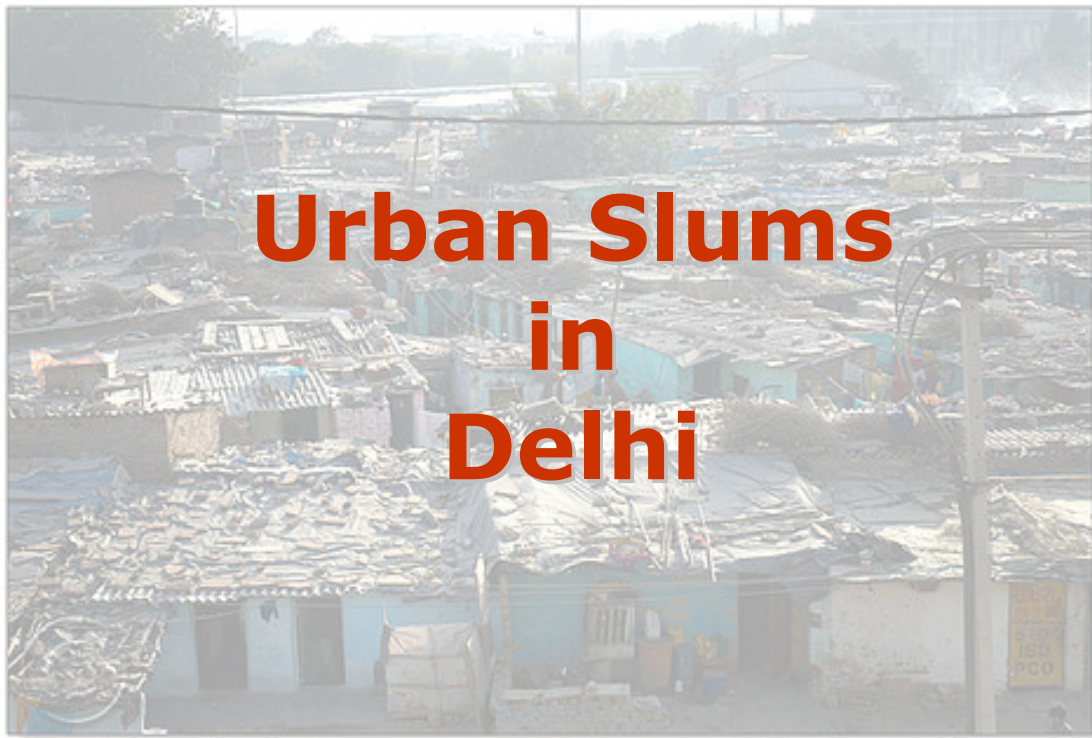




GOVERNMENT OF NATIONAL CAPITAL TERRITORY OF DELHI



Urban Slums in Delhi

**Based
on
NSS 65th ROUND SURVEY
(JULY 2008 – JUNE 2009)
STATE SAMPLE**

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PREFACE

The present report on "Urban Slums in Delhi" is brought out by this directorate on the basis of sample survey conducted under the 65th NSS Round (July 2008- June 2009) in respect of state sample.

This report contains information relating to 2008-09 on ownership, area type, structure, living facilities like electricity, drinking water, latrine, sewerage, drainage, garbage disposal, and distance of slums from the nearest primary school and government hospital/health centre. It also provides information on the change in condition of the slums during the five years preceding the date of survey.

This report was prepared by the Data Processing Unit headed by Shri Sabir Ali, Assistant Director under the able guidance of Sh. N.T. Krishna, Deputy Director. The extraordinary efforts put in by Sh. Ritesh Kumar, DEO and Smt. Varsha Kumar, Statistical Assistant in the data analysis and report making stages deserves special mention. The fieldwork was conducted by socio-economic unit under the guidance of Sh. D. B. Gupta, Assistant Director and he was assisted by S/Sh. V.K Vaid, B.L. Chauhan and K. R. Chibbar, Statistical Officers. The role played by this unit in collection of data from the field against all odds is appreciated. The data processing was done by the EDP unit under the close guidance of Sh. S. K.. Behera, System Analyst and Sh. Praveen Srivastava, Programmer.

