

Aspects of urban poverty in Bombay

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SUMMARY: *The paper considers poverty and deprivation among two groups of low-income communities in Bombay: pavement dwellers and households living in a designated "slum" area. The author uses longitudinal data to examine relations between changes in income and changes in living conditions and concludes that poverty can be neither understood nor tackled through a simple focus on income but a more comprehensive approach including a consideration of housing and living conditions is required.*

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I. INTRODUCTION

BOMBAY IS INDIA'S industrial and commercial centre.⁽¹⁾ The population of the Bombay urban agglomeration was 12.5 million people at the 1991 Census of India, making Bombay the sixth most populous city in the world.⁽²⁾ Over one-half of these people live in slums or are homeless; they live in tenements and huts, on pavements, along railway tracks, under bridges and in other spaces available to them.⁽³⁾ The conditions of life under which the homeless and slum dwellers of Bombay live are conditions of terrible poverty, squalor and deprivation.

This paper deals with poverty and deprivation among the homeless and slum population of the city of Bombay. I shall argue that poverty and deprivation among Bombay's homeless and slum population are not captured adequately by measures of income poverty. Specifically, homeless and slum households are deprived of good housing, they do not have access to clean water, they do not have access to hygienic systems of waste disposal (including the sanitary disposal of faeces) and, in general, they live in polluted and degraded environments not suited to human habitation. In addition to housing deficiencies, living conditions of homeless people and slum dwellers are inadequate in respect of public goods, and it follows that the eradication of poverty in Bombay requires that such public goods be provided on a mass scale.⁽⁴⁾

The relation between income change and change in living conditions is illustrated by longitudinal case studies of 26 homeless households and 39 slum-dwelling households in Bombay. The homeless households in the group inhabit flimsy lean-tos on the pavements of roads in central Bombay. The slum households in the group inhabit low quality tenements in Dharavi, an area that is roughly on the border between central Bombay and

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1. Bombay accounts for about 10 per cent of factory employment and manufacturing value added in India, 61 per cent of jobs in the oil sector, 41 per cent of domestic air traffic, 25 per cent of income tax revenues and 60 per cent of customs revenues collected nationally. Per capita bank deposits in Bombay are about 16 times higher than the Indian average.

2. Greater Bombay had 9.9 million people at the 1991 Census of India.

3. In legislation, slums are defined as areas that are "environmentally and structurally deficient" (Government of India (1988), *Report of the National Commission on Urbanisation* Vol. 1.) The 1981 Census of India used the definition of slums as given in the Slum Area Act 1956, enacted by the central government. According to this Act, slums are defined as areas where buildings are unfit for human habitation for reasons such as dilapidation, overcrowding, faulty arrangement of streets, and a lack of ventilation, light or sanitary facilities.

4. Although not pure public goods, these goods are characterized by large externalities and economies of scale. Housing, too, has some characteristics of a public good (for a discussion in the Indian context, see Pugh, C. (1990), *Housing and Urbanisation: A Study of India*, Sage Publications, New Delhi, page 69).

5. This poverty line was proposed by Dandekar and Rath. See Dandekar, V.M. and N. Rath (1971), *Poverty in India*, Indian School of Political Economy, Pune.

its suburbs. These data are from the records of the Society for Promotion of Area Resource Centres (SPARC), a non-governmental organization that has worked with urban communities - in particular with the homeless in Bombay - since 1985. The case studies show that although poor households experienced some mobility in respect of incomes, the extent of mobility was limited, and not associated with significant improvements in their living conditions.

II. INCOME POVERTY, DEPRIVATION AND THE ENVIRONMENT

THERE ARE VERY few estimates of income poverty for the city of Bombay. Using data from the National Sample Survey (NSS) on consumer expenditure for 1983, and the income norm of Rs 22.50 per person per month at 1960-61 prices for urban India,⁽⁵⁾ 16 per cent of Bombay's population had an income below the poverty line.⁽⁶⁾ Similarly, data from the ILO mega-city survey indicate that, in 1980, 15.7 per cent of Bombay's population was below an income poverty line.⁽⁷⁾ The most recent estimate of income poverty in Bombay is from a survey of 8,047 households in the Bombay Metropolitan Region conducted by the Operations Research Group (ORG) in 1989. According to the ORG survey, 27 per cent of households in the Bombay Metropolitan Region had a household income that was less than Rs 1,290 per annum (at 1991 prices), the income level taken as the cut-off to identify poverty in 1989.⁽⁸⁾

