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House hold Food Insecurity among Urban Poor in India

Abstract

India committed to halving hunger by 2015 at the 1996 World Food Summit in Rome, Italy (United Nation's Food and Agriculture Organization 1996). Hence, understanding and addressing household food insecurity issues related to the urban poor, which comprise about one-tenth of India's1.1 billion populations, is pertinent. The present study was conducted in Bangalore city of Karnataka state. In Bangalore the number of slum dwellers in a decade has risen from 23% in 2001 to nearly 30-40% of the city's current population

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Introduction

India is home to 1.1 billion people. Out of these, an estimated 340 million people reside in urban areas (Registrar General and Census Commissioner of India, 2006). While urban areas are recognized as centers for economic development, opulence co-exists with deprivation. However, nearly one-third of India's urban population i.e., 100 million out of 340 million, live in extreme poverty (Ministry of Health and Family Welfare, 2000), in slums and squatters. One in every two (54.2%) poor urban children less than 5 years of age are stunted. This is an indicator of chronic under nutrition and 38.5% of poor urban women of reproductive age suffer from acute under nutrition, i.e., body mass index less than 18.5 kg/m(Urban Health Resource Center 2008). Besides acute poverty which hinders the urban poor's capacity to fulfill basic survival needs, they live in congested conditions which facilitate the spread of infectious disease with poor sanitation and drinking water facilities.

Moreover, they are frequently excluded from basic government nutrition and health services as they often live in unauthorized settlements (Agarwal and Taneja2005). For example, less than one-third (29%) of India's urban poor have below poverty line cards, an essential pre-requisite for subsidized access to food and other commodities of India's food assistance program called the Targeted Public Distribution System (PDS) (PressInformation Bureau, Government of India 2007). Furthermore, only 53.3% of urban poor children under the age of six live in areas covered by an Anganwadi (a courtyard), which delivers, at grass-roots level, the services of the largest nutrition program of India — the Integrated Child Development Services (ICDS) (Urban Health ResourceCenter 2008).

Under-nutrition has its roots in an array of inter related factors including household food insecurity, poor household care of women and children and poor access to health and sanitation services (Black et al. 2008). A household is considered food insecure when, due to lack of money, it faces problems such as limited or uncertain availability of nutritionally adequate and safe foods, or limited or uncertain ability to acquire acceptable foods in socially acceptable ways. Thus, the concept of household food insecurity implies not only under-nutrition and hunger but also householders' perceptions of problems with the quantity and quality of food available, uncertainty of food supply and experiences of going hungry (Carlson et al.1999). Nevertheless, when food insecurity is severe or prolonged, hunger is likely to be present (Coates et al.2006). Food security has multiple aspects: availability, food safety, economic access and social acceptability (Hamiltonet al. 1997). No single measure can capture these multipledimensions.

Food Security and the Measurement of Poverty:

The important works regarding concept, identification and measurement of poverty include: Seebohm Rowntree (1901), Miller and Roby, Runciman (1966),Townsend (1971), Sukhatme (1965), Dandekar and Rath (1971), Pamkkar (1972),Jam and Minhas (1995), Susan Georgr (1976), HanumanthaRao (1979), YoginderK.Alagh (1995). They have all emphasized on the link between poverty and intake of food.

In India, the definition of poverty is based on the sole criterion of the minimum food requirement for survival. Thus the poverty line is decided by the income sufficient to buy food equivalent of 2400 calories in rural areas and 2100 calories in urban areas. But there is considerable disagreement on the issue of what is adequate calorie intake for an average Indian (Sukhatme, 1965). Irrespective of the inconclusive nature of the debate, the narrow definition of poverty in terms of minimum daily dietary requirements of an individual has been accepted by the Planning Commission and many other researchers as the norm for the measurement of poverty (Sudip Kumar Mahapatra, RBI occasional papers.p.507). The 'Task Force' (Planning Commission, 1979) has prescribed this at 2,435 calorie intake per day/per head for the rural areas and 2095calorie intake per day / per head for urban areas.

The issue of nutritional intake as a major indicator of poverty has influenced most decisions on the policies regarding poverty alleviation. Since, poverty has been defined in relation to consumption of food, policies for poverty alleviation have emphasized on increasing the access to food. Thus programmes towards distribution of food for the poor through the Public Distribution System, generation of employment opportunities which would guarantee wages to purchase food and so on, have emerged.