The technical assistance provided by National Sample Survey Organisation, Government of India and the co-operation extended by the households is acknowledged.

I hope the report will be found useful by policy makers, academicians and researchers. Suggestions for improvement of the content of the report will be greatly appreciated.

New Delhi
Date: December, 2010

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Highlights

Objective of Survey

For this survey, conducted during July 2008 to June 2009 in urban Delhi, **“A slum is a compact settlement of at least 20 households with a collection of poorly built tenements, mostly of temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic conditions”**.

The objective of the survey was to come out with a status report on the length and breath of slums in urban Delhi with respect to number of slum clusters and households therein and more importantly to ascertain the relative change in their physical status in the light of various measures taken by government/local bodies and the residents themselves over a period of time in the existing facilities in these slum clusters.

The main findings of the survey are as follows:

Characteristics of Slums

- ❖ About 4390 slums with approximately 5.77 lakhs households were estimated to be in existence in urban Delhi in 2008-09.
- ❖ About 78% of slums were built on public land, owned mostly by local bodies (54%), railways (14%) and state government, etc.

- ❖ 8.18% of the slums have cropped up along nallah/drain, around 25.19% along railway lines and the remaining 66.63% of the slums at other places.
- ❖ About 64.28% slums are surrounded by residential areas, 15.51% by industrial areas, 7.88% by commercial areas and rest by other type of areas.
- ❖ 49.75% of slums are composed of pucca structure, 41.78% semi pucca and only 8.47% of slums were having katcha structure.
- ❖ For 96.54% of slums, the major source of drinking water was either tap or hand pump.
- ❖ The most of the residents of about 62.86% of the slums are using septic tank/flush type of latrine facility. At the other extreme, 20% slums (down from 30% in 2002) did not have any latrine facility at all.
- ❖ Underground sewerage existed in only about 23% slums.
- ❖ About 2.76% of the slums were having underground drainage system, 3.42% covered pucca drainage system, 66.70% open pucca drainage system and 11.12% open katcha drainage system. Only 16% of the slums were having no drainage system.
- ❖ Local bodies were collecting garbage from 66% of slums. Out of the slums in which garbage collection is done by local bodies, the frequency of the collection was 43% on daily basis, while in 13% of

slums garbage was collected atleast once in two days, once in 3 to 7 days in 24% slums and once in 8 days & above in 20% of slums and 24% slums did not have any regular mechanism for garbage disposal.

- ❖ About 81% of the slums had a motorable approach road.
- ❖ About 77% of slums were having pucca road/lane/path (up from 45.47% in 2002) within the slum.
- ❖ About 47.68% of slums were electrified with both street light and household use, 29.20% for household use only, 19.73% for street light only, while in 3.35% of slums there was no electricity.
- ❖ About 60.91% of the slums were having primary schools in the proximity of less than 0.5 km.
- ❖ About 26.40% of the slum clusters were having the government hospital within a distance of 0.5 km, 24.65% in the distance 0.5-1 km, 18.61% in the distance 1-2 km, 17.61% in the range of 2-5 km and 12.73% slum clusters are covered by government hospitals in the distance of 5 km and above.
- ❖ About 16% of the slums were usually affected by water logging (inside of slum as well as approach road also) during monsoon.
- ❖ About 35.28% of the slums in Delhi were having associations either formal/informal for improving the condition of the slums formed by the slum dwellers themselves.

Improvement of Facilities:

- ❖ As per the assessment of the knowledgeable person of the slums from whom the information is collected facilities had improved in more than 50% of slums in terms of 4 facilities viz. electricity, street light, approach road to slum and education facility at primary level over the last five years. The incidents of deterioration of all of the existing facilities in slums during the last five years were quite low (below 9%).

Source of Improvement of Facilities:

- ❖ Where improvement had been brought about during the last 5 years, it was due to the Government's efforts in about 85-100% of slums, for all the facilities. The contribution of NGOs is particularly noticeable in providing latrine facilities street light, medical facility and approach road to the slum. However, residents themselves also played an important role in improving water supply and drainage facility in slums.

