

Growth of Slums, Availability of Infrastructure and Demographic Outcomes in Slums: Evidence from India

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India's National Slum Policy was recently formulated against the backdrop of inadequate infrastructure availability in Indian slums. Using a unique nationwide dataset on housing conditions and slum infrastructure from India we shed light on how different the rural, non-slum urban poor are from the poor households residing in the urban slums. We find considerable variations in access to services and credit across MPCE classes. The level of service provision in the slums lies between the conditions in the non-slum urban areas and rural regions. We also analyze the services available in the slums and examine the improvements in the slum conditions over the last five years. We find that the government is active in initiating most of the slum improvements with the NGOs, resident associations active primarily in the water – sanitation sector. We find that improvements in the living conditions in the slums have left a lot to be desired.

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1 Introduction

As per the Census 2001 data, India's population stood at 1027 million on 1st March 2001. Seventy two percent of India's population lived in rural areas while the remaining 28 percent lived in the urban areas. In 1991 (1981) less than 26 (24) percent lived in the urban areas (Table 1a).

	% of Urban Population to Total Population	Decadal Urban Population Growth
1981	23.34	46.14
1991	25.72	36.46
2001	27.78	31.36

The increase in the percentage of population residing in urban areas is attributable to three factors. The first factor is the rural - urban differential in the rates of natural increase. During 1991-2001 the percentage growth of population in rural and urban areas was to the order of 18 and 31 percent respectively. The second factor is migration from rural to urban areas. The third reason is the reclassification of villages as town. The number of towns and cities have increased to 4378, while the number of metropolitan cities having million plus population has increased to 35 as per 2001 census. Table 1b provides further information on number of cities according to population classes.

Class	Population Size	No. of UAs/Towns
Class I	1,00,000 and above	393
Class II	50,000 - 99,999	401
Class III	20,000 - 49,999	1,151
Class IV	10,000 - 19,999	1,344
Class V	5,000 - 9,999	888
Class VI	Less than 5,000	191
Unclassified		10*
All classes		4378

Note : Data is provisional

* Population Census 2001 could not be held in these towns/cities of the state of Gujarat on account of national calamity.

Source: Office of the Registrar General of India.

The world is rapidly urbanizing and India is no exception. Although the level of urbanization has been rising gradually, and the decadal increase in urban population remains quite high (although slowing), there is still potential for enormous increases in India's urban population. As per the United Nations

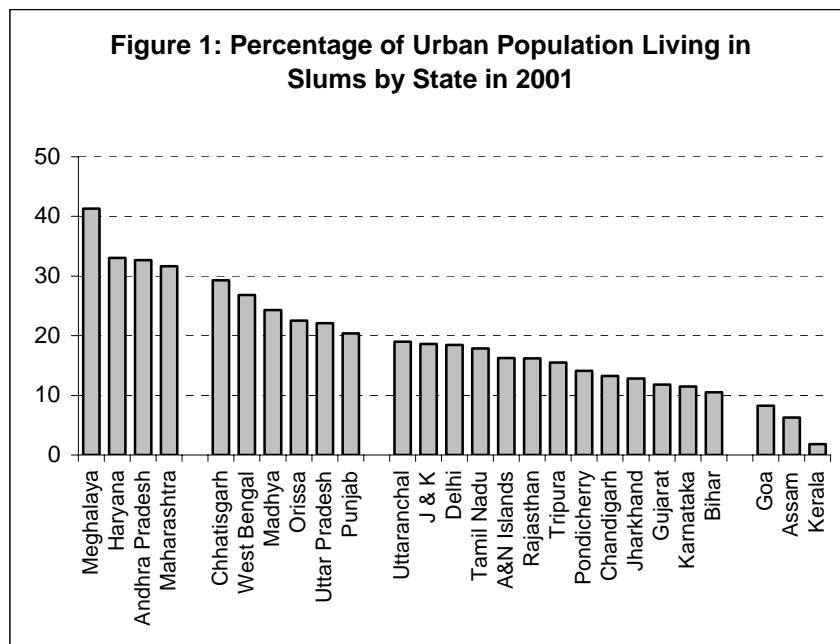
projections, if urbanization continues at the present rate, then 46% of the total population will be in urban regions of India by 2030 (United Nations, 1998).

Within urban India, between 1981-2001 there was a 45 percent increases in the number of people living in the urban slums¹. Figure 1 provides the percentage of urban population living in the slums by state.

¹ The roots of rural-urban migration can be traced to the fact that agriculture could not provide a livelihood for the entire rural population. Urban (industrial) employment was expected to absorb the surplus rural labour. With rural population growing faster than the increase in opportunities, many people migrated from the rural to urban areas. But the influx was larger than what the urban industrial sector could absorb. The migrants consequently landed in the slums and squatter settlements and worked in the informal sector. The end consequence was poverty in slums, rest of urban areas and rural areas.

The National Sample Survey Organisation (NSSO), India, defines a slum as a “compact settlement with a collection of poorly built tenements, mostly of temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic conditions” (NSSO 2003 Pg 6). Also, there are two kinds of slums: notified and non-notified. Areas notified as slums by the respective municipalities, corporations, local bodies or development authorities are treated as notified slums. A slum is considered as a non-notified slum if at least 20 households lived in that area.

In 1981, nearly 28 million persons lived in the slums, in 1991 there were 45.7 million slum dwellers and as per 2001 Census data, there are 40.6 million persons living in slums. There is reason to suspect that this decline is on account of an underestimation of the number of people living in the urban slums².



Source: Census 2001

Between July - December 2002, NSSO, India conducted a survey³ on the condition of urban slums. This was the third survey on slums, the previous surveys

² The latest Census data also reflect the problems inherent in not having an accepted definition of slums and absence of proper listing of slum settlements in the urban offices concerned with slum improvement and civic amenities. The practice of notifying slums under relevant laws is not being followed, especially where the land involved belongs to Government or any of its agencies. As a result of these lacunae, these data are not definitive because towns with less than 50,000 population, and slum clusters, which are not formally or informally recognised if the population was less than 300, are excluded.

³ The survey covered the whole of the Indian Union except (i) Leh and Kargil districts of Jammu & Kashmir, (ii) villages situated beyond 5 kms. of bus route in the state of Nagaland, and (iii) inaccessible villages of Andaman and Nicobar Islands.

having been conducted in 1976-77 and January-June 1993. As part of the survey in 2002, information on the civic facilities of the slums was collected. Data were collected for the entire slum from knowledgeable person(s). At the all-India level, a total of 692 slums (360 notified slums and 332 non-notified slums) were covered in the 2002 survey. For details of the sampling methodology and other details see NSSO (2003).

A survey of slums nationwide conducted by NSSO during 1993, estimated the total number of urban slums to be 56311. Thirty six percent of the slums were notified ones. The recent survey estimated the number of slums to be 52,000 with fifty one percent of the slums being notified slums.

It is estimated that every seventh person living in the urban areas is a slum dweller (NSSO 2003). The bulk of the urban poor are concentrated in the urban slums or are squatters⁴.

