

during the week, in Booth's words: 'a good deal of bread is eaten and tea drunk especially by the women and children'.

Without detailed knowledge of distribution of food within the family or of work-loads in industry, the adequacy of the diet is difficult to assess. However, the concern exhibited in the late nineteenth century for social problems involving the standard of living requires some comment.

The improvement in wages, the reduction in hours of work in those industries in which labour was well-organized, and the fall in the price of foodstuffs from the 1880's, all point to an improvement in the standard of living. On the other hand, there is some evidence of greater intensity of work per hour being introduced (Merttens, 1893-4), and of the health of urban populations being still unsatisfactory, despite marked changes in public health administration. It must be remembered that infant mortality rates were still as high in 1900 as they were when civil registration began in 1837, while tuberculosis, rickets, dental caries and anaemia were all endemic diseases in urban areas of Britain at the outbreak of war in 1914.

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The growth and nature of urban areas in developing countries

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In thinking how to make a start on these global terms of reference I recalled some observations of Pierre Bertaux (1968) at Washington in 1967: 'whom and what do we mean by man? . . . normally the "Western white civilised male adult"—who is, in fact,

only a very small percentage of the human race, even if we consider, perhaps rightly, that this sort of human being outweighs in importance the rest of humanity. But if we take another index, for instance a statistical one, we would mean, and consider as typical for mankind, the largest race, age and sex group. That is young Chinese females'.

As Western male adults are not directly concerned in this paper, and as young Chinese females in or out of their habitat are beyond my experience, my observations must be set against the much narrower world background of which I have some first-hand experience, namely East Africa, together with more distant recollections of North and South Africa and India.

Rate of urban growth

It is common knowledge that the rapidity of increase in world population in recent years has brought acute problems to urban settlements in both developed and developing countries. In the NATO (1969) letter for September: 'it is estimated that only a few centuries ago, in 1600, the numbers of men were no more than half a billion and much of the world was uninhabited or little affected by man's activities. In these few centuries the numbers of mankind have increased sevenfold and all areas on the earth's surface have been to some degree modified by man—forty per cent of the world's population now live in urban areas. In somewhat more than half a century, if present trends continue, urbanisation will have reached its maximum and the great majority of people will live in towns and cities. According to national estimates, in 1920, the urban population was 100 million in the developing countries. By the year 2000 it may well have increased twentyfold'. Koenigsburger (1967) produced no less alarming figures indicating that over the past 100 years mankind has increased at a compound rate of 0.8% and that urban populations have grown, and are growing, two to five times as fast. As an example, Kenya's population has doubled over the past 20 years and that of its capital city, Nairobi, has trebled over

Table 1. *Recent increases in population of some cities in developing countries*

	Date	City proper	Urban agglomeration
Africa			
Uganda			
Kampala	1959 (C)	46 735	123 332
(no earlier figures available)			
Tanzania			
Dar es Salaam	1967 (C)	272 515*	
	1957	128 742	
	1948	69 227	
Rhodesia			
Salisbury			
	1966	172 000	330 000
	1958 (E)	—	250 000
	1956	105 550	225 700
	1946	54 090	69 100
Bulawayo			
	1966	200 000	240 000
	1958 (E)	—	185 000
	1956	94 650	170 000
	1946	47 217	52 737