Four approaches have commonly been used to assess household food insecurity in epidemiological studies — measures of dietary energy supply, measures of individual food intake, and anthropometric measures and experiential measures of inadequate food access oravailability. Experiential measures are based on the idea that the experience of food insecurity causes predictable reactions and responses that can be reported in a survey and quantified and summarized in a scale to provide an indicator of the degree of a household's food insecurity.

Compared with the first three approaches, experiential measures are simpler and less expensive and they have been found to be valid for application to diverse populations (Coates et al. 2003; Frongillo and Nanama2003; Hamilton et al. 1997).

India committed to halving hunger by 2015 at the 1996 World Food Summit in Rome, Italy (United Nation's Foodand Agriculture Organization 1996). Hence, understanding and addressing household food insecurity issues related to the urban poor, which comprise about one-tenth of India’s1.1 billion populations, is pertinent.

Methods

The present study was conducted in Bangalore city of Karnataka state.In Bangalore the number of slum dwellers in a decade has raised from 23% in 2001 to nearly 30-40% of the city's current population. The city attracts large numbers of migrants in search of employment from other states most notably Tamil Nadu, Kerala and the backward districts within Karnataka. Many have been brought in as labour for construction. Hence, as the economy grows, more and more slums are also needed to house the people providing services. The service work force thus includes transport workers, masons, plumbers, electricians, sweepers, dhobis, peddlers, hawkers,cobblers, daily wage workers, laborers, dhobis etc. Most women folk engage themselves as domesticor office helps, or else generate a source of income from some cottage industry like making of incense sticks or agarbathis.

Thus nearly 1.7 lakhs households crowd into the more than 400 slums in the city. Nearly 1.7 lakhhouseholds live in these slums. There is ambiguity regarding the number of slums in the city. While the Karnataka Slum Clearance Board places the number of slums in the city at 473, other sources place it at 45014, 73315 and56916. According to Bruhat Bangalore Mahanagara Palike, city hosts 569 slums — of these, 228 are notified and 341 unauthorized.

The locations of slums are least desirable from the habitat point of view – low lying areas that are susceptible to inundation, quarry pits, tank beds, along railway lines, near cemeteries, slaughter houses, etc. According to a project report prepared for the Karnataka Slum Clearance Board by the Center for Symbiosis of Technology, Environment and Management (STEM), 1/3rd of slums in the city are located in environmentally sensitive and filthy areas, where water stagnation breeds mosquitoes and other health hazards. Almost 90% of all slum houses are kutcha and semi pucca shabby dwellings.

In the present study data were collected using a standard questionnaire by a door-to-door personal interview of the head of the household or the housewife, whoever was available at the time of the interview. The questionnaire had 3 components: (i) the USDepartment of Agriculture—Household Food Security Scale;(Bickel et al, 2000)(ii) the modified Kuppuswamy scale for measuring socioeconomic status;(Kumar et al, 2007) and (iii) a demographic component.Qualitative studies of people from low income areas in the USA showed that uncertainty and anxiety about food, perceived insufficient quality and quantity of food, reported reduced food intake, consequences of reduced food intake and a feeling of shame in resorting to socially unacceptable methods of procuring food, were all feelings which people experienced when they encountered food insecurity,(Hamilton,1995). Using these findings, the US Department of Agriculture developed the 18-item questionnaire which was found to be a robust and reliable measure of household food security (Bickel et, al 2000) The questionnaire had items about anxiety,perception and recall of instances of reduced food intake orstarvation over the past 12-month period. A pre-specified score was given to responses for each of the 18 questions. The household was assigned the highest score on the questionnaire, each question being considered individually. For example, if a household got ascore of 4 for question 1 and a score of 9 on question 7, the household was assigned a score of 9, which is the highest score for any question for the household. Based on the score, the householdwas classified into one of 4 categories as

food secure, food insecure without hunger, food insecure with hunger or food insecure with severe hunger. Though this scale was not specifically validated for the purpose of this study, construct and content validity were ensured after close scrutiny of the questionnaire.

The modified Kuppuswamy socioeconomic scale, including questions on income, education and occupation of the household,was used to perform socioeconomic stratification of this population.(Kumar et, al, 2007) The socioeconomic status was stratified as upper class, upper middle, lower middle class and upper lower and lower class based on the score.

The prevalence of food insecurity in urban India was reportedto be 44%, (Chakraborty,2004). Using this prevalence and for a relative precision of 20%, the sample size required was calculated using the formulaN=4×P×(1–P)/D2 to be 127 rounded off to 130, where N is thesample size, P is the prevalence of food insecurity in India and Dis relative precision of the estimate. A lenient relative precision of20% was adopted because it would give the most efficient samplesize to understand the larger picture of food insecurity in thepopulation, though the estimates may have a wider confidence interval.