Section one: Introduction

Slums are an urban phenomenon which comes into existence on account of industrialization in and around cities thereby attracting in migration of population from country side. Though slums are a rich source of un-skilled and semi-skilled manpower, they tend to result in burden on the existing civic amenities. Government agencies and NGOs have flung into action and initiated several measures to improve the plight of slum dwellers and make the slum areas livable for the habitants as of late they are viewed as effective agents in the process of urban development rather than burden on urban infrastructure.

The UN Millennium Summit held in September, 2000 also included this aspect under Millennium Development Goals. In the light of the universal attention, the findings of this survey attain vital importance for perusing the agenda of bring out improvement in the lives of slum dwellers with more vigor.

The first nationwide survey on the 'economic condition of slum dwellers in urban cities' was conducted by the NSSO in its 31st round enquiry (July 1976 - June 1977). The survey was restricted to all the Class I towns having 1971 census population one lakh or more. Only the cities proper and not the urban agglomerations were considered for the survey coverage.

The second nationwide survey on particulars of slums was conducted in 49th round enquiry (January - June 1993), which covered rural as well as urban areas. Two kinds of slums - 'declared' and 'undeclared' - were covered. Certain areas declared as 'slums' by the appropriate municipality,

corporation, local body or development authorities were the 'declared slums'. Outside the declared slums, any compact area with a collection of poorly built tenements, mostly of temporary nature, crowded together – usually with inadequate sanitary and drinking water facilities – in unhygienic conditions was considered an 'undeclared slum', if at least 20 households lived in that area.

After a gap of nearly ten years, the third survey in the series was conducted in the 58th round enquiry (July-December 2002). The concept of slum being basically urban, it was decided, to cover only urban slums in the survey. It is worth mentioning that the results of both the 49th and the 58th round survey reflect only the availability and not the adequacy of the facilities available in the slums.

The present survey – carried out in the 65th round of NSS – was thus the fourth nationwide NSS survey of slums. It relates to the period July 2008 to June 2009. Like the 49th and 58th round surveys, this survey, too, dealt with the availability and not the adequacy of facilities available in the slums. The aim was to collect information on the present condition of the slums and on the change in the condition of some facilities available therein. Like the 58th round survey, this survey was confined to the urban sector. Only slums found in the randomly selected urban blocks were surveyed.

Scope & Coverage: The main aim of the survey was to come out with an estimate on the length & breath of slums in urban Delhi with respect to approximate number of slum clusters and households therein and more importantly ascertain the relative change in their physical status in the light of various measures taken by government/local bodies and the residents themselves over a period to time in the existing facilities in these slum clusters. The survey covered the urban areas of whole of the Delhi State.

Mode of Data Collection: Unlike household surveys where data are collected from each household, data were collected in a holistic manner in respect of each slum from the **knowledgeable persons** available at the time of survey. However, due care was taken in selecting such persons.

Presentation of Results: The relevant concepts and definitions used in this survey are presented in section two. The sample, design and estimation procedure for the survey is given in section three. The summary of findings based on the survey data is discussed in section four. A copy of the schedule of enquiry is given in section five.

Limitations

- ❖ It may please be noted that the definition of slum adopted in this 65th round NSS survey and that of Slum Act of the Delhi State with respect to the physical characteristics of a slum are similar except in one important aspect viz. **the number of households**. As per NSS survey a compact settlement of atleast 20 households having slum like physical characteristics was treated as a Slum cluster whereas under the “Slum Areas (Improvement and Clearance) Act, 1956” the number of household is 50 or more.
- ❖ The number of slum cluster estimated on the basis of this survey conducted during 2008-09 are bound to be different from that of the records maintained by “Delhi Urban Shelter Improvement Board” as there is a basic difference in definition of deciding a slum cluster in terms of minimum number of households in a slum.