	Date	City proper	Urban agglomeration
Nigeria			
Lagos	1963 (C)	665 246	
	1958 (E)	346 000	
	1952	271 800	
Ghana			
Accra	1966	521 900	600 200
	1960	337 828	388 396
	1948	135 926	224 771
Ethiopia			
Addis Ababa	1965	560 000	
	1957 (E)	500 000	
	1952	401 915	
India			
Calcutta	1967	3 072 196	4 764 979
	1960 (E)	3 040 000	5 909 000
	1951	2 548 677	4 578 071
	1941	2 108 891	3 534 474
Bombay	1967	4 902 651	
	1960 (E)	4 941 000	
	1951	2 839 270	
	1941	1 695 168	
Madras	1967	1 927 431	
	1960 (E)	2 208 000	
	1951	1 416 056	
	1941	777 481	
Delhi	1967	2 511 482	2 874 454
	1960 (E)	1 672 000	2 409 000
	1951	914 790	1 384 211
	1941	521 849	659 857
South America			
Ecuador			
Guayaquil	1965	651 542	
	1960 (E)	450 000	
	1950	258 966	
Quito	1965	401 811	
	1960 (E)	314 000	
	1950	209 932	
Argentina			
Buenos Aires	1960 (C)	2 966 816*	7 000 000
	1958 (E)	3 767 887*	—
	1947	2 981 043	4 603 035
Chile			
Santiago	1966	—	2 313 720
	1958 (E)	820 037	1 661 621
	1952	664 575	1 350 409
Brazil			
Rio de Janeiro	1966	3 909 000	
	1958 (E)	3 030 619	
	1950	2 303 063	
Venezuela			
Caracas	1966	—	1 764 274
	1958 (E)	1 067 000	1 265 000
	1950	495 064	693 896

(E), Estimate; (C) Census.

*Provisional.

Figures kindly supplied by the Director of the Population Bureau, Ministry of Overseas Development, from UN Demographic Yearbook table on Population of Capital City and Cities of 100 000 and more inhabitants; years 1967 (for latest figures available) and 1960 (for earlier years).

the same period. Further instances of population increase in some major cities in developing countries are given in Table 1.

'Western white civilised' man found it difficult enough to cope with his own problems of rapid urbanization in the 19th century. The Industrial Revolution brought a fourfold increase overall in the population of England and Wales between 1801 and 1901; but the increase in the populations of Birmingham, Manchester, Liverpool and other large cities was considerably more than fourfold over only half that period, and more than eightfold over the century (Derry, 1965). Energetic though our Victorian forebears were in facing up to realities and emergencies, they failed to accommodate additional urban population at even minimal conditions of hygiene, comfort or human dignity; and their failure still looms large with us in terms of slums and back-to-back housing, confusion of land uses, grim environment, lack of urban open spaces and general urban squalor. The phenomenon of rapid urban increase is still present in 'western' countries; for example, migrations to Milan and other north Italian cities of peasants from southern Italy, or the average weekly addition of 6000 to the population of Los Angeles. How much more difficult it was, and is, for developing countries to deal with the same problem when it arrived at their urban thresholds only during the last 25 years or so.

Causes of urbanization

The causes of urbanization, the forces that drive people from rural districts and draw them to cities, need little elaboration. Former colonial powers, in imposing peace, order and public health, reducing disease and tribal warfare, and improving quality and regularity of food supplies, enabled populations to increase. This in turn produced overcrowding, land hunger and lack of employment. Other factors attracting rural people to larger communities included lack of security against natural hazards of famine, flood and drought or man-caused hazards of tribal strife and rebellion. In comparison with crowded rural districts, cities held promise of cash wages, education for children, medical care, wider community life including a fair measure of emancipation from tribal restrictions and dictation from elders, and the hope of advancement in various fields of employment. Not all migrants want to remain in towns for long periods: it is not uncommon for Africans in Kenya and elsewhere to leave their families in the rural community, go alone to town to earn as much in as short a time as possible, and then return to a rural life of comparative ease until funds run out again.

Land settlement

Urbanization is not the only remedy for overcrowding in the countryside. Rural population density is naturally highest in those districts where the soil is most productive and the climate most pleasant. As population increases, the parcels of land held in tribal ownership or on customary tenure became so fragmented that family plots could barely sustain the tribal families who derived most of their livelihood from them. In some parts of Kenya's Central Province, overcrowding became

so acute that the gross acreage of a family small-holding was reduced to as little as 3 acres on average. As heads of families could no longer permit relatives other than immediate family to share the small-holding, brothers and cousins became landless. Over the past dozen years Kenya Government instituted land-settlement schemes, not only to provide for some of the landless but also as a security measure against civil strife.

