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

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Using a unique nationwide dataset on housing conditions and slum infrastructure from India we shed light on how different the rural, urban poor are from the poor households residing in the slums. We find considerable variations in access to services and credit across the different MPCE classes. It would not be unreasonable to say that conditions in the slums lie somewhere between the conditions in the rest of 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 1).

**Table 1: Growth of Urban Population**

| | % 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 1a provides further information on number of cities according to population classes.

**Table 1a: Urban Agglomerations/Towns by Class/Category: Census of India 2001**

| 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 |

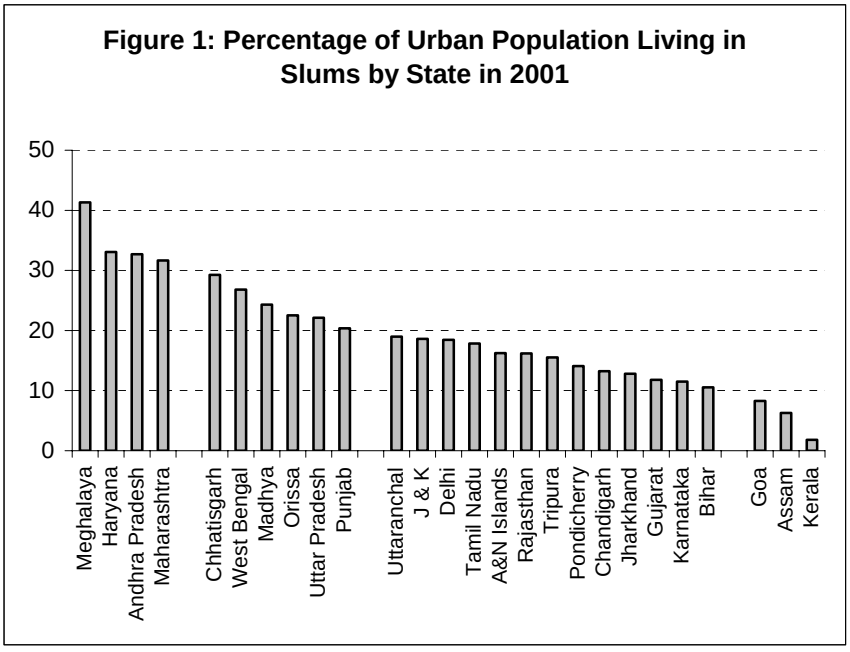
Note : Data is provisional
* Population Census 2001 could not be held in these towns/cities of Gujarat State on account of national calamity.
Source: Office of the Registrar General of India.

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 slums. Figure 1 provides the percentage of urban population living in the slums by state.

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[1] data, there are 40.6 million persons living in slums.




*Source: Census 2001*

Between July - December 2002, NSSO, India conducted a survey[2] on the condition of urban slums. This was the third survey on slums, the previous surveys 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.

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[1] 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.

[2] 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.

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 squatters[3].

We intend to get to the core of the following question – how different are the rural poor, the 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 rest of 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 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, 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[4] 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

[3] 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.

[4] In a related paper, Chandrasekhar (2004) estimates a multinomial logit model in order to understand the determinants of slum improvement. The dependent variable takes one of three values: Condition Improved, No Change in Condition and Condition Deteriorated. The independent variables are approximate number of households in the slum, approximate area of the slum, notified \ non-notified slum, year of notification, slum has a residents association, ownership of the land where slum is located, type of area surrounding the slum, physical location of the slum, state of the slum during monsoon, existence and condition of approach road, type of structure of the majority of houses, slum electrification, source of drinking water and sanitation facilities.

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, 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

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, urban India and the slums. Following this we look at availability of key services across rural, 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.

