



NFI BULLETIN

Bulletin of the Nutrition Foundation of India

April 1992

Volume 13 Number 2

The Urban Challenge -- Health/Nutrition Implications

C. Gopalan

The total urban population of the world had almost tripled between 1950 and 1990, and the urban population of developing countries had quadrupled, growing from 286 million to 1.14 billion¹ during the same period. The data in Table 1 will provide some indication of the formidable urban challenge which confronts Asian countries. At least three cities of India -- Calcutta, (16.6 million), Bombay (16.0 million) and Delhi (13.3 million) -- will have populations exceeding 10 million by the year 2000 AD². Calcutta and Bombay will rank as the fourth and fifth largest cities of the world. Apart from these mega cities, medium-sized cities are also growing. It is estimated that nearly 300 million of India's 900 million population will be living in urban areas by the year 2000 AD; and of these nearly 100 million will be slum dwellers.

Such rapid urbanisation would imply that within the next two to three decades,

there will be a need for a two- to three-fold increase in basic infrastructure, housing and living facilities in major urban centres. The demands for clean water, sanitation and sewage disposal, schools, health centres and transport will multiply enormously.

It seems doubtful that we will be able to mobilise the economic resources that will be needed to bring about the augmentation of urban infrastructural facilities of the required order.

Many cities in the country are already subject to several hardships, such as overcrowded transport systems; ill-used public latrines; inadequate water supply; insanitation and lack of adequate facilities for sewage disposal; seepage of sewage into drinking water systems leading to outbreaks of hepatitis, dysentery and diarrhoea; and overcrowded and under-equipped health centres. These 'disabilities' could get considerably aggravated in the

coming decades. Problems arising from air pollution, noise pollution and solid-waste pollution would increase. Industrial pollution could also exact an increasing toll. The discharge of effluents from industrial establishments in outlying areas of cities are already polluting water sources such as rivers, ponds and canals on which slum populations have to depend, and this could get worse in the next few decades. The emerging scenario would thus indicate that the problems of ill-health and undernutrition in urban slums of the country could become really formidable in the years ahead.

Our health system had so far (rightly) accorded higher priority (at least on paper) to rural health services for the reason that rural populations far outnumber the urban, and generally have poorer access to health facilities. The urban sector may, however, now need increasing attention and higher allocation of health-budgetary resources. Urban slums, because of overcrowding and high 'insanitation-concentration', could act as reservoirs and fountainheads of

Table 1
Estimated urban population in Asia 1950 - 2000
(in millions)

	1950	2000
Urban population as percentage of total population (Asia)	16.4	35.0
Urban population as percentage of total population (China)	11.0	25.1
Urban population as percentage of total population (India)	17.3	34.2
Total urban population in Asia (in millions)	225.8	1242.4

Source: United Nations, *Estimates and Projection of Urban, Rural and City Populations, 1950-2025: The 1982 Assessment*

CONTENTS

- The Urban Challenge -- Health /Nutrition Implications -- C. Gopalan 1
- Maternal And Child Health In Slums Of Delhi : A Summary Report -- R.K. Puri And H.P.S. Sachadev 4
- The Slums Of Ludhiana City (Panjab): A Case Study -- A. Zachariah And Prema Zachariah 5
- NFI National Workshop On Combating Vitamin A Deficiency Through Dietary Improvement --Subadhra Seshadri 7

infectious outbreaks which will not necessarily be confined to urban slum populations alone. The concentration of microbial contamination in urban slums could frequently exceed the critical levels needed for epidemic outbreaks.

The changing occupation pattern of 'working' women in urban slums could increasingly erode breast-feeding, and modify child-rearing practices. Studies by the Nutrition Foundation of India in three major cities of India -- Bombay, Calcutta and Madras -- nearly 10 years ago³ had revealed that breast-feeding practices in urban slums were in fact being seriously eroded -- more so in some cities than in others; and commercial baby foods were being used increasingly (and unfortunately very improperly and unhygienically) for infant feeding. Comparative studies of rural and urban areas in earlier years had shown that in many cases, urban children were nutritionally better off than their rural counterparts. Apparently higher levels of income and better access to health facilities had had their beneficial effects. But with increasing overcrowding and insanitation in urban slums, this picture could change in the years ahead.

WATER SUPPLY AND SANITATION-- THE PRESENT PICTURE

The present situation with respect to water supply, sewage disposal and sanitation in major metropolitan cities of the country is indeed far from satisfactory. Almost a third, or more, of the urban populations of some major cities are living in slums under extremely unhygienic conditions of overcrowding and insanitation.

Bombay used to boast of a fairly efficient system of municipal water supply till 1960; but during the last three decades the water supply and sewage disposal systems have come under tremendous strain because of a 3 to 4 percent annual growth rate of the main city and 8 per cent annual growth of the suburbs which have now been incorporated into Greater Bombay⁴. In the suburbs of Bombay (Thane and Kalyan), water supply is now limited to 25 litres per head; and areas outside the main city have no sewerage system.