- ❖ The status of a slum that is notified/non-notified is collected from the knowledgeable persons of the area. This aspect therefore is likely to be affected by recall lapse of the respondent. As such the data was not presented separately for notified and non-notified slums in the report.
- ❖ As per the Delhi Urban Shelter Improvement Board, Government of Delhi the *notified slums are the areas which had been notified slum under Section-3 of Slum Areas (Improvement and Clearance) Act 1956. The said notified slums area is falling mostly in the walled city and its extension. So far as Non-notified slum are concerned, all the JJ clusters which are located across the city is an illegal encroachment on public land. All these clusters are falling under the category of non notified/listed/identified slums.*
- ❖ As per 65th NSS Round survey there were about 4390 slum clusters (all type i.e. notified/non-notified) in 2008-09 in urban Delhi. However, *as per a house of house survey conducted **in the year 1990** by the Food & Supply Department, GNCTD for the purpose of issuing Ration Cards there were 929 JJ clusters containing 2.5 lacs Jhuggies. Thereafter a purely rough assessment was made **in March, 1994** by the field functionaries of Slum & JJ Department and identified 1080 JJ Clusters containing 4.80 lacs jhuggies.*

Section Two: Concepts, Definitions and Procedure

For collection of data on the condition of slums, certain concepts and definitions were used in the survey. These are explained below.

Slum: A slum is 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 in that compact area (commonly known as "Jhuggi Jhopri"). Such an area, for the purpose of this survey, was considered as a "**slum pocket**" if at least 20 households lived in that area. For this survey, only slums in urban areas were considered. If a slum lay partly within a sample urban block, the part of it within the sample block provided it contained at least 20 households was considered a slum for the purpose of the survey.

House: Every structure, tent, shelter, etc. was considered as a house irrespective of the nature of its use. It might be used for residential or non-residential purpose or both or even might be vacant.

Household: A group of person's normally living together and taking food from a common kitchen constituted a household. The members of a household might or might not be related by blood to one another.

Each inmate (including residential staff) of a hostel, mess, hotel, boarding and lodging house, residential institutions for disabled, etc. constituted a single member household. If, however, a group of persons among them normally pooled their income for spending, they together were treated as forming a household. For example, a family living in a hotel was treated as a separate household by itself.

In deciding the composition of a household, more emphasis was placed on 'normally living together' than on 'ordinarily taking food from a common kitchen'. In case the place of residence of a person was different from the place of boarding, he or she was treated as a member of the household with whom he or she resided.

A resident employee, or domestic servant, or a paying guest (but not just a tenant in the household) will be considered as a member of the household with whom he or she resides even though he or she is not a member of the same family.

When a person sleeps in one place (say, in a shop or in a room in another house because of space shortage) but usually takes food with his or her family, he or she should be treated not as a single member household but as a member of the household in which other members of his or her family stay.

If a member of a family (say, a son or a daughter of the head of the family) stays elsewhere (say, in hostel for studies or for any other reason), he/ she will not be considered as a member of his/ her parent's household. However, he/ she will be listed as a single member household if the hostel is listed.

Pucca structure: A pucca structure was one having walls and roofs made of "pucca materials".

Pucca and non-pucca materials: In the present survey, 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 polyvinyl chloride (PVC) material constituted the list of pucca materials. All other materials were classified as "non-pucca materials". Non-pucca materials included unburnt bricks, bamboo, mud, grass, leaves, reeds, thatch, etc.

Katcha structure: A structure having both roof and walls made of non-pucca materials was called a katcha structure. Katcha structures could be of the following two types:

- (a) **'Unserviceable katcha,'** which included all structures with thatch walls and thatch roof i.e. walls made of grass, leaves, reeds etc. and roof of a similar material, and
- (b) **'Serviceable katcha,'** which included all katcha structures other than unserviceable katcha structures.

Semi-pucca structure: The term was used for a structure that had either the walls or the roof, but not both, made of pucca materials.

Type of latrine: Latrines serviced by scavengers were called "service latrines". A latrine connected to an underground sewerage system was called a "flush system latrine". A latrine connected to underground septic chambers

was called a "septic tank latrine". A latrine connected to a pit dug in earth was called a "pit latrine". Information on type of latrine was recorded for the slum as a whole, which means that the type used most commonly by the slum dwellers, was recorded.

Underground Sewerage system: This means a system of underground pipes or conduits for carrying off drainage water, discharge from water closets, etc.

Drainage system: This means a system for carrying off waste water and liquid wastes of the area.