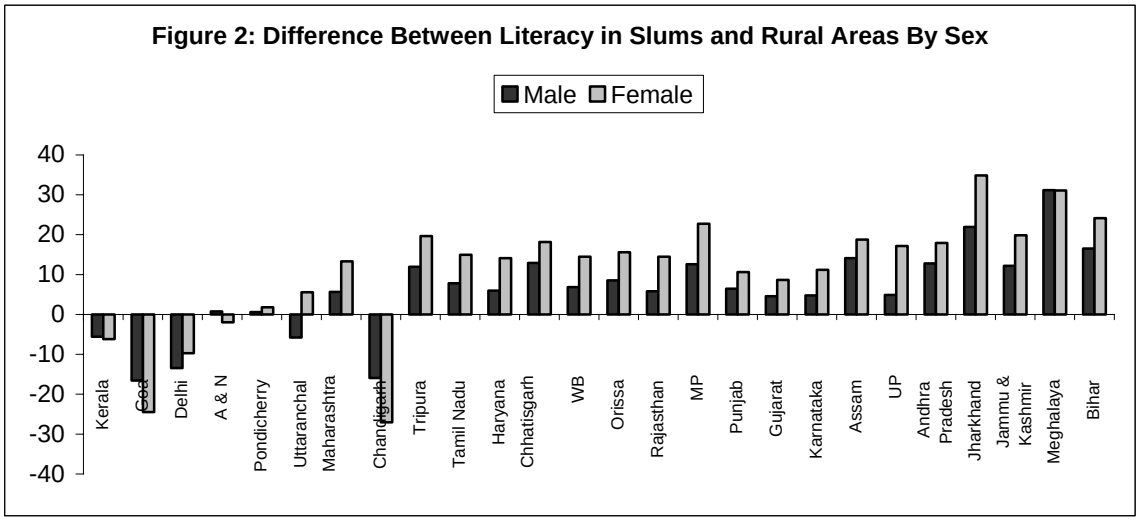
The discussion below would suggest that to make an overall comment that the rural areas are better off or worse off than the urban slums could be misleading.

### 2.1 A Comparison Across Rural India, Urban India and Urban Slums

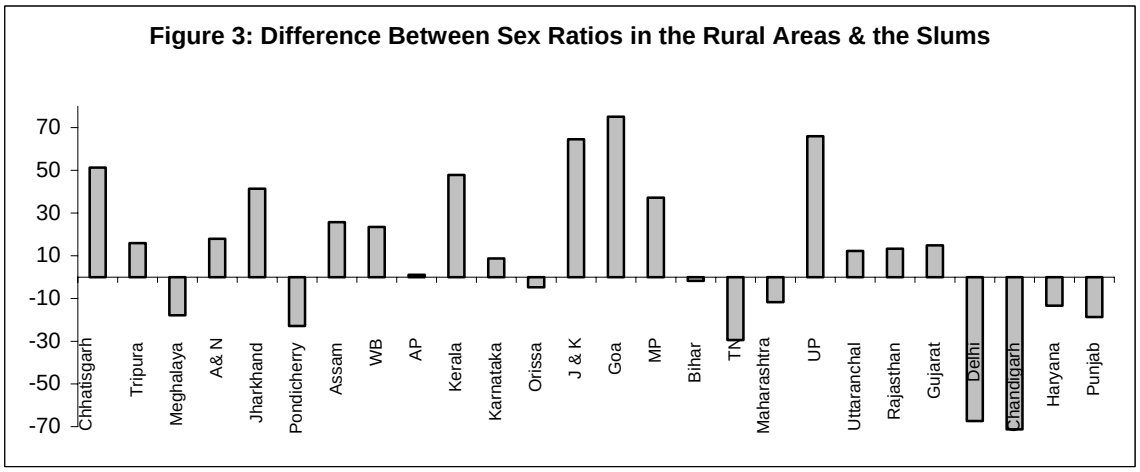
**Literacy and Sex Ratio:** Instead of examining the absolute literacy levels in the rural, urban areas and the slums, we compute the differences in the literacy between males residing in slums and rural areas and females residing in slums and rural areas. Figure 2 plots this for select Indian states 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.*




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

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.

**Table 2: Percent of Rural, Urban Households and Slums Having Access to Infrastructure**

| | 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 | 57 | 12.4 | 16.0 | 1 |
| 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 | 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 women[5] 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 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 rest of 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 prevention[6], as well as measures to combat alchoholism and violence. Urban local bodies[7] should establish a network of community health workers/ volunteers to facilitate this process through health promotion activity."

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

[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.