As pointed out by Jones and Visaria (1997) in their book over viewing urbanization in Brazil, China, India and Indonesia, researchers have focused on the following issues in the context of urbanization:

- Rapid rates of growth of urban population
- Rising share of urban population in total population
- Growth of large metropolises and urban primacy
- Problems of providing minimal urban infrastructure
- Issues of rural-urban labor transfer and employment
- Linkages between urbanization and regional development issues

Without going into a detailed analysis we presented the evidence in favor of rapid rates of growth of urban population, the rising share of urban population in total population and the growth of large metropolises and urban primacy.

Our primary focus is on the trends in infrastructure availability in the rural, non-slum urban areas and the slums. Where appropriate we refer to the focus of India's draft National Slum Policy Policy. More importantly, we focus on an issue not addressed in depth by Jones and Visaria (1997). We make an attempt at getting to the core of the following question – how different are the rural poor, the non-slum urban poor from the poor households who are residing in the slums. It is of interest to understand how different the conditions in the slums are from rural areas and non-slum urban areas. With this objective in mind, this paper focuses on the conditions of the slums using data collected by NSSO in 2002. We also draw upon existing literature to establish that slum dwellers have poorer access to health facilities and hence suffer from poor health outcomes (Kapadia-Kundu and Kanitkar 2002, Karn, Shikura and Harada 2003, Sundar and Sharma 2002).

While the Indian government has been active in initiating improvements in the living conditions in some slums, unsatisfactory living conditions continue to

⁴ For instance, a survey of nine slums in Howrah, West Bengal, undertaken by Sengupta (1999) revealed that one-third of the total population living in the slums spent less than Rs 247 a month and were below the poverty line.

prevail in the bulk of slums. The poorer health outcomes can partially be traced to the inadequate services, in particular water supply and sanitation, available in the slums.

With this in mind, we look at the services available in the slums and where appropriate, we compare the results of the survey on slums conducted in January-June 1993 and July – December 2002.

In order to understand the magnitude of the problem, we contrast the situation of the households living in rural areas, non-slum urban areas with those living in the slums. In particular, we examine the kind of house that people from these three regions reside in, access to water, sanitation and electricity, rights to water source and the reliance on the informal sector (moneylender) for financing house constructions. We also examine differences in the literacy and sex ratio across these regions.

We examine the improvements in the slum conditions over the last five years and also identify the agency (government, NGOs, residents) that was responsible for undertaking the improvements in the slums. We find that improvements in the living conditions in the slums have left a lot to be desired.

In India the trend is towards decentralizing provision of basic services via community driven initiatives with the oversight of urban local bodies. We find evidence in favor of residents associations and NGOs taking up the mantle of improving the urban slum infrastructure.

This paper is structured as follows. In Section 2 we discuss the living conditions in the urban slums and compare the situation in slums with conditions in rural, non-slum urban India. In the Section 3 we identify the changes in the living conditions that have occurred in the five years preceding the NSSO survey in 2002 and shed light on the agency, which was responsible for undertaking improvements in the slums. We then offer some concluding thoughts.

2 Condition in the Slum Areas

“We suspect that if there were a stronger information base about who has access to those forms of infrastructure and services that are critical determinants of health (e.g. provision for water, sanitation, health care, emergency services) and a stronger information base related to health outcomes (for instance, infant and child mortality rates, life expectancies, nutritional status), we would find that the urban populations in small and intermediate urban centres would generally be worse off than the urban average”.

■ Satterthwaite and Tacoli (2003)

Before we go ahead and discuss the housing conditions in the slums it might be worthwhile to make comparison using select demographic variables and living conditions across rural India, non-slum urban India and the slums. Following this we look at availability of key services across rural, non-slum urban and slums areas. We

finally examine differences in access to services and credit facilities across households classified according to their monthly per capita expenditure.

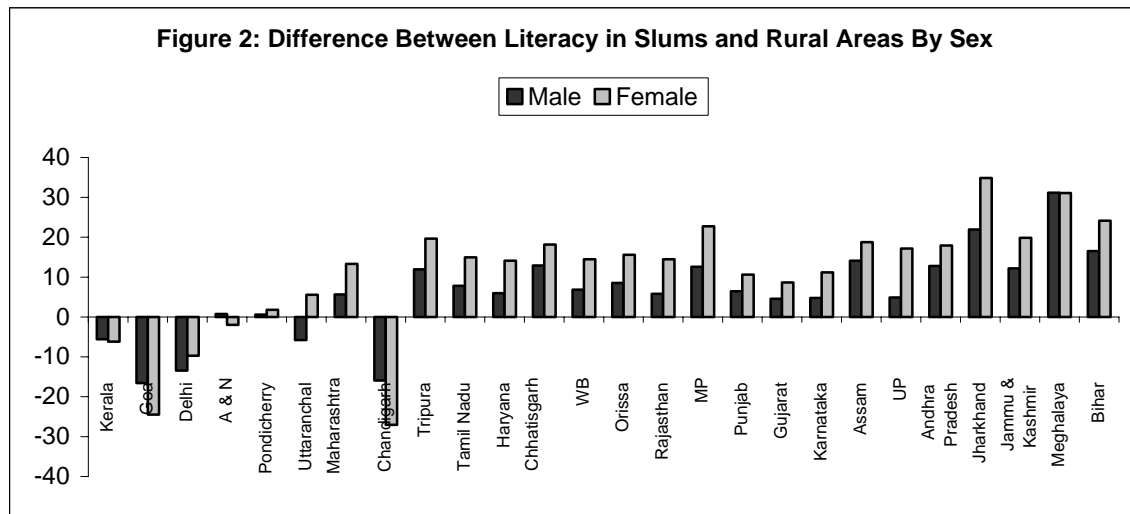
The discussion below would suggest that to make an overall comment that the rural areas are better off or worse off than the urban slums could be misleading. We find evidence for the conjecture made by Satterthwaite and Tacoli (2003).

2.1 A Comparison Across Rural India, Non-slum Urban India and Urban Slums

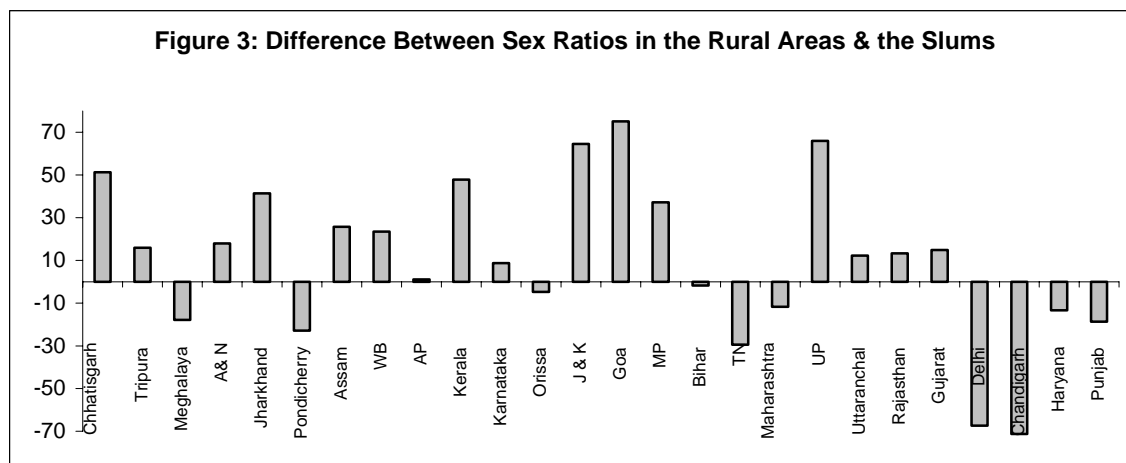
Literacy and Sex Ratio: Instead of examining the absolute literacy levels in the rural, non-slum urban areas and the slums, we compute the differences in the literacy between males residing in slums and rural areas and females residing in slums and rural areas. Figure 2 plots this for select Indian states where states are arranged from left to right in terms of decreasing level of female literacy.