The city of Calcutta, with Howrah, rests on low-lying land often inundated during annual monsoons. Over the years, the volume of water flowing into the Hooghly river, on the banks of which Calcutta rests, has been steadily decreasing

because of the eastward shift of the main stream of the Ganga (of which the Hooghly is an offshoot). As a result, there has been a progressive silting of the drainage system on the one hand, and increasing salination of the water of Hooghly, the principal source of potable water. The Farakka barrage on the Ganga, near the Hooghly offtake point, is expected somewhat to counter these threats to the city's drainage and water supply. It is estimated that some 3 million of the city's poor population are currently living in unserviced *bustees* (slum areas) and refugee settlements with little access to potable water, subject to annual flooding and with a lack of adequate means of disposal of human waste. During the last 10 years, remarkable improvements in basic services have no doubt been achieved with huge investments by the Metropolitan Authority. Treated water supply has tripled -- from 450 million litres/day 10 years ago to 1,350 million litres today⁴, and new sewage treatment plants and sewer networks have contributed to better sanitation; despite this, serious disparities between the core city and the suburbs persist.

Delhi faced a major cholera epidemic in urban colonies set up to rehabilitate squatters, largely because the water supply from shallow tube wells had been contaminated by sewage and garbage. Periodic epidemic outbreaks of hepatitis due to the seepage of sewage water into the water supply system have occurred during the last three decades. It has been estimated that nearly a third of Delhi's population in 1990, living in "outer" Delhi did not have the benefit of sewerage or piped water supply. About 1,250 million litres of untreated sewage are being discharged into the Yamuna river annually. It is estimated that the requirement by 2000 will be an additional 1.62 million housing units and, an additional 3,750 million litres of water daily².

NUTRITIONAL IMPLICATIONS

The ongoing process of rapid urbanisation is bound to exert several deleterious health/nutrition repercussions. Some of these are being considered below.

● **Impairment of infant nutrition:** Unlike in the rural setting, women in urban slums will have to seek employment opportunities outside their homes, in factories, shops or as unskilled labourers

and domestic servants. Indeed, a good proportion of women may come under the category of 'casual labourers' or 'domestic servants' and will therefore not be protected by labour laws regarding maternity or sick leave, hours of work, etc. It is inevitable, under the circumstances, that a majority of poor infants in urban locations (unlike the case among the rural poor) will at best be receiving no more than two breast-feeds and that only at nights; supplements will need to be introduced in early infancy.

A study by the Nutrition Foundation of India had revealed evidence of the increasing use of commercial baby foods in early infancy in urban slums of Calcutta, Bombay and Madras⁵. These foods are likely to be fed in inadequate amounts, and in unhygienic ways. This could impact the state of infant nutrition. This problem will gather increasing dimensions in the years ahead. There will be a clear need for well-staffed and well-equipped child care centres in urban slums which can provide adequate health/nutrition support to children of 'working' mothers. The ICDS operation may have to bestow at least as much attention on urban slums as on rural areas in the future; and it will be necessary to set up 'anganwadis' to provide services for women and children. Mobile creches will need to be set up in increasing numbers in order that infants and children of poor working women, engaged in labour at construction sites or factories, can breast-feed their children.

● **Risk of infections:** The poor state of environmental sanitation and the overcrowding and poor housing conditions in urban slums could greatly increase the risks of infections -- alimentary and respiratory. The frequency of infectious episodes in infancy and childhood, a major contributory factor to undernutrition, could increase. This could further undermine the nutritional status of infants and children and would call for more prompt and intensive health care.

The data of the Registrar-General suggest that child mortality in urban areas is significantly lower than in the rural areas. But the poorest unauthorised slums are not generally included in the official surveys. Recent studies in the urban slums of India's capital city, conducted by paediatricians of the Maulana Azad Medical College^{6,7}, show that the actual level of under-five child mortality within the slum was considerably higher than the average 'urban child mortality' as projected by

National Sample Survey data which do not capture poor urban households (which often fall in the category of 'unauthorised constructions'). Studies in urban slums of Ludhiana (reported elsewhere in this issue) reveal that the flattering figures for 'immunisation coverage' which are being frequently claimed, are not borne out by actual observations. If this should be the case in the slums of Ludhiana (a relatively prosperous city in a 'progressive' state with a fairly efficient health service), the situation in the more backward cities can be imagined. The Ludhiana studies also show that despite geographical proximity to health centres, significant proportions of child populations of urban slums are never reached by the health system.