Sampling was done by a systematic random method. A random start was selected in the area and every tenth house in the street was interviewed from the random start towards the left. In case a locked house was encountered, the adjacent house was included and every tenth house from there was interviewed. This was continued till the required sample size was reached.

Results

All the households contacted responded to the survey. It was notable that 7.8% of the households interviewed had more than 8 members. About 20% of the houses had >3 children. Among the130 households, 67.7% belonged to the lower socioeconomic class. Food insecurity with hunger was present in 80 households, food insecurity without hunger in 17 households and food security in 33 households. Prevalence of any form of food insecurity was 74.6%.

There was a trend of increasing food insecurity as the socioeconomic class became lower . The chi-square test for trend was 73.5 for 6 degrees of freedom ($p<0.0001$).Only 76 households (58.5%) used the PDS for buying rice, the staple food. A total of 63 (82.9%) households in the lower socioeconomic strata used the PDS for buying rice. The odds of food insecurity among those using the PDS were 2.44 times the odds among those not using it.

The prevalence of food insecurity of any form was 74.6%. There was a high prevalence of food insecurity with hunger, which was considerably higher than in other urban areas of India, (Chakraborthy, 2004).It is also noticed that asthe socioeconomic status reduced, the prevalence of any form of food insecurity increased. Close to 60% of the households surveyed used the PDS for purchasing rice. About 17% of the households belonging to the lower socioeconomic class did not buy rice from the PDS.

The population living in the urban area surveyed has a homogeneous lifestyle. Most of them are involved in making *beedis* for a living. There is a high likelihood that the sampled households represent the situation in the whole population of the area. The study did not collect information on how many of the households had PDS cards. It has been reported that one of the reasons for failure of the PDS is because in some urban areas the really poor and needy people do not have a ration card. It would have been useful to inform policy if the information was available of how many households have ration cards and how many do not. The study showed that the odds of food insecurity among households using the PDS for rice were 2.44-times that for households not using the PDS. This has to be interpreted keeping in mind that the estimated prevalence odds ratio does not give an indication of the temporal sequence between food insecurity and utilizing the PDS.While this might suggest that using the PDS system led to food insecurity, actually the PDS system has penetrated houses where there is income inadequacy and food insecurity. This interpretationis supported by the fact that about 82% of the houses in the lower socioeconomic class used the PDS for buying rice. However,despite the benefit of the social security system in the form of aPDS, low income households continued to be food insecure.

Food security measured in this survey is a direct measure of the household's ability to afford food. The food security scale does not consider other aspects of food security such as genderdiscrimination in food allotment, quality of the food consumed, food fads, beliefs and preferences. All these aspects could have a bearing on food security. Therefore, these aspects would have to be studied in a rigorous manner.

It was observed that among the lower socioeconomic class 12.5% of households and among the lower middle class 28.5% of households were food secure. This has been noticed before whileusing the household food security questionnaire. The exact reasons for this are not understood. The probable explanations for this are differing perceptions of people and differing prioritization of requirements in a situation of low resources, e.g. a low income household might prioritize education and housing over food and might be food insecure, while another household might prioritize food over the other two and might be food secure. While the food security scale gives a good indication of the dimension of wellbeingof a household, it is not comprehensive. There are manyother dimensions such as general health, accessibility to resources and psychosocial health to a general well-being assessment, which cannot be captured by this scale.

The food security scale indicates the status of the household asa whole; it does not give an indication of what is happening to theindividual. The items in the questionnaire are also consideredindependent of each other and a comprehensive picture is notobtained. For example, a household might have adult hunger, butthe score for child hunger if present in that same house,

dominatesthe picture. It is assumed that when there is child hunger there isalso likely to be adult hunger. The exact dynamics of intra-familialfood distribution were not studied.

The status of food insecurity in this population is higher than the previous reported prevalence of 40%–50% in other studies.8,14 While the methodology of assessment of food security and the instruments used were different in previous studies, other possible reasons for the difference are dense population, average family size of 4.6, unorganized occupation and low socioeconomic status. State-wise and urban–rural comparisons need to be made to understand this situation in greater detail. This emphasizes the need for more such studies on food insecurity in the country.

Conclusion:

There was a high prevalence of food insecurityin densely populated urban slums of Bangalore City. This is despite the good penetration of the PDS in the state and among the population studied. Factors leading to this high prevalence of food insecurity need to be studied in detail. Nationwide and regional urban–rural food security data needs to be studied to influence policy regarding the means to reduce this food insecurity problem in developingcountries such as India.

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