We find that for regions that rank highest in terms of female literacy (Kerala, Goa, Delhi), the literacy in the rural areas is higher than in the slums. For the poorer states like Bihar, Madhya Pradesh, Rajasthan, Orissa and Uttar Pradesh we find that literacy in the slums is higher than in the rural areas. For the states that do not rank high in terms of rural female literacy, the improvement in literacy in case of slum women is higher than for men residing in slums.

This seems to suggest that from the highly literate status it is the illiterates who migrate from rural to urban areas and from the low literacy states the migrants to urban areas are the rural literates. Alternatively, the migrants from the low literacy states acquire literacy once they start living in the cities. This is an issue that needs further exploration.



Source: Census (2001) and Author's Calculations. The states have been arranged in descending order of rural female literacy.



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Next, we compute the differences in the sex ratio between the rural areas and the slums. Figure 3 plots this for select Indian states where states are arranged from left to right in terms of decreasing sex ratio. What is of interest is that the sex ratio in slums is higher than in rural areas for the four regions with the lowest rural sex ratio.

Water, Sanitation and Electricity: Among all the sources of water, tap water is probably the most preferred water source. We find that rural India lags the notified slums in terms of households having access to piped water. The percentage of non-notified slums with tap water is lower than the percentage of notified slums with tap water (Table 2).

The percentage of rural households without electricity is much larger than the percentage of slums without electricity.

	Rural India	Urban India*	Non-notified Slums	Notified Slums
Water Source				
Tap	24.3	68.7	71	84.0
Tubewell	5.7	5.1	22	10.0
Well	22.2	7.7	2	2
Others	47.7	18.5	5	4.0
No Electricity				
No Latrine	78.1	26.3	51	17
No Drainage	65.8	22.1	44	15

* Includes Slums Source: Census 2001, NSSO 2003

The non-notified slums and the rural areas seem similar in terms of availability of latrines and drainage. In the rural areas, 78 percent of households do not have any latrine while 51 percent of non-notified slums do not have a latrine.

Nearly 66 percent of rural households do not have any drainage facility while 44 percent of non-notified slums do not have drainage facilities. The differences are stark when compared to the notified where only 17 percent and 15 percent of them do not have latrine or drainage respectively.

Recognizing the need to step up availability of water and sanitation services in the rural and urban areas the Indian central and state governments have adopted a demand driven approach where users bear a portion of the costs.

Health Outcomes in Slums: Poor water and sanitary conditions lead to adverse health outcomes in the households living in the slums (Duggal and Sucheta 1989, Nandraj et al 1998, Karn, Shikura and Harada 2003).

Table 3: Prevalence Rate of Illness and Hospitalisation Cases Per 1,000 Population in Delhi and Chennai by Type of Settlement

	Prevalence Rate of Acute Illness*	Prevalence Rate of Chronic Illness*	Prevalence Rate of all Illness Cases**	Hospitalisation Cases**	Total No of Persons (N)
Delhi					
Slum	62	47	109	21	19626
Resettlement	49	37	86	12	5386
All	59	45	104	19	25012
Chennai					
Slum	65	21	86	21	18452
Resettlement	49	22	71	15	5031
All	62	21	83	19	23483
Delhi & Chennai					
Slum	64	34	98	21	38078
Resettlement	49	30	79	13	10417
All	61	33	94	19	48495

* in the one month reference period , ** in the last one year
Source: Sundar and Sharma (2002)

Sundar and Sharma (2002) found that the prevalence of illness was higher in the slums than in the resettlement areas (Table 3). Godbole and Talwalkar (2000) undertook a survey in order to ascertain the maternal and child health in urban Maharashtra. The survey covered 8,575 women, living in slums, council towns and municipal corporations, who had delivered within 12 months or less of the survey. They found that in the slum areas only 34 per cent women reported a birth interval of more than three years. The corresponding number in non-slum areas was 51 per cent.

With regard to women's' health, a survey undertaken by Institute of Medical Health, Pune in 1998 of 27 slums in Pune revealed that 44 percent of women⁵ did not take treatment for reproductive tract infections.

Godbole and Talwalkar (2000) found that the state of child health in urban slums was in some cases worse than that in rural areas. In the context of

⁵ On the issue of gender inequality, twenty eight percent of respondents reported violence against women.

immunization they find that oral polio vaccine coverage is 92 per cent in rural areas as against 79 per cent in urban slums. They also find that coverage levels of Vitamin A (first dose) in slums are 48 percent as against 80 percent in rural areas. The higher coverage in the case of rural areas can be attributed to issues relating to point of delivery. They also find that 48 percent of slum children in the age group 0-23 months were underweight as against 41 percent in rural areas.

Health seeking behavior is lower in the slums compared to non-slum urban areas. It might be misleading to compare health seeking behavior across the slums and rural areas without controlling for availability of health infrastructure in the rural areas. In the absence of such detailed information we do not address this issue here.

India's Draft National Slum Policy calls for community driven initiative in the health sector, " The community should be mobilised to create demand for better preventive health services and to access these services in a more effective manner. Hygiene behaviour changes should be promoted as an integral part of the sanitation services. An emphasis should also be placed on health education for STD/ HIV prevention⁶, as well as measures to combat alcoholism and violence. Urban local bodies⁷ should establish a network of community health workers/ volunteers to facilitate this process through health promotion activity."

2.2 Housing Condition in the Slum Areas

As mentioned earlier, a slum is characterized by poorly built tenements, mostly of temporary nature and crowded together, unhygienic conditions, inadequate sanitary and drinking water facilities.

In terms of density, the notified slums are denser in terms of households (205 per slum) as compared to the non-notified slums (112 per slum).

As is evident from Figure 4, a large number of houses are not pucca⁸ in nature. The problem is more acute in the non-notified slums. There have however

⁶ "Slum youth aged between 18-28 years lived very different lives from the college boys in hostels. These young men were working, for the most part, already living the lives of adults in their families and communities including taking an active role in local politics. However, their risk of HIV/AIDS/STIs was similar in many ways to that of college boys. As with any general population category, it was impossible to say exactly who among the slum youth was at risk, but it was certain HIV would have an eventual impact on this group". (Family Health International 2001. Page 18.)