Three estimates are available for income poverty among slum households in the city. First, using data from a census of slum households conducted in 1976, 40 per cent of slum dwellers were estimated to have incomes below the poverty line.⁽⁹⁾ Secondly, from a survey of 2,000 homeless and slum households conducted by the Tata Institute of Social Sciences in 1977-78, it was estimated that 30 per cent of slum households and 55 per cent of homeless households had incomes below the official poverty line.⁽¹⁰⁾ Thirdly, the ORG survey estimated that 45 per cent of slum households in Bombay had incomes below the poverty line in 1989. Data collected by SPARC and ORG indicate that income poverty was more acute among the homeless: 69 per cent of the homeless households living on the pavements of Dimtimkar Road had incomes below the official income poverty line in 1985. In ORG's survey of 1,492 pavement dwellers, 70 per cent reported a household income below the income poverty line.⁽¹¹⁾

While the incidence of income poverty, using official norms and data from the National Sample Survey, is lower in Bombay than in other urban areas of India, there is no doubt that in respect of incomes and consumer expenditures, on average, people who are homeless or live in huts or tenements are substantially worse off than the rest of the population. The data on incomes and expenditures also indicate substantial economic differentiation among slum dwellers and homeless persons. In a recent survey of a slum settlement in north-west Bombay, the

6. This figure is from Deshpande, S. and L. Deshpande (1991), "Problems of urbanisation and growth of large cities in developing countries: a case study of Bombay", International Labour Office, World Employment Programme Working Paper No. 177. They used the Consumer Price Index for Industrial Workers in Bombay to update the income norm. For the same year, 1983, the head count ratio was 23.3 per cent for urban Maharashtra, 41.5 per cent for rural Maharashtra and 37.4 per cent at the all-India level according to the Planning Commission. Source: EPW Research Foundation (1993), "Poverty levels in India: norms, estimates and trends", *Economic and Political Weekly*, August 21.

7. Oberai, A.S. (1993), *Population Growth, Employment and Poverty in Third-World Mega-Cities*, St. Martin's Press, London.

8. Operations Research Group (1990), *Multi-Purpose Household Survey of Bombay Metropolitan Region*, Baroda. It is not reported whether this cut-off point is based on any of the poverty lines used in the literature.

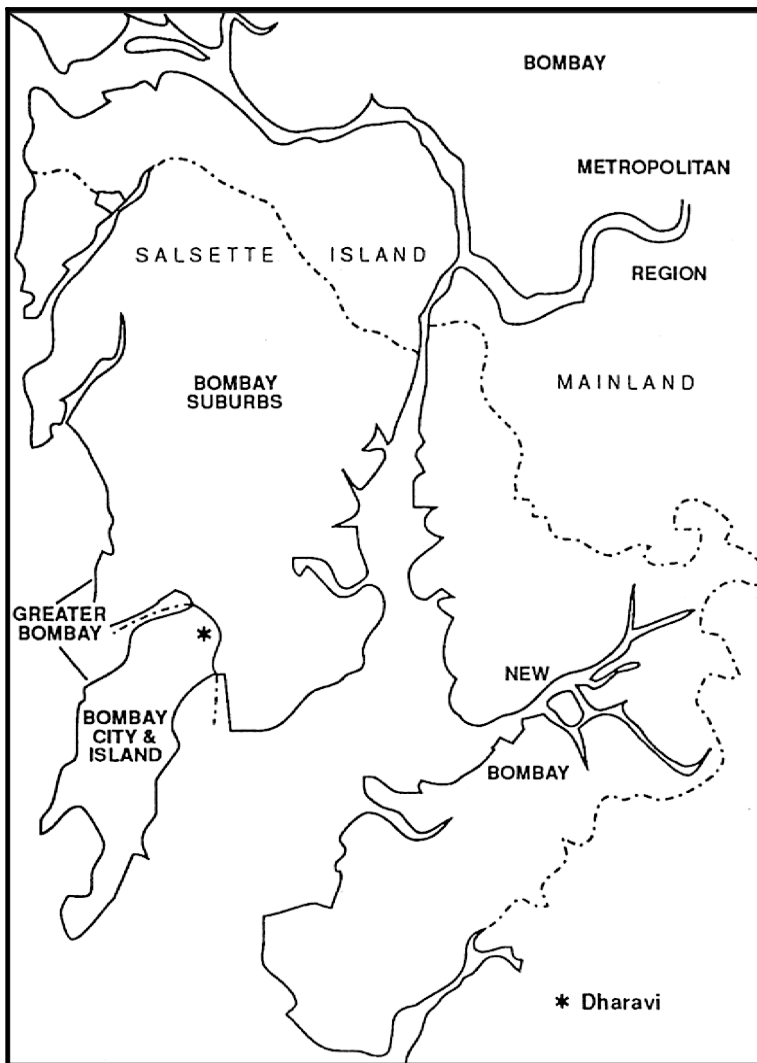
9. The corresponding figure for all households was 19 per cent. See Kundu, A. and D. Mahadevia (1992), "Macro dimensions of urban poverty: implications for planning" in Kadekodi, G.K. and G. V.S.N. Murty (editors), *Poverty in India: Data Base Issues*, Vikas, New Delhi.