The land used for the purpose included areas most urgently in need of consolidation, soil conservation and contour terracing, or large ranch-type farms formerly in European occupation. Each family can take a grant of a plot varying in size from 6 to 12 acres, according to local soil fertility, and can live in close-grouped villages as independent small farmers operating at not much more than subsistence level but enjoying the great benefit of security of tenure. The success of land-settlement schemes is evident from figures published in a recent report (Kenya Town Planning Department, 1967): of every 100 persons who out-migrated from overpopulated districts in Central Province before 1962, sixty were absorbed by other farming areas, thirty-two went to the capital (Nairobi) to seek employment, and eight were absorbed in the smaller urban areas.

Urban planning problems

In spite of schemes of this kind, however, the growth of towns is inexorable. Nairobi's population, for example, in 1948 was 118 900 (64 300 African), in 1962 266 000 (156 250 African) and in 1968 350 000 (probably 250 000 African). Smaller towns in the Central Province show increases of between 8% and 12% over a similar period. The town is not the traditional form of settlement in East Africa; apart from some coastal trading points founded centuries ago by Arabs, most towns today are of European origin and seldom more than 70 years old. They comprise a central business and civic centre and well-defined residential areas for Europeans, Asians and Africans. African housing areas usually consist of sections built by large employers of labour, others built for employees of various government departments, others again for city council employees, and some areas for private tenant-purchase schemes. Most of these houses comply with standards of public health in force for the municipality, and have individual water supply and are connected to a waterborne sewerage system with individual w.c.'s.

Some areas, possibly within city boundaries but often just outside and therefore not subject to city building regulations, are shanty towns built in temporary materials with communal w.c.'s and standpipe; they are allowed to exist because few city authorities could rehouse the occupants if the shelters were demolished. As Dr Audrey Richards commented 'The unplanned housing is obviously frustrating to the European town-planner, the administrator, the doctor and the policeman: the planned is often frustrating to the African himself, and especially perhaps to two classes of Africans, the highly educated at one end of the scale, who want more room to build and better housing than the existing schemes may allow them, and the men new to town life who are unused to the type of housing provided there and who are anxious to live according to their traditional habits' (Richards, 1958).

House-building in permanent materials entails high capital investment and slow output, whilst building in temporary materials means lower capital cost and speedier output but more expense in maintenance. Economic use of land on the outskirts of cities calls for development at high densities, not only because good building land is seldom plentiful but also because spread and sprawl of development results in longer and more costly journeys to work in or near the central area. High-density development, in turn, calls for efficient public utility services because high concentration of people constitutes a public health risk; water supply, sewerage and sewage disposal must therefore keep pace with the demand, as also must refuse disposal, power, lighting and other services. Additional housing accommodation gives rise to new needs in schools, hospitals, clinics and other facilities; but capital investment in physical and social services must take its turn with other calls such as industry, roads, ports, agriculture and so on. Municipalities in developing countries learned long ago that providing housing for newcomers is like feeding pigeons in Trafalgar Square: increased supply evokes increased demand; so that uninvited migrants are left, at first, to fend for themselves.

The human problem

The physical and economic exercises of producing shelter and jobs for newcomers are comparatively straightforward aspects of the urbanization process. What of the human, social, exercise of enabling them to live as an urban community? Immigrants from a rural district get a bleak welcome to a large town. They mostly arrive without money, skills or experience and often without family. In the early stages they can make virtually no economic contribution to the community they seek to join; and they come in such large numbers as to swamp the municipality's ability to provide even the basic needs. And they can make little social contribution either.

To consider the various African tribes in even a comparatively small country like Kenya as a potential homogeneous urban community is about as realistic as expecting Greeks and Poles, Portuguese and Finns, Irishmen and Turks to settle down easily as good neighbours on an estate of semi-detached houses in East Cheam. Kenyan Africans comprise at least eight major tribes and many more minor ones, all with different customs and traditions and possibly widely differing languages. In territory the size of an English county it is possible to find several groups as different in outlook as nationals of the various European countries, bound by complex tribal relationships, accepting communal allocation of duties, adhering to systems of education which instil principles of courtesy and hospitality, and sharing forms of pagan worship.