⁷ As per the Twelfth Schedule of the Constitution (following the 74th Constitutional Amendment in 1992) among the function of the urban local bodies includes slum improvement and upgradation. In fact, India's Eighth Year Plan (1992-97) was the first one to explicitly recognise key issues in the emerging urban scenario: unabated growth of urban population aggravating the accumulated backlog of housing shortages, resulting in proliferation of slums and squatter settlement and decay of city environment.

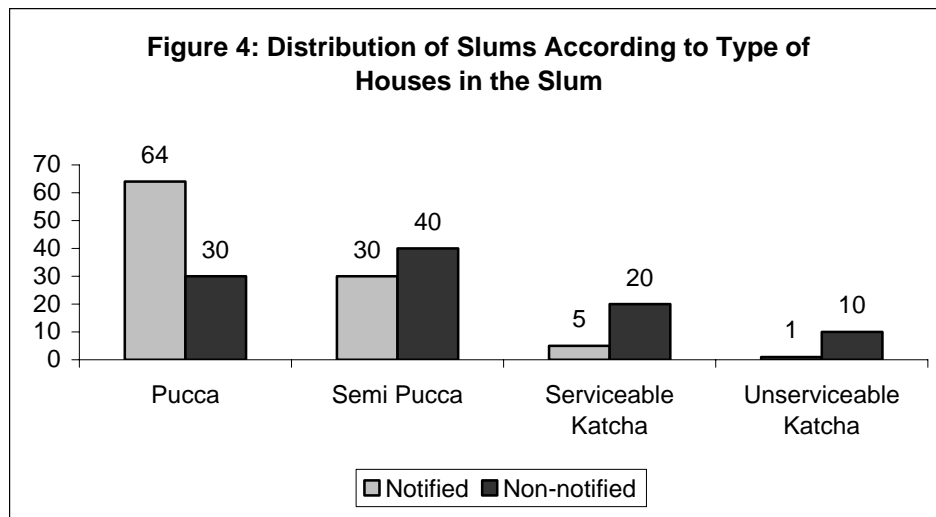
⁸ A pucca structure was one having walls and roofs made of pucca materials. Cement, concrete, oven burnt bricks, hollow cement/ash bricks, stone, stone blocks, jack boards (cement plastered reeds), iron, zinc or other metal sheets, timber, tiles, slate, corrugated iron, asbestos cement sheet, veneer, plywood, artificial wood of synthetic material and poly vinyl chloride (PVC) material constituted the list of pucca materials. All other materials were considered as non-pucca materials. Non pucca materials included unburnt bricks, bamboo, mud, grass, leaves, reeds, thatch, etc.

been improvements since 1993. In 1993 only 30 percent of slums had majority of pucca houses. In 2002, this number was higher at 47.

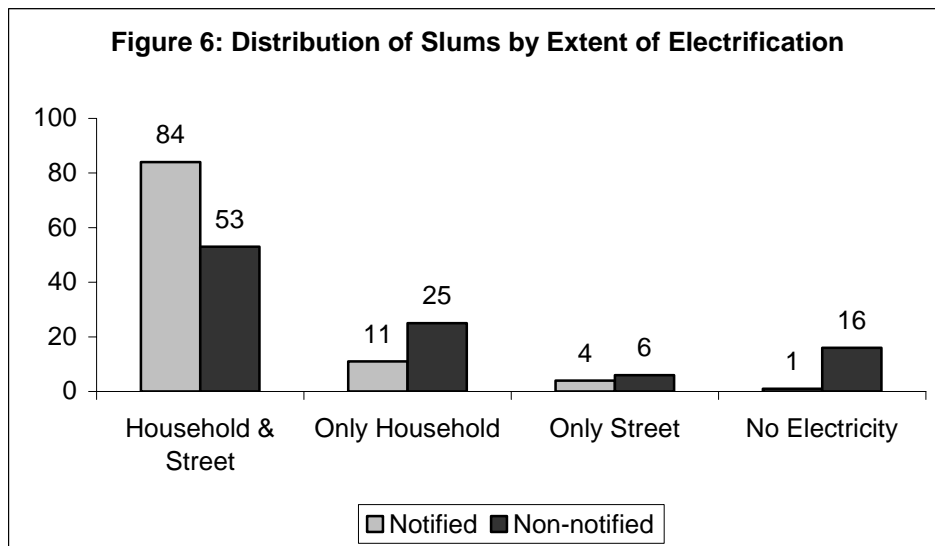
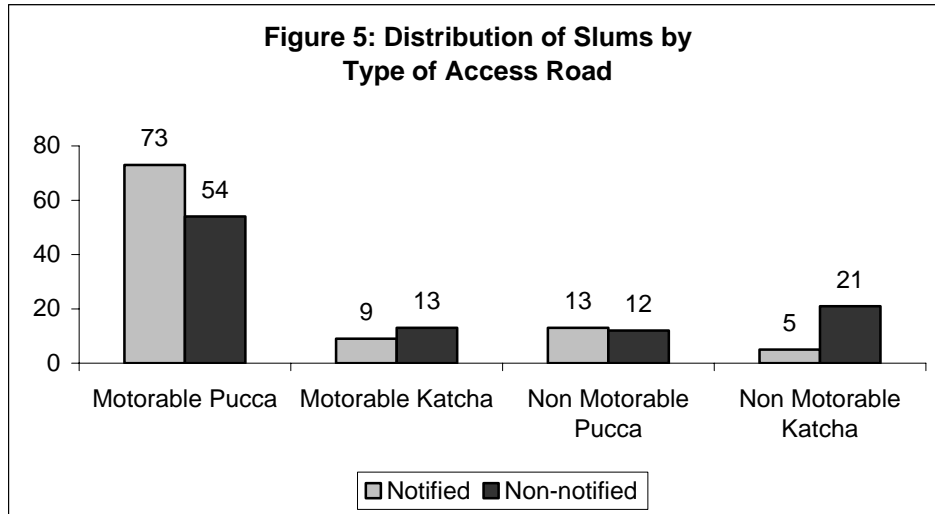
In terms of roads within the slum, 71 percent of the notified slums have a pucca road while only 37 percent of non-notified roads have a pucca road within the slum. Significant strides have been made in terms of availability of roads since 1993. In 1993, only 47 percent of slums had a pucca road within the slum.

In terms of access road to the slums, 86 (27) percent of notified (non-notified) slums have a pucca approach road to the slum. In 1993, only 74 percent of slums had such a road.

There have been improvements in terms of electrification of villages. In 2002, electricity connection was not available in 1 per cent of the notified slums and about 16 per cent of the non-notified slums. In 1993, about 25 per cent of slums were not having electricity.



A structure having walls and roof made of non pucca materials was regarded as a katcha structure. A structure which could not be classified as a pucca or a katcha structure as per definition given above was recorded as a semi-pucca structure.



Source for Figure 4, 5, 6: NSSO 2003

Water Supply: Inadequate water supply facilities and poor sanitary conditions can have a deleterious impact on household outcomes.

If the local supply of water is inadequate, women and female children spend a considerable amount of time in fetching water. This affects the decision of the girl child to go to school and also reduces the likelihood of women participating in other economic activities.