10. Acharya, S. (1988), "Bombay's weaker sections: a survey of their level of living", *Indian Journal of Social Work* Vol. 49, No. 2, April. The poverty line was Rs 89 per capita per month at 1977-78 prices.

11. The income poverty line used was Rs 1,290 for 1989 at 1991 prices (ORG, 1990, see reference 8).

12. Persons with no income were

Map 1: Bombay City, Greater Bombay and New Bombay



estimated per capita monthly income ranged from nothing to Rs 3,000 in 1993.⁽¹²⁾

The main argument of this section is that standard measures of income poverty are inadequate measures of poverty and deprivation. First, the poverty lines used in India are unsatisfactory measures even of income poverty. The income norm used by the Planning Commission, for example, is an estimate of the income or expenditure level at which the expenditure on food consumption meets a specified minimum requirement. There has been no discussion of whether the corresponding expenditure on non-food items is adequate or of what constitutes a minimum non-food requirement. There are, for example, no norms in respect of minimum expenditure on housing or clothing. Further, early official documents that discussed poverty lines specifically ruled out a discussion of expenditures on education and health on the grounds that these were to be provided by the

those who had not obtained any work during the month prior to the survey. See Geetha, S. and Madhura Swaminathan (1994), "Socio-economic survey of a slum in Bombay: a first report", *Indira Gandhi Institute of Development Research, Bombay, Project Report Series No. 3, January.*

13. Even in official documents, this norm has been described as "too meagre to sustain a level of living which could be considered tolerable in the modern context", *Planning Commission, Perspective Planning Division (1974), "Perspective of development, 1961-76: implications of planning for a minimum level of living", page 12, in Srinivasan, T.N. and P. Bardhan (editors), Poverty and Income Distribution in India, Statistical Publishing Society, Calcutta.*

14. See Swaminathan, M.S. (1991), *From Stockholm to Rio de Janeiro: The Road to Sustainable Agriculture*, M.S. Swaminathan Research Foundation Monograph No. 4, Madras, page 61.

15. Although there may be non-slum residents in zones with high levels of industrial pollution, they are able to protect themselves better from the harmful effects of pollution than residents of huts or tenements.

16. Hardoy and Satterthwaite note: "In most Third World cities, the largest and most pressing environmental issue is to improve the housing and living environment of the poor majority of citizens by reducing or eliminating the most serious health hazards present within their homes, workplaces and neighbourhoods" in Hardoy, J.E. and D. Satterthwaite (1989), *Squatter Citizen: Life in the Urban Third World*, Earthscan Publications, London, page 162. See also reference 14.

17. Geetha, S. and Madhura Swaminathan (1994), "A socio-economic profile of a slum in

state. Essential expenditures are thus excluded from the poverty lines generally used in India. In short, the official poverty lines represent conditions of abject poverty or destitution.⁽¹³⁾

Secondly, if economic development involves enhancing the opportunities of individuals to develop their full potential as human beings, it is clear that the goals of development are unrealizable when the "...environment in which human beings live is polluted, degraded and destroyed".⁽¹⁴⁾ People living in slums and the homeless are often the worst victims of industrial pollution in the cities.⁽¹⁵⁾ They are the worst affected by the insufficiency and poor quality of water, by inadequacies of drainage, sanitation and household waste removal facilities and, in general, by unhealthy living and working environments.⁽¹⁶⁾ In the following paragraphs, I illustrate some of the living conditions of the homeless and slum population of Bombay and of the effects of degraded environments on their well-being.

On Dimtimkar Road, a pavement dwelling is typically a small space enclosed on two sides by gunny sacks or old saris and covered on top by sack-cloth, old sheets of plastic or, occasionally, tarpaulin and held up by a few wooden rods. The walls of the buildings adjoining the pavement provide a third wall to the pavement dwelling. The space available, around four by five feet, is just enough to seat the four or five members of the household. The front of the dwelling, or a part of it, is open, unprotected and faces the gutter. Shelter in slum settlements is more varied and ranges from mud and thatch structures to cement and brick rooms, typically with roofs of asbestos.

Dwellings made of flimsy material do not protect against extremes of cold or heat; they are open to dust, rain, insects and rodents. Living quarters in slum environments are, inevitably, cramped, overcrowded, unventilated and often constructed with materials that can be harmful to human health.

