 percent of the world's population. Most of this explosive growth will occur in the cities of the developing world. There will be a doubling of the overall urban population, between 2000 and 2025, in Latin America and the Caribbean, in Asia and in Africa – above all in Africa, where population is expected to grow by 5 % a year, doubling every 13 years. It is here, in the exploding cities of some of the poorest countries of the world, that the central challenge lies (Mlhembe Mahanyele, 2002).

In most of the Third World nations, urban centres are growing about twice as fast as the overall population, mostly as a result of massive rural-urban drift and natural increase in populations of the cities. The high concentration of urban migrants puts pressure on public utilities and spreads the hazards of infectious and parasitic diseases. For instance, Africa's rapid rate of population growth has been identified as a major factor causing unbearable strains on existing facilities,



manpower and equipment. These reflect on the quality of services rendered in the health sector and health related sectors, such as water supply, housing and education (Egunjobi, 1991: 60). The blame for the observed massive rural-urban migration noticed in developing nations, especially those in Africa, has been placed (Fei and Ranis, 1961) on the nations' national development plans of early 1960s that rested on the assumption that development would be achieved by shifting surplus rural labour from traditional agriculture to provide cheap manpower to prop up the urban-based manufacturing industry. Accordingly, these countries' development plans aimed mainly to increase the size of the industrial sector, and efforts were put forth to achieve this by concentrating industrial establishments in the major urban centres which offered the most favourable factors of location. The impulse of development thus generated, it was believed, would have a 'trickling down effect' on the hinterlands of those urban centres. Movement of people from the countryside to the cities was, therefore, seen as a necessary process (Egunjobi, 1990: 46). By the beginning of the decade that followed (i.e. the 1970s), the notion of 'trickling down effect' had started to change. Although substantial rates of growth were recorded in output, development benefits were not spilling over to the countryside as expected. Essentially, rates of rural-urban migration continued 'to exceed rates of urban job creation and to surpass greatly the capacity of both industry and urban social services to absorb labour effectively' (Egunjobi, 1990: 47). No longer is rural-urban migration viewed as an unqualified beneficial process; rather, it is increasingly being viewed as a major factor contributing to the problems of unemployment, congestion and poverty, in the urban centres (Baravilala, 2005). Despite the observed failure of the initial development strategy of developing nations to perform the expected magic of spreading development to every part of the nations, rural-urban migration, initiated by



the plans, continued unabated in the regions, compounding resultant problems in both the urban and rural areas.

A major problem attributed to massive urban drift, especially in larger countries, is the development of shanty towns with poor sanitation, poor housing and overcrowding (Gardiner and Ayre, 2002). Poor environmental condition in the shanty towns encourages breeding of disease vectors, hence higher incidence of infectious diseases, such as malaria, leprosy, filariasis, tuberculosis, hepatitis and sexually transmitted infections.

Another major effect of rapid urbanisation on environmental health is increasing population pressure which can result in severe environmental damage, and increased pressures on local infrastructure and services. It has a direct impact on air pollution, on access to basic sanitation, safe drinking water and an adequate and safe food supply. Demand for food, housing and other facilities and services leads to increasing pressure to develop agriculture, roads and transport systems in previously unsettled areas. This land conversion can encourage the spread of diseases. For example, leishmaniasis, an infectious disease transmitted through a sand fly bite, has increased to 12 million cases each year alongside land development in Africa, Latin America and West Asia. The incidence of mosquito-borne dengue has also increased, and forest clearance is associated with a higher incidence of diseases such as malaria (Egunjobi, 1995b; and Hutchinson and Hirsch, 1996).

Another major effect of rapid urbanisation is development of urban sprawl which decreases the amount of open space, agricultural land, and natural habitats in regions surrounding cities. These regions are affected by the waste and pollution produced by the city, and depleted natural resources used by the city. As people move out of the cities into surrounding regions, the cities expands, and further pollution



and resource depletion occurs as people travel longer distances from home to work (Cunningham and Saigo, 1990).