In 84 (71) percent of the notified (non-notified) slums the main water source is the tap. But these numbers mask differences across the states of India. In the states of Bihar none of the slums get water via the tap. In Chhattisgarh, Gujarat and Uttar Pradesh less than 35 percent of slums get tap water.

There has not been any significant improvement since 1993. In 1993, 83 per cent of notified slums and 70 per cent for non-notified slums drew their drinking water from tap.

Sanitation: Poor sanitary conditions and poor water quality lead to sickness, cause diarrhea and other water borne diseases among children and adults and also affect life expectancy. According to a case study, water and sanitation diseases are responsible for 60 per cent of the environmental health burden and over 11 per cent of total burden of disease in Andhra Pradesh.

Among water borne diseases, diarrhea disproportionately affects children under the age of five. Poor health among children adversely affects the attendance rate at schools.

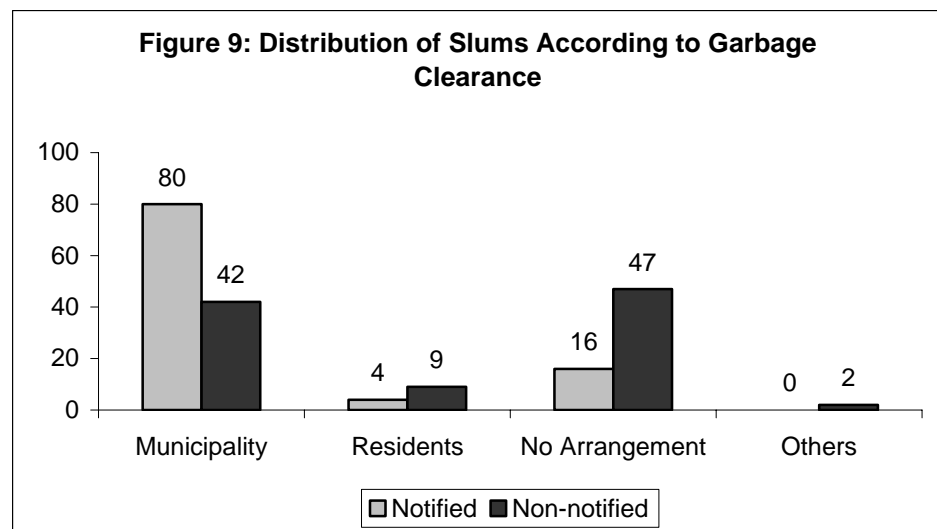
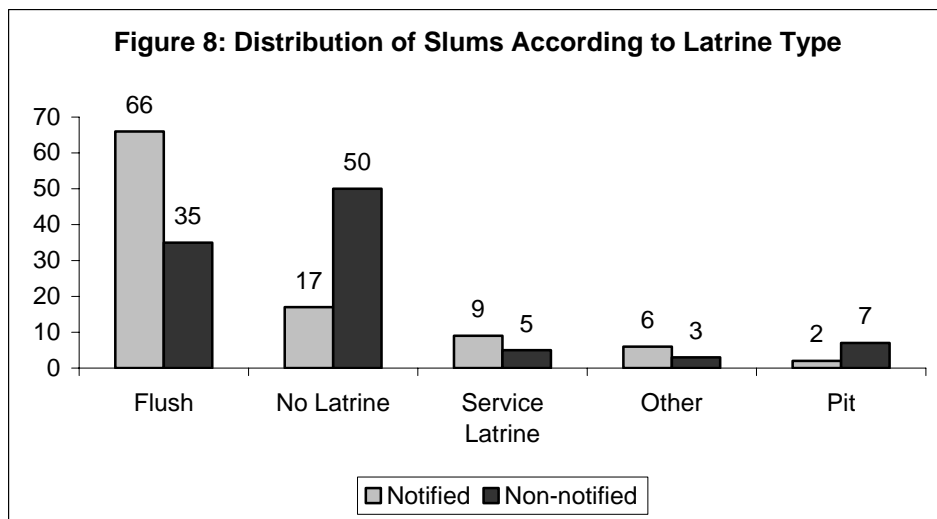
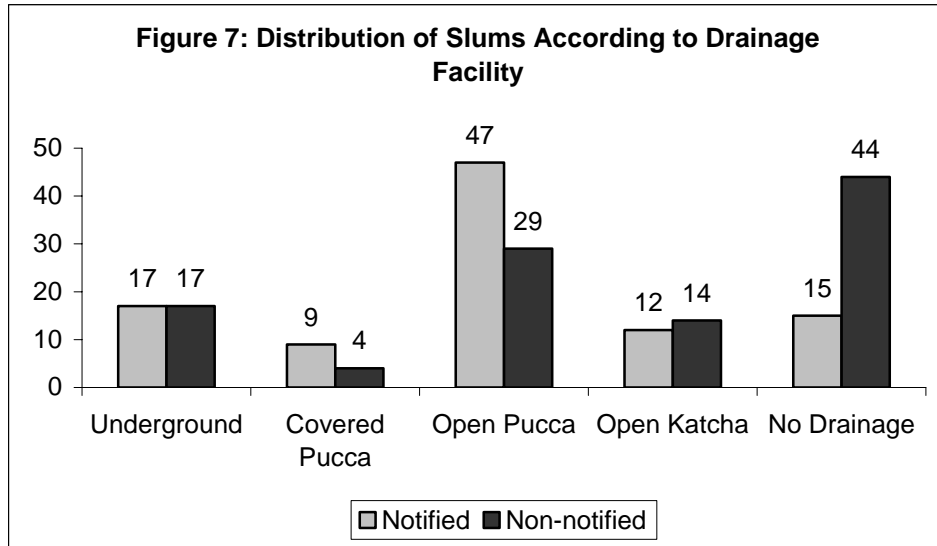
"Water-borne diseases are caused by contamination of water with viruses (viral hepatitis, poliomyelitis), bacteria (cholera, typhoid fever, bacillary, dysentery, etc.), parasites (amoebiasis, giardiasis, worm infestation, guinea worm, etc.), or chemicals. India still loses between 0.4 to 0.5 million children under age five each year due to diarrhoea. Community studies from two urban communities have revealed that the incidence (of viral hepatitis) may be around 100 per 100,000 population." (Planning Commission, 2002, pp. 45-46).

Nearly 44 percent the non-notified slums do not have a drainage system of any type (Figure 7). In contrast only 15 percent of notified slums do not have a drainage system. In 1993, there was no drainage facility in 30 per cent of slums.

A similar picture emerges in the case of latrines. Nearly half the non-notified slums do not have a latrine of any type (Figure 8). In contrast only 17 percent of notified slums do not have a latrine. In 1993, there was no latrine facility in 54 per cent of slums.

It is apparent from Figure 9 that the municipality provides garbage clearance services in the notified slums. Of the non-notified slums, 47 percent of them do not have garbage clearance. In 2002, about 31 per cent of the urban slums in India had no system of garbage disposal as compared to 35 per cent in 1993.

In 1993 about 60 per cent of the slums experienced water logging during monsoon. In contrast in 2002, 36 per cent of the notified slums and 54 per cent of non-notified slums experienced water logging during monsoon.