In Bombay, slum dwellers and the homeless account for over 50 per cent of the city's population but they occupy only 6 per cent of the city's land area. In a survey of Santosh Nagar, a slum in north-west Bombay, in 69 per cent of households, the area available per person was less than 50 square feet.⁽¹⁷⁾ In the same survey, 88 per cent of dwellings had ceilings made of asbestos, a material that is known to be toxic. A large number of micro-organisms and disease vectors are present in the living environments of homes in overcrowded settlements, and indoor air pollution and dampness precipitate respiratory infections.⁽¹⁸⁾ In Bombay, during the monsoon months, for persons with nothing but a plastic sheet over their heads there is always dampness and this is a major contributor to illness.⁽¹⁹⁾

Slums are located typically in areas that are not meant for human habitation, for instance, in low-lying areas, on hillsides, on marshy land, near garbage dumps and under high-tension wires.⁽²⁰⁾ Slums in low-lying areas collect stagnant water; slums on slopes are seriously affected by landslides in the monsoon. Mankhurd is a low-lying area in the north-east of Bombay where land has been allocated by the municipal government for resettling homeless households. The area is flooded in the high tide and, when the tide recedes, it leaves behind all kinds of toxic

Bombay: a second report on characteristics of individuals", Indira Gandhi Institute of Development Research, Bombay, Project Report Series No. 5, August. Furthermore, in 26 per cent of households, the area available per person was less than 25 square feet, the minimum floor area stipulated by Bombay municipal law.

18. World Health Organisation (1992), *Our Planet, Our Health: Report of the WHO Commission on Health and Environment*, Geneva. The report argues that the control of domestic environments has an important role to play in the control of disease vectors.

19. On the relationship between dampness and respiratory illnesses, based on material from slums in Poona, see Bapat, M. and N. Crook (1984), "The environment, health and nutrition: an analysis of inter-relationships from a case study of hutment settlements in the city of Poona", *Habitat International* Vol. 8, No. 3/4. It has also been suggested that mortality due to respiratory diseases has been growing faster than that due to diarrhoeal diseases in Bombay, see Ramasubban, R. and N. Crook (1985), "Mortality toll of cities: emerging patterns of disease in Bombay", *Economic and Political Weekly*, June 8.

20. Panwalkar, V.G., P.V. Panwalkar, M. Soares, M. Vyas and A. Bhide (1992), "A study on urban environmental management through community and non-governmental organisation", Tata Institute of Social Sciences, Department of Urban and Rural Community Development, Bombay.

21. Personal observation.

22. See reference 20.

23. See reference 20.

24. World Health Organisation (1988), *Urbanization and Its*

waste, including carcasses of cattle and pigs in the swamp that surrounds the new tenements.⁽²¹⁾

The use of slum shelters as workplaces adds to health risks. In the Dharavi slum of central Bombay, there are about 400 leather-processing units which are a major source of air and water pollution. In a survey of a community that lives in the leather-processing area, it was noted that waste water flowing in open drains contained hair, worms and chemical and other effluents, including acids, discharged after the cleaning of hides.⁽²²⁾ In these environmental conditions, the storage of food is difficult and the possibility of contamination is high. There is also the general problem of industrial pollution as, for example, from the oil refineries in the eastern suburbs of Bombay. Slum dwellers have less protection and hence are hit harder by industrial pollution than the rest of the population (for example, their dwellings have poor ventilation). Noise pollution is also very high in certain locations. Among people living close to the suburban railway tracks (as close as ten feet away), medical doctors have recorded cases of neurosis caused by unbearable levels of noise.⁽²³⁾

Water is "...a primary medium for the transmission of diseases, the most important of which are typhoid, cholera, hepatitis, poliomyelitis, dysentery, amoebiasis, and infection by intestinal protozoa."⁽²⁴⁾ In a recent survey of 540 households in Santosh Nagar, a relatively new slum settlement in north-west Bombay and one that is considered by the Bombay Municipal Corporation to be "well-provided for" in terms of infrastructure, we found that 14 per cent of households drew drinking water from wells of varying depths.⁽²⁵⁾ We drew water from some of these wells and sent them for bacteriological examination. The tests showed that the water was not fit to drink; the levels of bacteria and coliform bacilli were very high (and much above permitted levels). Even when water is not contaminated (or not excessively contaminated) at the source (as in the case of piped water supplied by the municipal authorities), the low levels of hygiene and high levels of environmental pollution can lead quickly to contamination during transportation, collection and storage.⁽²⁶⁾