## 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).

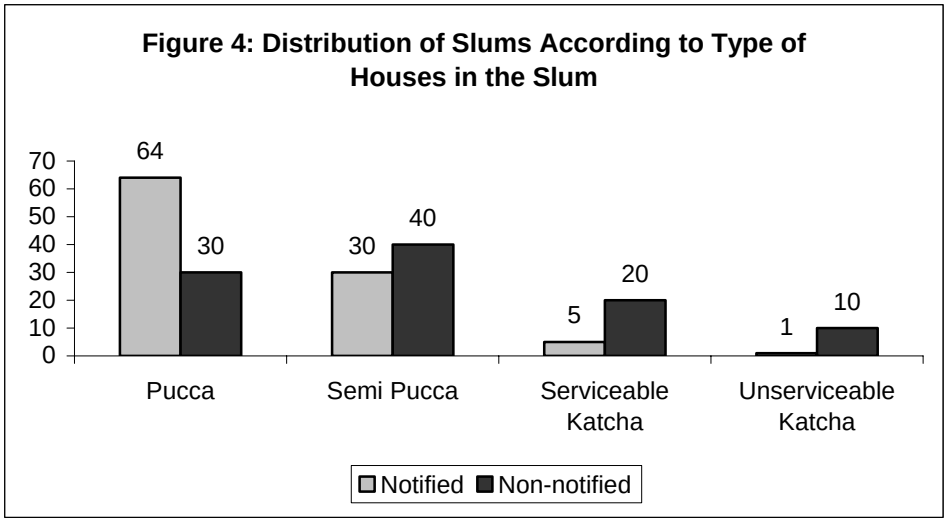
As is evident from Figure 4, a large number of houses are not pucca[8] in nature. The problem is more acute in the non-notified slums. There have however been improvements since 1993. In 1993 only 30 percent of slums had majority of pucca houses. In 2002, this number was higher at 47.

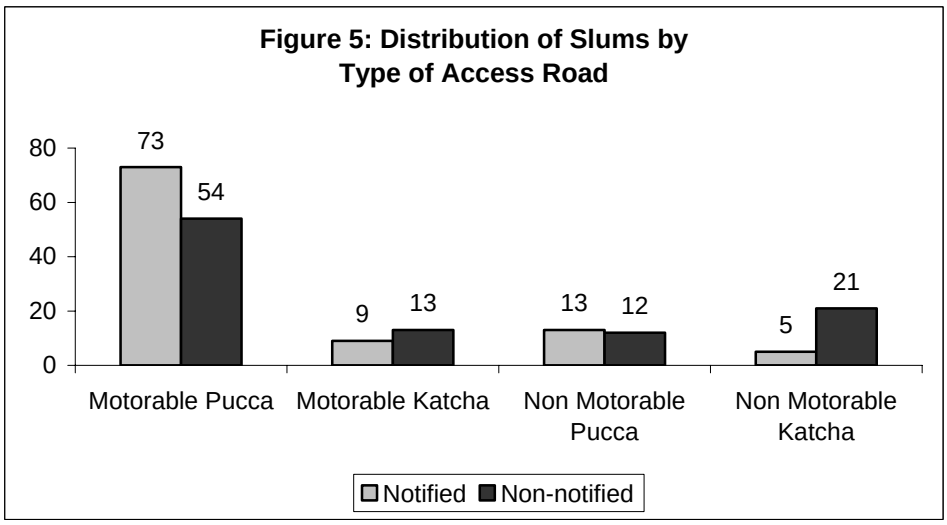
In terms of roads within the slum, 71 percent of the notified slums have a pucca road while only 37 percent of non-notified roads have a pucca road within the slum. Significant strides have been made in terms of availability of roads since 1993. In 1993, only 47 percent of slums had a pucca road within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

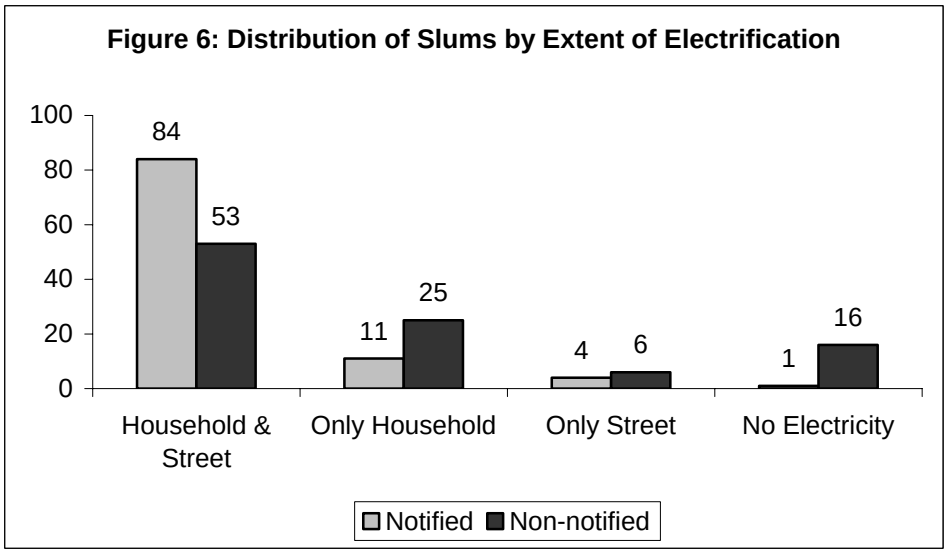
In terms of access road to the slums, 86 (27) percent of notified (non-notified) slums have a pucca approach road to the slum. In 1993, only 74 percent of slums had such a road.