Garbage disposal: In the urban areas, some arrangements usually exist to carry away the refuse and waste of households to some dumping place away from the residential areas. In some places, the public bodies collect the garbage from the premises of the household or from some fixed points in the locality where the residents put their garbage. In some places, a body of residents themselves makes the arrangement of carrying the garbage to the dumping place away from residential areas without participation of any public body till the final disposal. Information on the arrangement prevailing for the colony/ locality of the slum was obtained in the survey.

Distance of slum from nearest facility (government primary school, government hospital/ health centre): The distance from the centre of the slum to the nearest facility of the type in question (e.g. government primary school, government hospital/health centre) availed by/available to the slum dwellers was considered.

Section Three: Sample Design and Estimation Procedure

Geographical coverage: The survey covered all urban areas of Delhi State.

Period of survey and work programme: The period of survey was of one year duration starting on 1st July 2008 and ending on 30th June 2009. The survey period of this round was divided into four sub-rounds of three months' duration each as follows:

sub-round 1 : July - September 2008

sub-round 2 : October - December 2008

sub-round 3 : January - March 2009

sub-round 4 : April - June 2009

In each of these four sub-rounds equal numbers of sample villages/blocks (FSUs) were allotted for survey with a view to ensuring uniform spread of sample FSUs over the entire survey period. Attempts were made to survey each of the FSUs during the sub-round to which it was allotted.

Schedules of enquiry: During this round, the following schedules of enquiry were canvassed:

Schedule 0.0 : list of households

Schedule 21.1 : domestic tourism

Schedule 1.2 : housing condition

Schedule 0.21 : particulars of slum

Sample Design

Outline of sample design: A stratified multi-stage design was adopted for the 65th round survey. The first stage units (FSUs) in the urban sector were Urban Frame Survey (UFS) blocks. For the survey of slums, there was, unlike the other surveys of the 65th round, no second stage of sampling involving selection of households. Nevertheless, the paragraphs that follow will refer to the sampling units for the slum survey as FSUs.

Sampling Frame for First Stage Units: For the urban sector, the list of latest available Urban Frame Survey (UFS) blocks was considered as the sampling frame.

Stratification in Urban sector: In the urban sector, strata were formed within each NSS region on the basis of size class of towns as per Census 2001 town population. The stratum numbers and their composition (within each NSS region) are given below.

Stratum	Composition (within NSS region)
1	All towns with population \leq 50,000
2	All towns with population 50,000 – 99,999
3	All towns with population 1,00,000 – 4,99,999
4	All towns with population 5,00,000 – 9,99,999
5, 6,	Each million-plus city

Sub-stratification: There was no sub-stratification in the stratum consisting of non-UFS towns. However, to net an adequate number of slums, each of the other strata were divided into 2 sub-strata as follows:

sub-stratum 1: all UFS blocks having area type 'slum area'
sub-stratum 2: remaining UFS blocks

Total sample size (FSUs): A total number of 544 UFS blocks formed the State sample as against the 272 UFS blocks of Central sample.

Allocation to strata/ sub-strata: Within each sector of a State/ UT, the sample size was allocated to the different strata in proportion to the stratum populations as per Census 2001. Allocations at stratum level were adjusted to multiples of 4 with a minimum sample size of 4. Stratum-level sample size in the urban sector for strata belonging to UFS towns was further allocated to the 2 sub-strata in proportion to the number of UFS blocks in them with double weightage to sub-stratum 1, subject to a minimum allocation of 4 to each of the two sub-strata.

Selection of FSUs: Within each urban sub-stratum (formed from UFS towns), the UFS blocks were arranged in ascending order of population of the towns to which they belonged, and sample FSUs selected by circular systematic sampling with equal probability. Within each sub-stratum, the number of sample FSUs was a multiple of 4. Sample FSUs were selected in the form of two independent sub-samples and an equal number of sample FSUs was allocated to the four sub- rounds.

Survey on urban slums: Information on each slum, notified or non-notified, found in the entire selected FSU was collected through Schedule 0.21. In case the slum was spread over more than one FSU, only the part within the selected FSU was surveyed (provided it had at least 20 households) and considered as 'one slum'.