Even where drinking water was available, there were shortages and queues.⁽²⁷⁾ Insufficient water makes it difficult to maintain reasonable standards of personal hygiene. According to a census of notified slums, undertaken in 1981, there were, on average, 203 users for every tap in the slum settlements surveyed in Bombay and, in some settlements, there were as many as 8,600 users for every tap.⁽²⁸⁾ Women from homeless households on Dimtimkar Road reported that they could not get sufficient water to wash themselves every day.⁽²⁹⁾ Most families on this street consumed about 15 litres per person per day (the government of India's norm is 125-200 litres of water per person per day). Most women have to get up early, at 3 a.m. or 4 a.m., and spend the next few hours collecting water for the daily needs of their family. Moreover, slum dwellers pay more than other city residents for water and other services; this is now well-documented.⁽³⁰⁾ According to a study of the homeless in central Bombay, the effective price paid per litre of water by

Implications for Child Health: Potential for Action, Geneva, page 33.

25. See reference 12.

26. Bapat and Crook (1984) found a strong negative correlation between an environmental score they constructed, that was designed to capture the level of hygiene, and the proportion of the population that reported sick. See reference 19.

27. This is reported in many studies of slum and homeless households. See, for example, Jha, S. S. (1986), *Structure of Urban Poverty: The Case of Bombay Slums*, Popular Prakashan, Bombay; see also reference 10.

28. Calculated from data in 1981 Census of India (1988), *Negative Aspects of Urbanisation: A Study on the Civic and Other Amenities Available in Notified Slums of Class I and II Towns*, Occasional Paper No. 3, Ministry of Home Affairs, Office of the Registrar General India, New Delhi.

29. SPARC (1994), "Waiting for water: the experience of poor communities in Bombay", Bombay.

30. See Hardoy and Satterthwaite in reference 16; also McGranahan, G. (1993), "Household environmental problems in low-income countries", *Habitat International* Vol. 17, No. 2.

31. See reference 29.

32. Calculated from data in 1981 Census of India (1988), see reference 28.

33. See reference 12.

34. SPARC (1991), *A Study on Four Groups of Vulnerable Migrant Children in the City of Bombay 1989-90*, Bombay. A similar figure is reported in ORG

pavement dwellers was 20 times the municipal rate charged to other residents of the city.⁽³¹⁾

One of the biggest health hazards of slum life comes from the fact that slums lack systems for disposing of excreta, sewage, sullage (water from washing and bathing) and solid wastes. In particular, the disposal of human waste is a major environmental and health problem in all slums. A census of 619 notified slums in Bombay, undertaken by the Census of India in 1981, found that there were no toilets in 174 settlements.⁽³²⁾ Furthermore, on average, there were 98 persons per toilet. In our survey of Santosh Nagar, only 1.5 per cent of households had their own toilets.⁽³³⁾ Sixty-nine per cent of households used public toilets and 29.5 per cent used open spaces. Not surprisingly, the situation is worse among the homeless. In a survey of 286 families of construction workers in Bombay, 63 per cent of the population used open spaces for defecation.⁽³⁴⁾ In many households where adults used public toilets, children defecated in open spaces. Children are even more exposed to risks of infection than adults.⁽³⁵⁾

The nutritional status of children living in slum communities is also deplorable. According to the National Commission on Urbanization, 85 per cent of children up to the age of six in urban slums in India are malnourished.⁽³⁶⁾ In our survey of children under the age of five in a Bombay slum in 1993, 61 per cent of boys and 72 per cent of girls were malnourished on the basis of a weight-for-age index.⁽³⁷⁾ Another recent survey conducted in a poor settlement in a western suburb of Bombay found that 63 per cent of children were malnourished.⁽³⁸⁾

Literacy in the city of Bombay is higher than the Indian average.⁽³⁹⁾ Basic literacy is also relatively high among the slum dwellers of Bombay; it is lower among the homeless. In Bombay, added to the problem of establishing mass literacy and universal schooling is a problem of improving the quality of school education available to the large majority.

Even from this short account of the environmental conditions in slums, it can be seen that deprivations for homeless persons and slum dwellers go beyond lack of incomes. In a recent survey of a slum settlement in Bombay, we found no positive association between incomes and aspects of living standards such as the availability of clean drinking water and toilets.⁽⁴⁰⁾ Many studies have noted the weak link between level of income and the quality of housing.⁽⁴¹⁾ Further, within slum settlements, the relationship between income and illness can also be weak.⁽⁴²⁾ This is because small increases in income cannot secure improvements in the living environment. At the same time, losses of income due to illness can further aggravate conditions of undernourishment, and the risk of under-nutrition can increase when an earner is incapacitated.⁽⁴³⁾

III. EVIDENCE FROM LONGITUDINAL CASE STUDIES OF HOMELESS AND SLUM HOUSEHOLDS

I TURN NOW to economic mobility among households in two

(1990) for pavement dwellers, see reference 8.