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.

[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.
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.

**Figure 7: Distribution of Slums According to Drainage Facility**

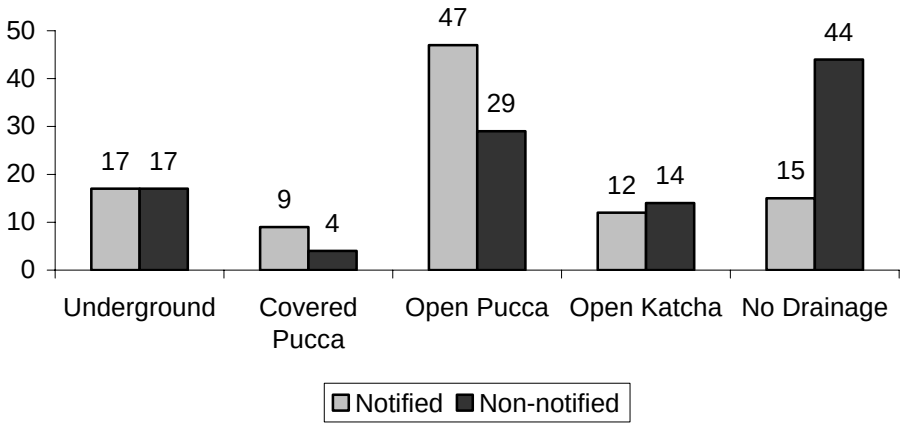
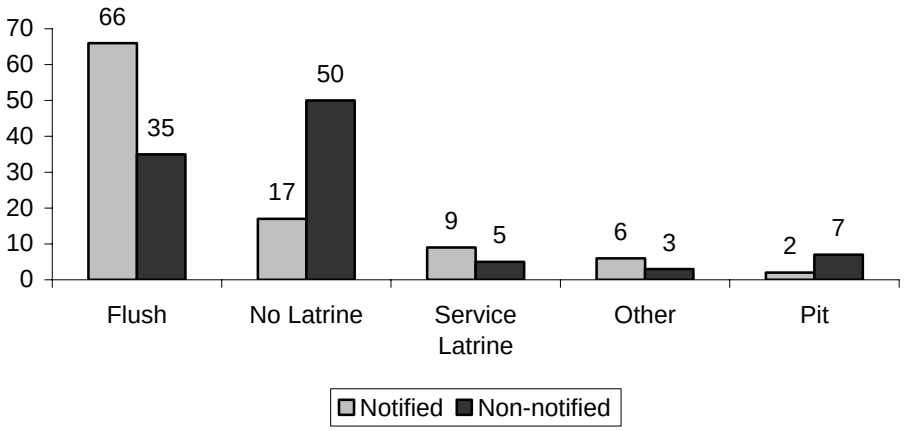
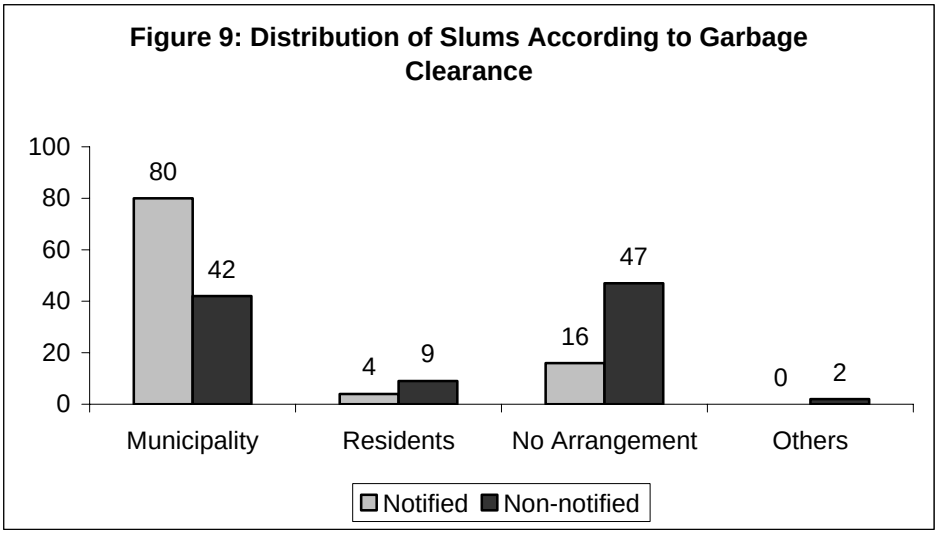