Estimation Procedure

Notations

s = subscript for stratum

t = subscript for sub-stratum (only for UFS towns)

m = subscript for sub-sample ($m = 1, 2$)

i = subscript for FSU (block/ non-UFS town)

N = total number of FSUs in any urban sub-stratum

n = number of sample FSUs surveyed including zero cases but excluding casualty for a particular sub-sample and stratum/sub-stratum.

x, y = observed value of characteristics x, y under estimation

\hat{X}, \hat{Y} = estimate of population total X, Y for the characteristics x, y

In terms of the above symbols,

y_{stmi} = observed value of the characteristic y of the i^{th} FSU belonging to the m^{th} sub-sample for the t^{th} sub-stratum of the s^{th} stratum.

However, for ease of understanding, a few symbols have been suppressed in following paragraphs where they are obvious.

Formulae for estimation of aggregates for a particular sub-sample and stratum/sub-stratum:

For estimating the aggregate value of a characteristic (no. of slums with a given feature) for the t^{th} sub-strata of the s^{th} stratum on the basis of the m^{th} sub-sample:

$$\hat{Y}_{sm} = \sum_{t=1}^2 \hat{Y}_{stm}$$

Where $\hat{Y}_{stm} = \frac{N_{st}}{n_{stm}} \sum_{i=1}^n Y_{stmi}$ and \hat{Y}_{stmi} is the total observed values for the characteristic y for the i -th FSU.

Overall estimate for aggregates:

Overall estimate for aggregates for a stratum ($s \hat{Y}$) based on two sub-samples is obtained as:

$$\hat{Y}_s = \frac{1}{2} \sum_{m=1}^2 \hat{Y}_{sm}$$

Overall Estimate of Aggregates at State/UT:

The overall estimate \hat{Y} at the State/ UT level is obtained by summing the stratum estimates (\hat{Y}_s) over all strata belonging to the State/ UT.

Section Four: Summary Findings

The 65th round of survey, inter-alia, include the subject on condition of urban slums. Unlike the previous surveys conducted under the NSS rounds, where the information was collected from each selected household, information on the civic facilities of the slums was collected from one or more knowledgeable persons in respect of each of the selected slums. This was the fourth survey on slums after the 58th round (July and December, 2002), 31st round (July, 1976- June, 77) and the 49th round (January-June 1993). As the slum is essentially an urban phenomenon, this survey covered only the urban areas.

The findings are based on the survey conducted in a sample of 61 urban slums. The present report contains information on ownership of the land of slums , area type, its surroundings, structure type, availability of living facilities like electricity, drinking water, latrine, sewerage, drainage, garbage disposal, distance of the slum from nearest primary school and government hospital/health centre. It also provides information on the change in the condition of the urban slums during the last five years along with the sources of improvement of the facilities, if any.

Estimated No. of Slums and Households

The survey estimated the total number of slums as 4390 and the total number of households therein was estimated as 5.77 lakhs (approximate population of 28 lakh persons). About 7% of slums were having 20-50 households, while rest 93% of slums were having more than 50 households each.

Statement No.4.1: Estimated number of slums and estimated approximate number of households within these slums

Item	with approximate numbers		
	20<h<50	h>50	All
Estimated no. of slums	303	4087	4390
%	6.90	93.10	100.00
Estimated no. of households	9774	566882	576656
%	1.69	98.31	100.00

The approximate area of the slum in hectares was ascertained during the survey. The survey revealed that about 20% of the slums were on the plot area of approximately less than 0.5 hectares another 29% on plot area of 0.5 - 1 hectares.

Statement No.4.2: Distribution of Slums by approximate area of Slum

Particulars	Approximate area of slums (in hectares)					Total
	Less than 0.5	0.5-1	1-2	2-6	8 or above	
No. of Slums	872	1266	2100	115	37	4390
%	19.86	28.84	47.84	2.62	0.84	100.00
58 th NSS Round (2002) (%)	34.50	37.33	25.01	3.16		100.00

About 20% of them were spread out on plot area less than 0.5 hectare, 29% on a plot area ranged between 0.5-1 hectares and 48% of them on 1-2 hectares. And the remaining slums were found to be having around 2 hectare or more area.