Source for Figure 7, 8, 9: NSSO 2003

Availability of Schools and Health Centers: We now look at the availability of schools within the slums. Over 90 percent of the slums have a primary school within one kilometer. However in the state of Chattisgarh, only 37 percent of slums have a primary school within a distance of one kilometer. More important than the availability of a primary school the issue of governance is more important. On the issue of governance, the Indian government's Draft National Slum Policy recognizes that, "Mobilising the community and use of resource persons from within the community to supervise and monitor the educational activity would greatly enhance the delivery of this service."

Less than 50 percent of the slums had a government hospital within one kilometer. But what is greater importance is to institute primary health centers in the slums and carry out IEC campaigns to create demand for health services.

2.3 Housing Condition in the Rural, Slum and Non-slum Urban Areas According to Monthly Per Capita Expenditure (MPCE) of the Households

Not surprisingly, the percentage of richer households living in pucca houses is greater than the poorer households living in pucca houses (Figure 10). There is considerable variation over the MPCE classes in the proportion of pucca dwelling units— from 22 per cent for the rural poorest to 64 per cent in case of the richest in the rural areas.

In case of the slums and squatters the proportion residing in pucca dwelling units varies from 29 per cent for the poorest to 91 per cent in case of the richest. In case of non-slum urban areas the proportion residing in pucca dwelling units varies from 52 per cent for the poorest to 98 per cent in case of the richest.

In both rural and non-slum urban areas, poorer households lived in smaller (i.e. lower plinth area) dwelling units compared to the richer households or households in the higher MPCE classes (Table 4). However the variation in area among the lower MPCE classes is not very pronounced.

Considerations of hygiene dictate that the floor of the dwelling unit be raised to a certain height (plinth level) above the ground level. The data revealed that the richer households generally lived in houses with higher plinth levels than the poorer households. This reflects that the richer households had more hygienic dwelling units. The plinth level of about 56 per cent of the dwelling units in the slums was zero. The corresponding figure in the rural and non-slum urban areas was 36 percent and 29 percent respectively.

Also, the per capita floor area available was 4.6 sq.m. in the urban slums, 7.5 sq. m. in the rural areas and in the non-slum urban areas it was 8.5 sq.m. The per capita floor area also increases as one moves from the lowest MPCE class to the highest.

Table 4: Distribution of Plinth Area of Dwellings of Households by Monthly Per Capita Expenditure (MPCE)

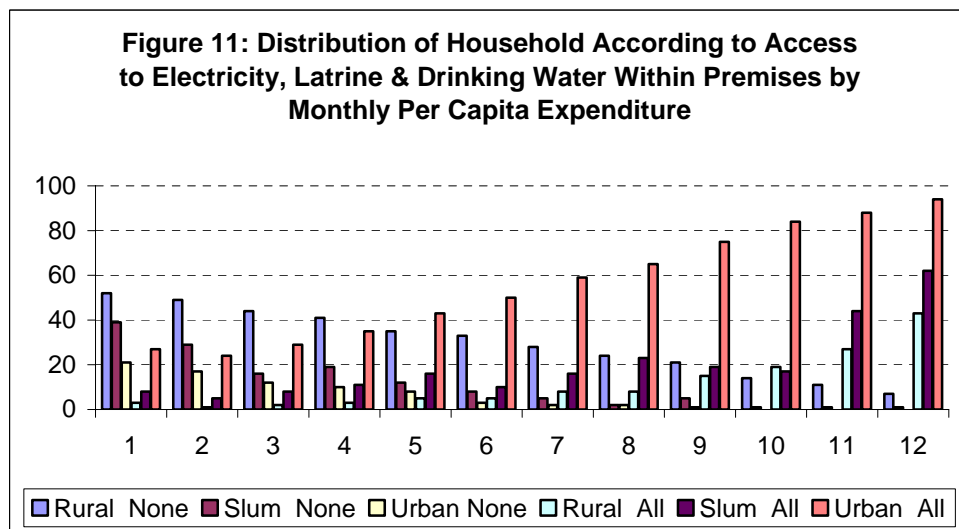
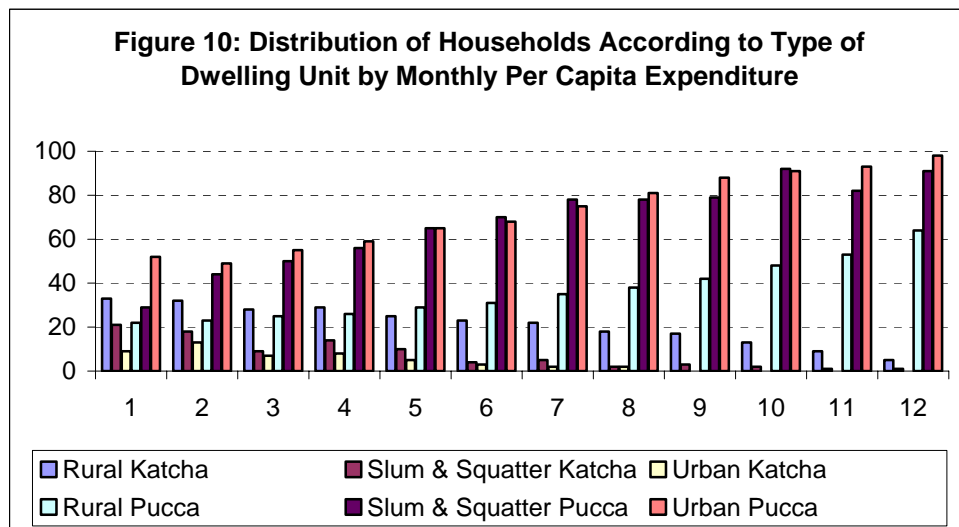
MPCE Class	Rural				Slum & Squatter				Non-slum Urban Areas			
	Upto 50 M	50 M-100 M	Above 100 M	Upto 50 M	50 M-100 M	Above 100 M	Upto 50 M	50 M-100 M	Above 100 M	Upto 50 M	50 M-100 M	Above 100 M
1	78	16	5	82	17	1	64	21	15			
2	77	17	6	87	12	1	72	19	9			
3	68	24	8	86	11	4	71	19	10			
4	73	20	7	82	11	7	64	25	11			
5	70	23	7	79	15	6	63	25	13			
6	70	23	7	80	13	7	62	27	11			
7	66	25	9	82	11	7	53	29	18			
8	64	27	9	78	13	10	50	30	20			
9	60	30	11	80	7	13	44	31	25			
10	54	32	14	72	12	16	32	31	37			
11	54	31	15	68	20	12	29	29	42			
12	40	35	25	57	23	20	17	25	57			