● **Increasing consumption of unwholesome 'ready-to-eat' foods:** The consumption of 'ready-to-eat', 'convenience' foods may be expected to increase among the slum dwellers, with both the man and the woman of the household having to observe rigorous working hours. At the price in which such foods will be sold to the relatively poor, there is the danger that they may be of poor quality from the nutritional and hygienic points of view. Fortunately, many of the ready-to-eat 'street foods' currently available in urban areas are based on traditional food practices and are generally fresh and wholesome; but this may not be the case if 'inexpensive' imitations of fashionable non-traditional 'fast foods' take their place. Salmonellosis and other types of food contamination in such cheap fast foods could pose problems. Such 'convenience' foods could also enter into the dietaries of children, with obvious deleterious results. Unfortunately present arrangements for ensuring food hygiene and wholesomeness of foods in public catering establishments and in retail shops selling food ingredients for the poor are woefully inadequate.

● **Aggravation of nutrition problems of the rural aged:** An indirect fall-out of the migration of rural youth to urban areas in search of employment could be that increasing numbers of the elderly in rural areas will be deprived of the support of the younger members of their families. Since the sex-ratio favours women after the age of 60 years, a majority of such elderly people 'left behind' in rural areas, who may have to fend for themselves, will be women. Remittances

from their 'children' in urban areas generally dry up after the first few years, when the migrants themselves find it difficult to make both ends meet. Nutritional problems of destitute old women in rural homes may need increasing attention. Studies already indicate that the great majority of single-member households in the country are currently headed by women.

● **Impact of newly emerging health problems:** The sex-ratio in the young reproductive age group in urban slums is heavily tilted in favour of males for the reason that generally young male adults who migrate to the cities from rural homes are either unmarried, or if married, leave their young wives behind in their rural homes. The data from Ludhiana highlight this point. Sexually transmitted diseases already account for a much higher proportion of morbidity in urban slums as compared to rural areas. With the reported high prevalence of HIV sero-positivity among urban prostitutes, urban slums could become important foci for the spread of AIDS, unless special attention is directed to urban slums in the campaign against AIDS. It is hardly necessary to point out how the problems of AIDS could greatly compound the problems of undernutrition.

Any programme for the improvement of health/nutritional status or urban slum dwellers and for the improvement of their living environment can, however, only succeed if the community itself is actively involved and is prepared to play a positive constructive role. As in villages wherein it is now recognised that viable community organisations have to play a pivotal role in all developmental efforts, it will be necessary to promote the growth of motivated community organisations in urban slums as well. Unfortunately, however, a significant proportion of urban slum dwellings being 'unauthorised' and not officially recognised, even basic amenities are unavailable; and the question of organising such unauthorised dwellers into a meaningful community organisation will be difficult. Furthermore, quite a proportion of the population of the slums is a transient 'floating fringe' constituted by temporary immigrants who have no interest in programmes of social upliftment.

The spectacle of one half of the city living in wealth, comfort and luxury and the other half in dirt and squalor cannot hold for long. National interests (and not just the interests of slum dwellers alone) will demand imaginative and effective

action. The recent bizarre demonstration by several thousands of poor *jhuggi* dwellers (unauthorised slum dwellers) -- men, women and children in New Delhi -- demonstrating against the ban on their 'right to defecate in the open' is a pointer; their question 'where else should we go?' has presently no answer! It is, however, to be hoped that the political 'leaders' who organised this (rather perverse) demonstration by the poor will direct their energies in more constructive directions and organise their following to demand adequate facilities for environmental sanitation which will help them *not* to defecate in the open and pollute their own environment. The magnitude of the challenges which the expanding urban slums will pose in the years to come is obvious. The implications will not be restricted or confined to slum dwellers alone, but will involve a much larger section of the community. Unlike ill-health and undernutrition in the rural countryside which may be largely 'hidden' and 'silent', urban slum ill-health will force political attention and action.

Excerpts from the keynote address to the National Consultation Meeting on the Urban Child, sponsored by the Planning Commission, Ministry of Urban Development and UNICEF on April 6, 1992 at Delhi.

References

1. *Asia Region Population Projections, 1990-91* Edition. The World Bank working papers. WPS 599, 1991.
2. Buch, M.N. (1991). Integration of environmental considerations into city planning in intermediate cities. Proceedings of Conference on Urbanisation in Asia, Bogor, Indonesia.
3. Infant feeding practices with special reference to the use of commercial infant foods. *Nutrition Foundation of India Scientific Report 4*, 1984.
4. Sivaramakrishnan, K.C., Green, Leslie (1986). Metropolitan management: the Asian experience. Economic Development Institute, The World Bank. Oxford Univ. Press.
5. Maternal nutrition, lactation and infant growth in urban slums. *Nutrition Foundation of India Scientific Report 9*, 1988.
6. Secular trends and determinants of under-five mortality components in India, -- implications for child survival strategies. Report submitted to Ministry of Health and Family Welfare, Govt. of India, by the Department of Paediatrics, Maulana Azad Medical College, New Delhi, 1991.
7. Early childhood mortality and perinatal period management in urban poor. Report submitted to Ministry of Health and Family Welfare Govt. of India by the Department of Paediatrics, Maulana Azad Medical College, New Delhi, 1991.