Urban areas, especially large cities, are plagued by myriads of problems that exacerbate the vulnerability of the residents to vectors of environmental health hazards. First among these problems are wastes (Health Tribune, 20 October 1999). Air pollution results from over-dependence on motorised transport, and from the burning of coal to supply energy. Water pollution results from poor sewerage facilities and disposal of industrial heavy metals into waterways. Vast quantities of solid waste are produced as a result of packaging and consumption patterns, with very little landfill space available for disposal. Traffic congestion and noise pollution are also major environmental impacts of large cities.

Some human activities in cities also generate some adverse effects on the physical environment, aggravating the poor environmental health condition in these cities. Prominent among these activities and their resultant effects are summarized below.

Many of the world's current health problems are related to poor water and sanitation. It is not only in the burgeoning slums that basic amenities are lacking, for access to water is deteriorating everywhere (ACSH, 2005). Almost half of the human population is reported to suffer from diseases related to insufficient or contaminated water. The majority of these people are in developing countries, and are poor. Water-borne bacterial contamination has the most devastating impact on women and children, who lack basic food and sufficient access to doctors and medicine. Poor water quality is also directly linked to the problem of water borne diseases, including Schistosomiasis, which infects some 200 million people per year, from drinking water that contains the parasitic worm. Additionally, millions of people, every year, contract diseases transmitted by insects whose larvae live in water. More than 250 million people annually thus contract malaria through



living in proximity to stagnant water, 90 million contract, filariasis, 30 to 60 million have contracted, dengue fever, and some 18 million people, have contracted river blindness in this way<sup>32</sup>. In Asia, at least 1 in 3 Asians have no access to safe drinking water and at least 1 in 2 has no access to sanitation. Asia's rivers are also documented to contain three times as many bacteria from human waste (faecal coliform) as the world average and more than 10 times the OECD average<sup>33</sup>. Hence, the region records one of the highest cases of water-borne diseases like diarrhea, dysentery and cholera in the world.

Human exposure to hazardous industrial emissions cause widespread health problems, like chronic obstructed lung disease, acute respiratory infections, low birth weight, cancer. For instance, in San Paulo and Rio de Janeiro, air pollution is estimated to cause 4,000 premature deaths a year (SEAP, 1997). Also, most killer diseases in Swaziland are due to poor environmental sanitation and are diarrhoeal in nature, for instance, Typhoid, Hepatitis, Cholera, and Tuberculosis. About 80% of all the sicknesses and diseases in the country (Swaziland) can be traced to unsafe water that either infects people directly, serves as breeding ground for diseases and insects that lead to poor personal hygiene, poor housing, poor household sanitation practices and lack of understanding of the relationship of these factors to diseases (Krzyzanowski, 2005).

Declining life expectancy (the average number of years new born babies can be expected to live if health conditions stay the same) in many countries is due to high rates of Cardio Vascular Diseases, Cancer and Digestive tract illness and viral infection. This phenomena is due to high levels of contamination of the food with industrial effluent and exposure to air pollutants, which cause heavy stress on the cardio-respiratory system. A research carried out on European cities in preparation to the 3<sup>rd</sup> Ministerial Conference on



Environment and Health, London, 1999, revealed that the suspended particulate matter is the type of pollution affecting health of the largest number of European residents. More than a hundred thousand deaths per year occur earlier than expected due to a long-term exposure to this pollution. The long- and short- term exposures increase the prevalence and incidence of acute respiratory diseases. The most recent studies indicate also the impact of pollution on cardiac function in people with pre-existing heart disease (UNEP GEO, 2000; and WHO World Health Report, 2001).

Infant mortality (The number of deaths per 1000 number of infants born alive aged less than one year) has increased due to environmental pollution problems, which affect the respiratory system and cause infections in the intestines. About half the infant deaths are due to the above reasons. At least 15 million children die annually from preventable causes. A growing number of diseases in children are linked to unsafe environments in which they learn and grow. Children are especially vulnerable to chemical and biological hazards in air, water and soil. They also suffer the greatest number of deaths due to diarrhoeal diseases (2.5 million deaths per year). This number is likely to be greatest for those in urban areas (Egunjobi, 1995a: 63). Air pollution from the burning of fossil fuels for cooking and heating is also identified as being responsible for up to 20% mortality in children under five (Egunjobi, 1991).