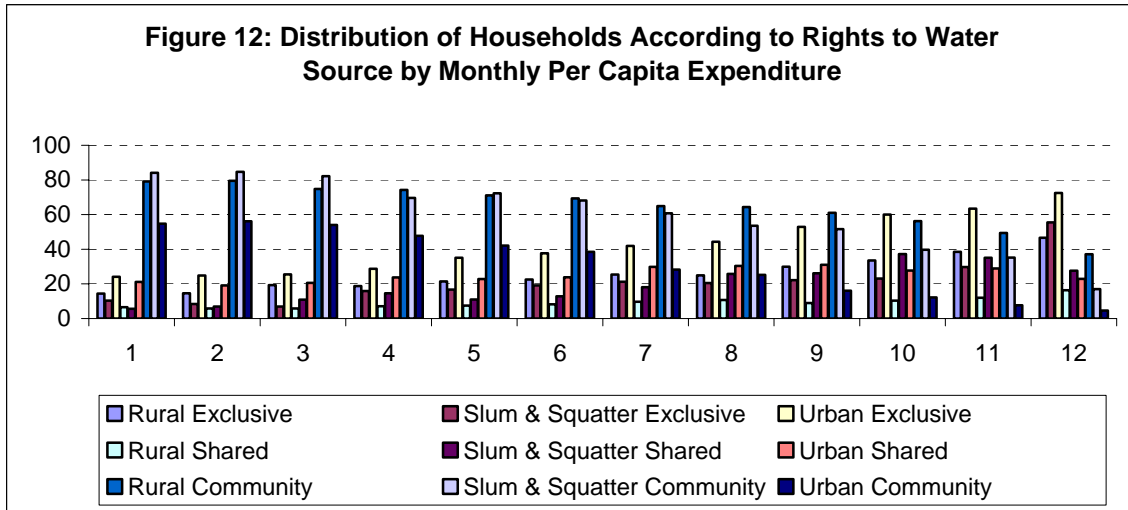
MPCE Class Rural
1: 0 - 225, 2: 225 - 255, 3: 255 - 300, 4: 300 - 340, 5: 340 - 380, 6: 380 - 420,
7: 420 - 470, 8: 470 - 525, 9: 525 - 615, 10: 615 - 775, 11: 775 - 950, 12: 950 or more

MPCE Class Urban
1: 0 - 300, 2: 300 - 350, 3: 350 - 425, 4: 425 - 500, 5: 500 - 575, 6: 575 - 665,
7: 665 - 775, 8: 775 - 915, 9: 915 - 1120, 10: 1120 - 1500, 11: 1500 - 1925, 12: 1925 or more

Across the MPCE classes, there are significant variations in the proportion of households having access to all three essential facilities viz. electricity, latrines and drinking water. First, in all three area types, the percentage of households reporting the existence of all three facilities in their dwellings increases with MPCE (Figure 11).

The percentage of households having all three varies, over MPCE classes, from 3 per cent to 43 per cent in rural areas, 8 per cent to 62 per cent in urban slums, and 27 per cent to 94 per cent in non-slum urban areas. The percentage of households not having all three also varies over MPCE classes, from 52 per cent to 7 per cent in rural areas, 39 per cent to 1 per cent in urban slums, and 21 per cent to 0 per cent in non-slum urban areas. For every MPCE class, the percentage of rural households without (with) access all three facilities is higher (lower) than corresponding households in slums and non-slum urban areas. This suggests that households in the slums have better access to services than their rural counterparts.

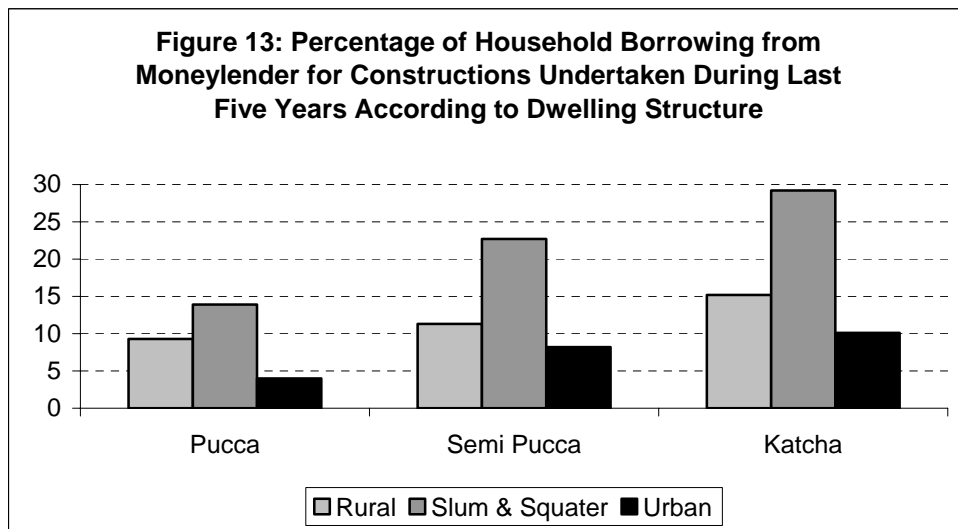




Note for Figures 10, 11, 12: MPCE Class Rural, Urban as mentioned in Table 4
 Source for Figure 10, 11, 12: NSSO 2004

For every MPCE class, the percentage of non-slum urban households with exclusive rights to their water source is higher than corresponding households in slums and rural areas (Figure 12). Households from lower MPCE classes from the slums and rural areas share their water source with rest of the community.

The moneylenders are relatively more active in the urban slums than in the rural or non-slum urban areas. In the urban slum areas, the moneylenders funded 15 per cent of general expenses and 21 per cent of the expenses related to major repairs.



Source: NSSO 2004

We established the fact that the dwelling structure varies according to the MPCE class. The poorer households live in katcha houses while the richer households live in pucca houses. In order to ascertain the importance of private moneylenders across MPCE classes we look at the moneylenders' role according to the type of

dwelling structure (Figure 11). The money lenders have funded 29 per cent of the total finance required for katcha constructions in the urban slums, around 10 per cent of the finance required for katcha constructions in non-slum urban areas and 15 percent in the rural areas. In case of the pucca dwelling we find that the money lender funded 14 percent, 9 percent and 4 percent in the slums, non-slum urban and rural areas respectively.

The National Slum Policy has components aimed at making slum dwellers creditworthy. It recognizes the need for 'institutional mechanisms evolved in line with Community Development Societies system to mobilise community based resources to be linked as collateral to extend institutional loans'. However, one can argue that such programs have an impact in the medium to long term and the policy lacks 'action items' for reducing the role of the money lender.

3 Changes in the Condition of Slums Over Time

Table 5 gives the distribution of slums according to whether the condition of the slum has improved, remained unchanged or deteriorated over the five years preceding the survey in 2002. A cursory look at Table 4 also reveals that the improvements in the services in the notified slums were faster than the non-notified slums.

	Notified			Non-notified		
	Improved	No Change	Deteriorated	Improved	No Change	Deteriorated
Road Within Slum	52.7	44.8	2.5	21.1	65.7	13.2
Approach Road to the Slum	51.1	46.3	2.6	40.1	56.7	3.3
Water Supply	47.9	48.1	4	31.6	62.5	5.9
Electricity	34.5	64.4	0.1	27.1	70.4	2.5
Street Light	39.4	59.8	0.8	22.7	77.4	2.8
Latrine	49.6	47.8	2.7	33.1	62.4	4.5
Drainage	46.6	50.1	3.3	22.5	66.3	11.2
Sewerage	23.8	71.3	4.9	41.4	54.7	4
Garbage Disposal	5.7	88	6.4	15.4	76.6	7.5

Source: NSSO 2003

While percentage of slums reporting a deterioration of the facilities is not very high there is still cause for concern in context of drainage, sewerage and garbage disposal in both notified and non-notified slums and the condition of roads within the non-notified slums. What is however of concern is that in the 2002 survey over 80 percent of slums report no improvements in garbage disposal in the notified slums.