**Figure 8: Distribution of Slums According to Latrine Type**






*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 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 the rest of 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 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 it should be taken note of the fact that 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 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 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 MPCE**

| | Rural | | | Slum & Squatter | | | Urban Areas | | |
|---|---|---|---|---|---|---|---|---|---|
| MPCE Class | Upto 50 M | 50-100 M | Above 100 M | Upto 50 M | 50-100 M | Above 100 M | Upto 50 M | 50-100 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 other 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 other 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 urban areas. This suggests that households in the slums have better access to services than their rural counterparts.

**Figure 10: Distribution of Households According to Type of Dwelling Unit by MPCE**

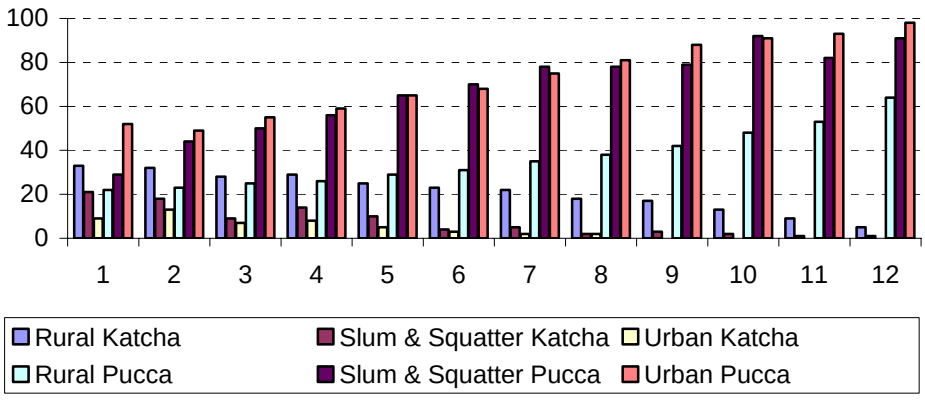



**Figure 11: Distribution of Household According to Access to Electricity, Latrine & Drinking Water Within Premises by MPCE**

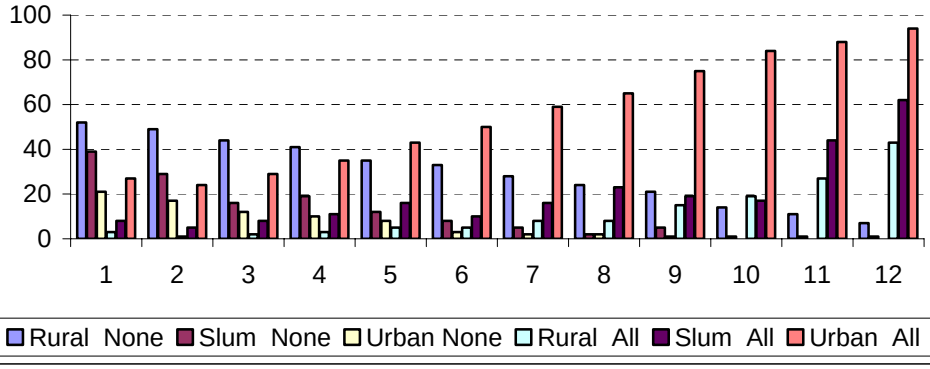
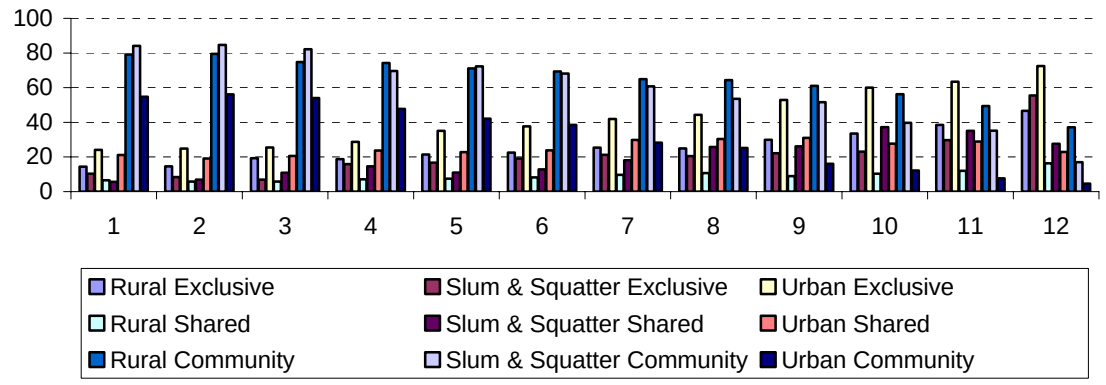