In adult morbidity, diseases such as Tuberculosis and Cerebrospinal Meningitis are mainly caused due to overcrowded living, sub-standard housing, poor ventilation and air pollution, which also cause respiratory ill-health among the children. Atmospheric pollution and unhealthy conditions in the workplaces or a combination of both, cause environmental diseases such as Lung Cancer and Tuberculosis.

From the foregoing, it is observed that human activities, especially in form of urbanisation, have precipitated myriads



of environmental health problems for mankind. Yet, all over the world, and throughout human history, urban areas have been noted to be centres of growth and development. Hence, the greatest challenge is pondering on what could be done to ameliorate, if not totally eradicate, the observed negative effects of urbanisation and human activities on environmental health, especially in developing nations, where the problems are, at present, at a very alarming level. This is the primary focus of the next section of this chapter.

### **The Way Forward**

In the literature, attention has for long been drawn to the generally intolerable urban environmental living conditions, especially in developing countries. These intolerable environmental living conditions are evidenced by overcrowding, lack of potable water supply, inadequate drains, absence and/or inadequate waste disposal facilities, air pollution and so on, all of which are causal factors for diseases (Egunjobi, 1991). Historical evidences show that these urban problems are not peculiar to the present generation, but date back to the early cities in antiquity. What is obvious is the magnitude of the present problems. In the cities of the ancient civilizations, urban planning was used as the tool to tackle similar problems. For instance, Egunjobi (1995a) has documented that:

the relationship between urban planning and health dates back to the ancient Greeks and Romans who promoted the orderly arrangement of houses and streets as well as providing water as a means to prevent diseases and control them. More recently, in the United Kingdom, concern for the health of the people who crowded in the major cities during the industrial revolution gave rise to housing regulations which evolved into health regulations,



and eventually became the town and country planning laws' (Egunjobi, 1995a).

Taking cue from the practices in ancient cities that had been successfully copied in the United Kingdom, as already cited above, modern town planning in developing nations owe much to the colonial governments' drive to solve one environmental health problem or the other. For instance, in Nigeria, modern town planning activities were triggered by the Bubonic Plague which hit Lagos in 1924. Besides the immediate measures taken, the epidemic brought into being the Lagos Executive Development Board, which pioneered the development of new housing estates after demolishing some of the worst slums (MacArthur and Bonnefoy, 1999).

Despite the initial primary focus of town planning activities being to address problems related to environmental health, physical planning activities are still in the rudimentary stage, while urban environmental living conditions have stagnated or at best minimally improved in the country (Egunjobi, 1995a). Over the years, town planning activities have shifted gradually from tackling environmental health **head-on**, as in the reported case of Lagos in Nigeria, and now reduced to approving building plans, preparing and/or adopting planning schemes for future growth of settlements, and controlling construction and use of building (tagged 'development control'). The focus of the governments' development efforts was mainly economic and sectoral in nature. As stated above, focus was mainly on increasing economic returns from investments, as 'development' was seen primarily in terms of increasing the nations' gross national product (GDP). Growth pole theory, the prevailing regional development strategy of late 1950s and early 1960s, was adopted, focusing on agglomerating industries and other economic activities in few urban areas from where, it was believed, benefits would 'trickle-down' to the hinterlands. To



enhance economic growth, emphasis was on encouraging massive rural-urban migration to provide cheaper labour pool required in the industrial sectors in the cities. The attendant mass emigration from rural areas into the few urban areas like Lagos, Ibadan, Port-Harcourt, Kano and Kaduna in Nigeria, led to the myriads of environmental health problems, some of which have already discussed in this chapter.

The initial response to the emergent environmental health problems in both urban and rural areas was to adopt curative approach to health care problems. Dispensaries, clinics and hospitals of different cadres were, thus, built in some of the cities and villages throughout the nations. In most cases, senior and intermediate health care personnel like doctors, nurses and midwives prefer being posted to state capitals and bigger towns at the expense of the vast rural areas, which often end up not being adequately accessible to health care facilities and personnel. Despite huge financial investments and assistance in form of capital and personnel from foreign countries, it was realized that the approach to providing health care services was not the most effective, since it is capital intensive in terms of construction of buildings and other structures required, and in terms of training of the required personnel. The inadequacy of this approach became very glaring when it was realized that most of the reported cases of ill health are socio-economic and/or environment related. By the 1970s, the realization was rife that substantial improvements in health would not be achieved without the improvement of social and economic conditions, thus, emphasizing environmental health approach to health care became very urgent.