35. On vulnerability of children, see Benneh, G., J. Songsore, J.S. Nabita, A.T. Amuzu, K.A. Tutu, Y. Yangyuoru and G. McGranahan (1993), *Environmental Problems and the Urban Household in the Greater Accra Metropolitan Area, Ghana*, Stockholm Environment Institute, Sweden.

36. See reference 3.

37. Geetha, S. and Madhura Swaminathan (1994c), "Nutritional status among children in a slum: findings from a survey of Santosh Nagar", Indira Gandhi Institute of Development Research, Bombay, unpublished manuscript. The reference data used were those recommended by the WHO.

38. Study undertaken by SNDT Women's University, Bombay; personal communication.

39. The literacy rates for the city of Bombay at the Census of 1991 were 87.8 per cent, 75.7 per cent and 82.5 per cent for males, females and all persons. The corresponding figures at the all-India level were 64.2, 39.2 and 52.2 per cent. See page 10 for figures for the homeless.

40. See reference 12.

41. See, for example, reference 10 and reference 3.

42. See reference 19.

43. Pryer, J. (1993), "The impact of adult ill-health on household income and nutrition in Khulna, Bangladesh", *Environment and Urbanization* Vol. 5, No. 2, October.

44. SPARC (1985), *We, the Invisible: A Census of Pavement Dwellers*, Bombay.

distinct urban communities. The first group of 26 households is from among the homeless households that live on the pavements of Dimtimkar Road in Byculla (Ward E) and the data are for the years 1985 and 1992. The second group of 39 households are members of the Markandaya Housing Society in Dharavi (Ward G/North), and the data are for the years 1987 and 1992. Dharavi, with a population of about half a million persons, is Bombay's biggest contiguous slum settlement. The homeless, or "pavement-dwellers", of Dimtimkar Road sleep under crude lean-tos and, as illegal occupants of the pavement, they are vulnerable to eviction and frequent threats of eviction. By contrast, the residents of Markandaya Housing Society have legal access to a plot of land on the main Dharavi-Sion link road. Both groups of households come from areas that are close to the commercial centre of Bombay (see Map).

SPARC conducted a census of pavement dwellers in the "E" ward of Bombay from July to September 1985. The census covered 6,054 households, of which about 70 households lived on the pavements of Dimtimkar Road.⁽⁴⁴⁾ Owing to poor storage, some questionnaires were lost and information is now available for 66 households from Dimtimkar Road for 1985. In June 1992, following a demolition job by the Bombay Municipal Corporation, SPARC conducted another census of 59 households living on the pavements of Dimtimkar Road. Longitudinal data for 26 households from the pavements of Dimtimkar Road are available from these two surveys.

Data for the second group of 39 households living in Dharavi come from two surveys. The first was conducted in October 1987, before the implementation of the Prime Minister's Grant Programme, a programme for slum improvement begun in 1985, and a second survey was undertaken in March 1992 to collect basic information on all members of the Markandaya Housing Society.

All heads of households in the Dimtimkar Road group were born outside the city of Bombay and the majority (23 out of 26) were immigrants from Bihar. These households were, however, long-term residents of the city: 20 households migrated to the city between 1969 and 1978 and another five migrated to the city before 1968. All households but one were Muslim.

Households in the Markandaya group came from Andhra Pradesh, Maharashtra, Tamil Nadu, Karnataka, Gujarat and Uttar Pradesh, with 50 per cent from Andhra Pradesh. The heads of most of these households migrated to Bombay in the sixties and seventies. The majority of households were Hindu, with a few Christian and Muslim households.

The homeless community of Dimtimkar Road was relatively young. The proportion of children (that is, persons under the age of 14) in the group was 47 per cent in 1985 and 44 per cent in 1992. In 1992, six girls and one boy under the age of 14 were married. The category of widowers and widows, divorced and separated persons comprised mostly women. Among all women, 22 per cent in 1985 and 28 per cent in 1992 were widowed, divorced or separated. On average, the household size was 5.3 in 1985 and 4.8 in 1992. A large majority of the adult population, particularly the female population, in Dimtimkar Road was

45. Information on marital status was not collected in 1987.

46. For all persons, the rate of workforce participation was 48.6 per cent in the Dimtimkar Road group in 1992, 47.7 per cent in the Markandaya group in 1992 and 40 per cent in the city of Bombay in 1991.