There have been improvements in sanitation facilities during the five years preceding the survey of 2002. Nearly 50 percent of slums reported improvements in latrine, 47 percent in drainage facilities and 24 percent in sewerage. To put these numbers in perspective, one needs to look at the data collected by NSSO in 1993. Data from the 1993 survey reveal that the in the five years preceding the survey of

1993, 20 per cent of slums reported improvements in the case of latrine, 30 per cent in case of drainage and 10 per cent in sewerage facilities.

In the notified as well as non-notified slums, the government has been the leading player in terms of improvement of facilities (Tables 6 & 7).

The 1993 data reveals that 78 per cent of urban slums attributed the improvement of facilities to government initiatives and 12 percent to initiatives from NGOs. The 2002 data reveals that the government has been the major force in case of roads, water supply and electricity. The NGOs have been significant players in improving latrine, drainage and garbage disposal facilities.

Table 6: Distribution (%) of Notified Slums by Source of Improvement in

	Government	NGO	Residents	Other	N.R.
Road Within Slum	96.3	0.3	2.6	1.1	0
Approach Road to the Slum	96.6	1.8	0.6	1	0
Water Supply	95.5	3.4	0	1.1	0
Electricity	95.8	0.7	3.6	0	0
Street Light	98	1.3	0.8	0	0
Latrine	76.3	9.2	14.4	0	0
Drainage	88.5	5	6.5	0	0
Sewerage	97.6	0	2.4	0	0
Garbage Disposal	95.3	4.5	0.2	0	0

N.R – Not Reported
Source: NSSO 2003

Table 7: Distribution (%) of Non-notified Slums by Source of Improvement in

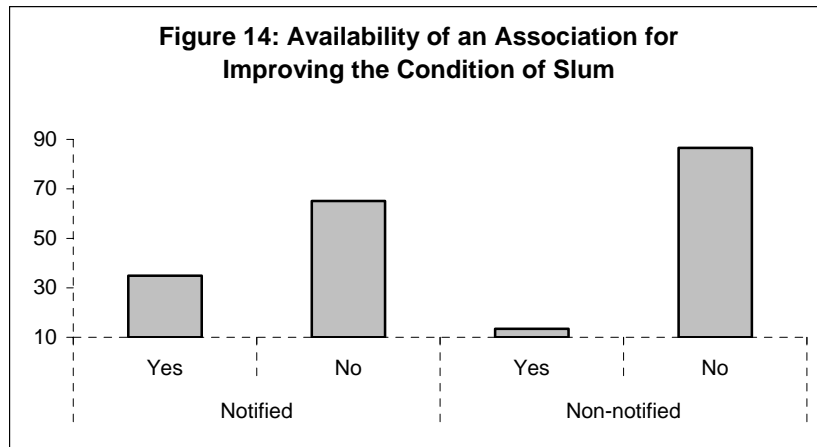
	Government	NGO	Residents	Other	N.R.
Road Within Slum	88.7	3.5	3.5	3.1	1.2
Approach Road to the Slum	90.8	7.9	0	0	1.4
Water Supply	87.7	2.2	5.8	1	3.1
Electricity	83.3	4.1	11.7	0.9	0
Street Light	95.3	3.3	0.4	1.1	0
Latrine	78.6	1.5	19.9	0	0
Drainage	74.7	4.8	20.5	0	0
Sewerage	63.3	9.9	26.8	0	0
Garbage Disposal	92.7	5	0.5	1.8	0

N.R – Not Reported
Source: NSSO 2003

In the context of improvements in latrine facilities, in notified slums, NGOs were responsible for undertaking improvements in 9 percent of slums while residents were responsible in over 14 percent of the slums.

In non-notified slums the residents were more active in effecting improvements compared to the NGOs. In the context of improvements with regard to drainage and sewerage, the residents were responsible for improvements in nearly 21 percent and 27 percent of the non-notified slums. The residents and the NGOs are active in terms of improving the access to the slums and availability of electricity.

These numbers suggest that stance adopted in the draft National Slum Policy of encouraging communities, community based organizations, NGOs to undertake projects⁹ in the realm of improved access to water supply, drainage, sanitation, electricity is a step in the right direction. The numbers suggest that is scope for success of such initiatives. A community driven approach under appropriate supervision of urban local bodies will over time reduce the fiscal burden on the local governments. Already, services are being contracted out for example to the NGOs. NGO's have led the way in maintaining pay and use toilets.



Source: NSSO (2003)

Less than 35 percent of notified slums have an association for improving the condition of slum. In case of the non-notified slums this number is much lower at 14 percent (Figure 14). There is a need to make the setting up of resident associations mandatory. A first step has been taken in the National Slum Policy, which stipulates that at the time of granting tenure of land, formation of a residents association/society is a pre-requisite. The urban local body will in turn recognize this association.

4 Conclusion

The rapid growth of urban population poses serious challenges in terms of provision of basic minimum services. Slums are an outcome of an imbalance in urban growth resulting from over-concentration of economic resources in a few urban agglomerations like Mumbai, Calcutta, Delhi, Bangalore and regional disparities. Way

⁹ The Tenth Five Year Plan (2002-07) clearly lays out that at the state level “ the thrust should be on the provision of all basic services such as potable water and sanitation services, including household taps, toilets with septic tanks, covered drains, waste collection services etc. to the slum settlements. Other activities for the socio-economic upliftment of the slum populations should also be taken up. City-wide master plans for slum improvement should be drawn up with the objective of removing the slum characteristics of the selected settlements. The annual programmes and projects, including those to be financed out of NSDP (National Slum Development Programme) funds, should be based on such master plans.”

back in 1984, the Task Force on Housing and Urban Development set up by Government of India recognized that these imbalances can be addressed only dispersing industrial growth to medium and small sized towns and nodal villages. However, no systematic efforts have been made in this direction (Sharma and Sita 2000).

The problem of poor service provision in the urban slums is not a phenomenon peculiar to India only. The study undertaken by the Panel on Urban Population Dynamics states, "The spatially concentrated poor – such as those living in slums – may face additional health penalties that erase the urban health advantage. Scattered data for sub-Saharan Africa clearly indicate deteriorating conditions in a number of places" (Montgomery et.al 2003).

We provide evidence that corroborates the above statement. In this paper, we outlined the differences in the conditions of slums in India and compared the conditions prevailing in the non-slum urban, rural areas and the slums. We find that the slums are similar to rural areas in some respects and dissimilar in many other respects. It would not be unreasonable to say that conditions in the slums lie somewhere between the conditions in the non-slum urban areas and rural regions.

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