Instead of the former practice of focusing only on the 'health' or 'ill-health' status of the people, the new 'environmental health approach' to health care focuses more on 'those aspects of public health concerned with the factors, circumstances, and conditions in the human surroundings that



exert an influence on health and well-being. Environmental health practices, therefore, address emerging risks arising from the pressures that human development places on the environment.

Environmental health factors that are usually of prime importance include: eliminating environmental pollution ( in the solid, liquid and gaseous forms), improving access to 'goodies' of life (like gainful employment), hygienic portable water supply, environmental sanitation, and eradicating poverty among the citizenry.

Tackling environmental health factors require more than making statutory allocation for the required amenities, facilities and services to improve the quality of life of the people. It demands adopting a comprehensive approach that involves evolving policies on poverty alleviation, employment and distribution of welfare packages throughout all parts of the countries, especially for the rural dwellers and the deprived urban poor that constitute significant majority of the population, and are yet to be empowered enough to contribute their maximum inputs to national development.

At this point in time, professional expertise of town planners, rural sociologists, educationists, regional geographers, social workers and allied professionals should be brought in to improve the quality of life in rural areas and stem the rural-urban exodus. This can be achieved by dividing the nation into development regions, and preparing a comprehensive regional development plan for each region. Public participation should be encouraged and enhanced right from the plan conceptualization to the execution stages. The plans should include blueprints for the economic, social, cultural, and environmental development of the regions. The economic goal of each of the regions should be on maximizing benefits accruable from producing goods and services in which it has natural advantage more than others. Emphasis should be more on establishing cottage/small scale industries, and



providing all necessary incentives to enhance their sustenance. Industries that specialize in processing agricultural and natural resources should also be encouraged to locate in rural areas. Rural-urban, urban-urban and rural-rural road networks should be constructed and well maintained to enhance mobility of goods, services and people throughout the regions. These will help in stemming the tide of rural-urban drift and reducing the all-pervading poverty in both urban and rural areas. Town planners' professional skills should be employed in locating and allocating public services and facilities to ensure their even distribution and their equitable utilization. Since the main goal is improving the quality of life (health condition included) of the vast majority of people, town planning professionals are being recommended here as the coordinator of the planning process involving diverse activities and professionals required to achieve the stated goal of the planning process. Town planners are recommended to be the coordinators of the process, not only because of their unique professional skills in handling such tasks, but also because it has been shown empirically that despite the profession being relegated to the background in Nigeria's march towards development, a close relationship exists between the level of urban sanitary and health conditions on the one hand, and the extent of urban planning activities on the other. The more intensive the planning activities, [in areas of a city], the higher the level of environmental sanitation status [of those areas] (Egunjobi, 1995a). In consonance with our reasoning, Commonwealth Planners<sup>45</sup> have been urged to pay attention to urban poverty, environmental health and the housing needs of their communities in their planning exercises.

Various media, including formal, non-formal and informal education classes and the mass media (in form of radio and television jingles, drama presentations and the like) should be employed to propagate mass knowledge of environmental education throughout the country. Information



to be disseminated here should include environmental sanitation, disease vectors, and influences of environmental health factors on health status of individuals and the community, and the like. The approach to teaching and enforcing environmental and sanitation laws should also be improved upon. For instance, the importance of the provisions of the building codes should be explained to the people in the various education media, to enable them to be convinced of the codes being made for them and the environment's general good.

Generally, a major constraint to health care delivery in developing nations, like Nigeria, today, is inadequate accessibility to health care services, such as personnel and drugs. This is more rampant in the rural areas and urban slums. Considering the fact that these locations serve as the abode for majority of the citizens of any of these nations, concerted efforts should be made to significantly improve health care provisions in these areas.

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