47. In this paper, although a household is chosen as a basic unit of analysis, the composition of households changes over time. Despite the problem of changes in households, for monitoring certain types of change, for example changes in per capita income, the household is an appropriate unit of analysis.

48. Income data are difficult to collect, especially from persons occupied in the informal sector in casual jobs, and are likely to be subject to error. The figures from these surveys can be considered approximations of incomes earned by households in the month prior to the survey.

illiterate. The rates of literacy among males and females aged seven and above in the group was 41.8 per cent and 23.2 per cent, respectively in 1992.

In the Markandaya group, two-fifths of the population in 1987 and one-third in 1992 were children. There were no elderly persons in the community in 1987 and very few (1.1 per cent) in 1992. No child marriages were reported in the Markandaya group in 1992. Three women were widowed, divorced or separated.⁽⁴⁵⁾ Average household size was 4.7 in 1987 and five in 1992. The rate of literacy among persons in the Markandaya group, in contrast to Dimtimkar Road, was high (the rate of male literacy was 96.3 per cent and the rate of female literacy was 65.8 per cent in 1992). The reported rate of literacy among males in the Markandaya group is higher than that among males in the city of Bombay (as recorded by the 1991 Census of India).

Rates of work participation, for persons above the age of seven, in both groups in 1992 were higher than the figures reported for Bombay in the 1991 Census of India.⁽⁴⁶⁾ There was greater participation by women in the workforce in the Dimtimkar group (48.6 per cent in 1992) than in the Markandaya group (16.6 per cent in 1992). It is of note that the work participation rate among Muslim women (from Dimtimkar Road) was greater than the work participation rate among Hindu women (from Markandaya). There were child workers in Dimtimkar Road (six in 1985 and five in 1992) but none in Markandaya (where enrolment in schools was correspondingly higher).

IV. INCOME MOBILITY AT THE HOUSEHOLD LEVEL⁽⁴⁷⁾

AN ESTIMATE OF household income in the month prior to the survey was obtained by aggregating the incomes of all earners in a household.⁽⁴⁸⁾ Income data are in constant prices for each group. Data in the second survey were deflated to initial year prices by using the Consumer Price Index for Industrial Workers for Bombay.

Per capita incomes in the Dimtimkar Road group ranged from Rs 15 to Rs 425 a month in 1985 and Rs 17 to Rs 1,809 a month in 1992 (at the current exchange rate 1 US\$ = Rs 31). On average, per capita income increased from Rs 142 in 1985 to Rs 292 in 1992. The per capita household income for 16 households (61.5 per cent) increased in real terms. The aggregate household incomes of 17 households increased in real terms. An income mobility matrix is constructed in Table 1.

In this income mobility matrix, the official poverty line defined by the Planning Commission demarcates the lowest income group. The Planning Commission's expenditure based urban poverty line of Rs 56.64 per capita per month at 1973-74 prices was adjusted to current prices using the Consumer Price Index for Industrial Workers in Bombay. By this calculation, the income poverty line was Rs 145 per person per month in 1985. The number of households below the official poverty line declined from 18 in 1985 to ten in 1992. Eight households were

Table 1: Per Capita Real Income Mobility Matrix, Dimtimkar Road Group, 1985-1992

1985 (rupees)	1992					All
	0-145	146-250	251-500	501-1000	1001-1810	
0-145	8	7	2	-	1	18
146-250	2	0	-	2	-	4
251-500	-	2	2	-	-	4
501-1000	-	-	-	-	-	0
1001-1810	-	-	-	-	-	0
All	10	9	4	2	1	26

Note: Diagonal terms are in bold type. All incomes are at 1985 prices.

in abject poverty in both years. Five of these were headed by widows. The majority of households that shifted above the poverty line, however, moved very little, and remained on the margins of income poverty. For example, seven households with a per capita income below Rs 145 in 1984 had a per capita income between Rs 146 and Rs 250 in 1992. The overall picture was one of low and uncertain incomes.

Among households in the Markandaya group, the average real per capita income declined from Rs 354 to Rs 331 between 1987 and 1992 (at constant prices). The range of per capita monthly incomes was Rs 83 to Rs 1,500 in 1987 and Rs 49 to Rs 1,176 in 1992. Sixteen households moved to higher income classes and 15 moved to lower income classes. The actual change in incomes, however, was small. To put it differently, the band of incomes across which household mobility occurred was narrow. A matrix of income mobility is shown in Table 2. Again, the lowest income category delineates those with per capita incomes below the official poverty line (Rs 175 per person per month at 1987 prices). There were seven households below the official poverty line in each reference year.