The change from a primitive rural society to an amorphous urban society representing a melting pot of dozens of different tribes is often violent and confusing. Families with quite different customs, beliefs and tongues find themselves as close neighbours in long lines of huts or houses. Single men of different tribes often have no alternative but to rent bed-spaces as lodgers in the same house, even in the same room, in accommodation owned by former prostitutes, and to pay rents that reflect as much of the milk of human kindness as did those in 'Rachman' territory a few

years ago. Although in recent years more and more Africans have been able to move up the social scale and occupy houses and positions formerly held by Europeans, the social plight of the lowest ranks remains acute.

Community planning

What does community planning entail in practice? It is a continuous quest for better physical and social environment; and it means asking many questions, making many innovations and facing many disappointments. Among matters to be explored are these:

Should sections of housing estates be reserved for members of a particular tribe, so as to keep the peace and enable an easier transition from countryside to town; or should no such concessions be made, in the hopes of minimizing, rather than accentuating, tribal differences and encouraging newcomers to sink their differences more speedily and accept each other as a community?

Should housing estates be set out in the long, straight lines that facilitate the 'herring-bone' layout for drains and sewers and keep installation costs of all public utility services to the minimum; or should greater engineering costs be accepted as the price for more humane housing layout forms?

Must public-health standards for housing—permanent materials, stone walls, concrete floors, tiled or corrugated-iron roof, cross-ventilation—always be observed; or could compromise be tried with clusters of huts in rondavel form, built of temporary materials, thatched roofs etc, but served by permanent sewerage and other public utilities?

How far can modern prefabrication techniques be applied or combined with the use of low-cost indigenous materials?

Should housing for lowest-grade workers be accepted as a government or municipal responsibility, or should wage-earners be encouraged to build or buy their own houses on mortgage with permission to sublet to lodgers to help keep up with loan repayments?

Are separate schools at primary and secondary levels desirable on racial, language or religious grounds? What social provision is needed for urban communities—social halls, playing fields, open spaces, churches? And what kinds of market or shopping group?

The questions are endless; the answers are never final; the opportunities for contributing to the future of man are never more plentiful than in developing countries. Town planners and others working in the field of urban community development do well to remind themselves of the effects that environments created today can have on succeeding generations. Man is a product of his environment: 'change the environment and man will change with it'.

Lessons from Europe

Finally it is well to recall that, although large cities were being consciously planned 6000 years ago in the great river-valley civilizations, comprehensive town and

country planning at national, regional and local levels only recently gained recognition as a necessary duty of central and local government. The first really comprehensive Town and Country Planning Act reached the Statute Book only in 1947.

Great tasks face us in Britain in reshaping large towns, modernizing urban roads and transport systems, redeveloping civic and business central areas and renewing obsolescent housing; and, in the countryside, conservation and renewal of beauty, and efficient use of land for agriculture, forestry and recreation. Much has been done in devising and developing new techniques and methods in planning, and outstanding success has been achieved in many ways, for example in the creation of twenty-four New Towns which are giving, or will soon give, an environment for living such as has never been enjoyed at any other time by ordinary folk. These techniques and standards are capable of adaptation for use in developing countries, and an increasing number of their nationals are attending courses in planning at British universities. This is as it should be; because planning for people is best done by those who understand them best.

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The social, economic and marketing aspects of diffusing low-cost protein-enriched foods in urban Africa and the Third World

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Economic development, mass migration and rapid urban growth are three major aspects of change in Africa today (Clairmonte, 1969). The same applies to the Third World, the majority of nations and peoples of Africa, Asia and Latin America who are the poor two-thirds of the world, and in large part the clients of the major Western powers. Over the next decade there will be many important advances, but millions of new urban households will spend their lives in makeshift shanty towns prey to all the diseases of poverty and malnutrition (Abrams, 1966). These sombre forecasts set the context within which a vital question must be answered: how can we diffuse low-cost nutritious foods among low-income and no-income urban households?

Finding solutions to this question will not be an easy task. It is my contention, however, that from a marketing point of view the solutions lie neither in advanced food technology alone, nor in accumulated nutritional and sociological knowledge.