**Figure 12: Distribution of Households According to Rights to Water Source by MPCE**

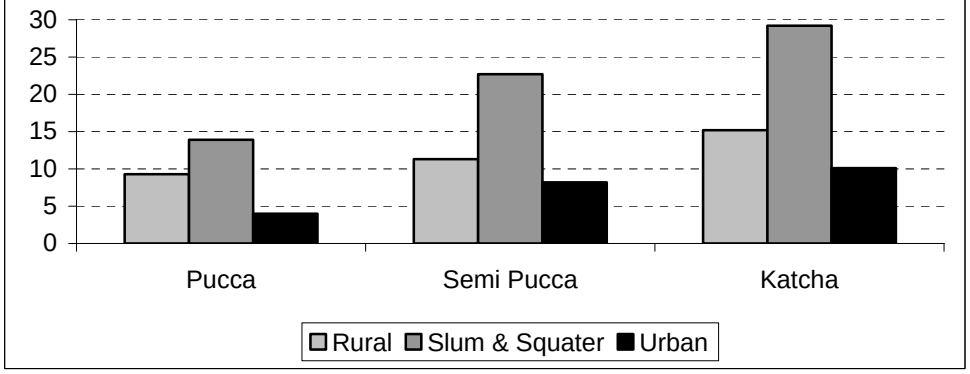



**Note for Figures 10, 11, 12:** MPCE Class Rural, Urban as mentioned in Table 4
*Source for Figure 10, 11, 12: NSSO 2004*

For every MPCE class, the percentage of 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 rest of 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.

**Figure 13: Percentage of Household Borrowing from Moneylender for Constructions Undertaken During Last Five Years According to Dwelling Structure**




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 other 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, urban and rural areas respectively.

## 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.

**Table 5: Distribution (%) of Slums by Change in Condition of**

| | 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 bother 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.

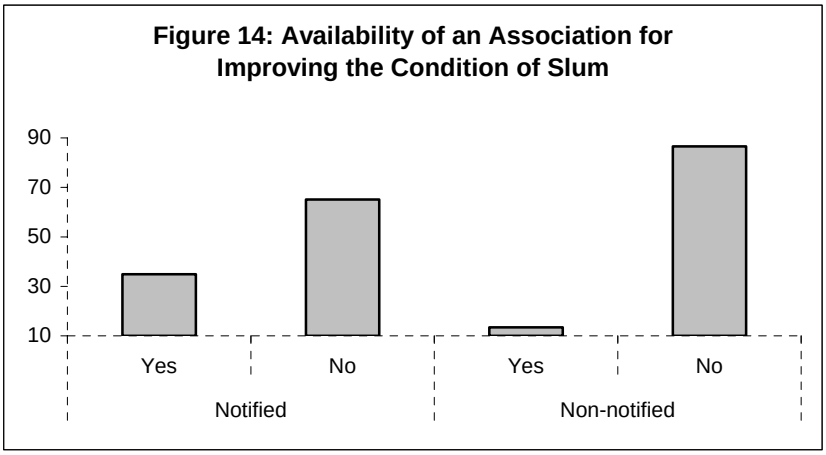
In non-notified slums the residents were more active in effecting improvements compared to the NGOs. In the context of improvements with regard to drainage and sewerage, the residents were responsible for improvements in nearly 21 percent and 27 percent of the non-notified slums. The residents and the 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 projects[9] in the realm of improved access to water supply, drainage, sanitation,

[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,

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.

**Figure 14: Availability of an Association for Improving the Condition of Slum**




*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

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 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).

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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."

In this paper we have outlined the differences in the conditions of slums in India and compared the conditions prevailing in the 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 rest of urban areas and rural regions.

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