As may be expected, there was greater income poverty among the homeless: in Dimtimkar Road, 69.2 per cent of households

Table 2: Per Capita Real Income mobility Matrix, Markandaya Group, 1987-1992

1987 (rupees)	1992					All
	0-175	175-300	300-500	500-700	700-1500	
0-175	0	4	2	1	0	7
175-300	3	5	4	1	1	14
300-500	3	3	7	0	1	14
500-700	0	1	0	0	0	1
700-1500	1	0	1	0	1	3
All	7	13	14	2	3	39

Note: Diagonal terms are in bold type. All incomes are at 1987 prices.

49. On the demolition squad of the Bombay Municipal Corporation, see Bapat, M. (1990), "Allocation of urban space: rhetoric and reality", *Economic and Political Weekly*, July 14.

50. See reference 29.

51. One of the women in the group said that her family spent Rs 8 a day on the use of public toilets. This expenditure amounts to around 9 per cent of the average daily earnings of a pavement-dwelling family in the Dimtimkar group.

52. The transit camp comprises one-room, 180 square feet, tenements. The new homes they will acquire will be of the same size. In the present location, the water supply is erratic and inadequate; there are very few public toilets and they are poorly maintained (for example, the septic tank overflows at times).

53. See, for example, McGranahan (1993) (reference 30) and Hardoy and Satterthwaite (1989) (reference 16) on the role that can be played by markets, non-governmental organizations, and the public sector in addressing environmental problems in low-income settlements.

in 1985 and 38.7 per cent of households in 1992 were below the official poverty line. In both groups, however, the extent of income mobility was limited.

V. CHANGES IN LIVING CONDITIONS

NOTABLE FEATURES OF living conditions - shelter, basic amenities such as water and sanitation and the living environment in general - did not change in any significant way between the two periods among the surveyed households in both areas. There was little change in the living conditions of the pavement dwellers of Dimtimkar Road over the seven years from 1985 to 1992. They remained on the same pavements and were threatened with eviction.⁽⁴⁹⁾ In May 1992, their shabby lean-tos were pulled down and they had to sleep in the open for three months. There is no public provision even for drinking water, and the people have to "devise daily strategies" to obtain water.⁽⁵⁰⁾ Residents must choose between open spaces and municipal toilets in the neighbourhood which charge a fee of one rupee a visit.⁽⁵¹⁾

The residents of Markandaya are in the process of moving to improved housing. While their new one-room cement and mortar homes, with shared toilets, are under construction, they are resident in transit camps built by the municipal authorities.⁽⁵²⁾ The plot on which the new tenements are being constructed is adjacent to a wide, open sewage drain. The surrounding area has piles of rotting garbage and stretches of human faeces. The plot is also close to the tannery works as well as plastic and metal workshops. The living environment of these households remains highly unsatisfactory.

VI. CONCLUDING REMARKS

THIS PAPER HAS discussed living conditions among the homeless and among slum dwellers of Bombay; in particular, it has reviewed information on incomes, housing, water supply, systems of waste disposal and other environmental aspects of living conditions. The paper has argued that income poverty lines are inadequate measures of the deprivation of homeless households and households living in the city's slums. A feature of the environmental deprivations identified here is that they are characterized by large externalities, for example, the health hazards of open defecation. A rise in private incomes, unless so large as to allow the individual to move to another environment, is not sufficient to eliminate these deprivations. These households live in conditions of great deprivation and squalor, and it is clear that increases in private incomes and individual actions alone cannot improve living conditions. Public action, that is action by governments and organized groups and communities, is necessary to improve the environment in which people live and, in general, to raise their standard of living.⁽⁵³⁾

The relationship between changes in income and living conditions is illustrated by case studies of 26 households living on

the pavements of Dintimkar Road, central Bombay, in 1985 and 1992, and of 39 households from the Markandaya Housing Society, in Dharavi, in 1987 and 1992. In general, the case study material shows that household incomes have been low and variable, and average real per capita income among the slum dwellers actually declined. While the real household incomes of a small number of households rose, the increase in incomes was small. At the same time, there was little change in the basic conditions of their working and living environment. The possibilities for improving the environment through individual action are very limited. Specifically, gradual, small increases in individual incomes cannot transform living conditions.

The present Indian government views poverty as essentially an income problem. A recent policy document states that "...the surest and most durable route to alleviating the scourge of poverty lies in rapid and sustained growth of output and employment".⁽⁵⁴⁾ In this paper, I have tried to argue that certain dimensions of urban poverty will not disappear merely with income growth, contrary to the assumption underlying the current economic strategy of the Indian government.

54. Government of India, Ministry of Finance (1993), *Economic Reforms: Two Years After and the Task Ahead*, New Delhi, page 27.