Statement No.4.2.1: Distribution of Households by approximate area of Slum

Particulars	Approximate area of households (in hectares)								
	Less than 0.5	0.5-1	1-2	2-3	3-4	4-6	6-8	8 or above	Total
No. of Households	69076	148543	280178	12259	0	29600	0	37000	576656
%	11.98	25.76	48.59	2.13	0.00	5.13	0.00	6.42	100.00

About 49% of households were in the slums those spread out on a plot area ranged between 1–2 hectares. 38% households were in the slums those spread out on a plot area less than 1 hectare and the remaining were in the slums those on a plot area ranged between 2 hectares and above.

Statement No.4.2.2: Estimated approximate number of households per slum by approximate area of slum

Particulars	Average number of households per slum by approx area of slum (in hectares)								
	Less than 0.5	0.5-1	1-2	2-3	3-4	4-6	6-8	8 or above	Total
No. of Households	79	117	133	299	--	400	--	1000	131

About 1000 households per slum were found to be in the slums those spread out on a plot area ranged 8 hectares or above, the average for the slums those spread out on a plot area ranged 4-6, 2-3, 1-2, 0.5-1 and less than 0.5 hectares was 400, 299, 133, 117 and 79 households respectively per slum.

Land owner of Slum Area

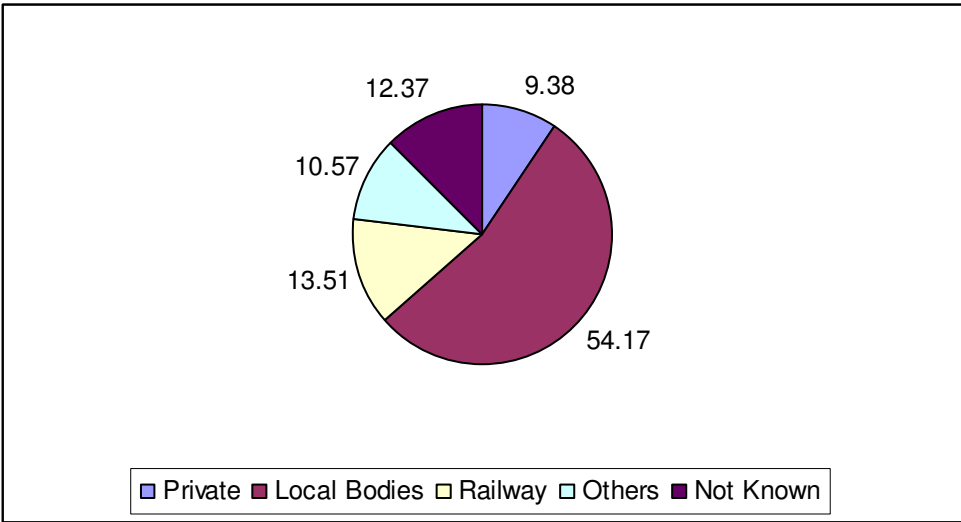
The survey estimated that 78.25% of the slums are on the public land which constitutes 54.17% are on the land owned by local bodies, 13.51% on the land owned by Railways and remaining 10.57% are on the land of other government agencies. About 9% of the slums are on the private land and

about 12% of the slums were on the land whose ownership was not known to the knowledgeable persons of the locality.

Statement No.4.3: Distribution of Slums by ownership of land

Particulars	Ownership type					
	Private	Public			Not known	Total
		Local bodies	Railway	Others		
No. of Slums	412	2378	593	464	543	4390
%	9.38	54.17	13.51	10.57	12.37	100.00
58 th NSS Round (2002) (%)	0.00	65.56	12.43		22.01	100.00

Distribution of slums by type of ownership of land (%)



Location of slum

As per findings of the survey, about 8.18% of the slums have cropped up along Nala (drainage), around 25.19% along railway track and the rest of the slums at other places.

Statement No.4.4: Distribution of Slums by their location

Particulars	Location of Slum			
	Along Nallah	Along Railway Line	Others	Total
No. of Slums	359	1106	2925	4390
%	8.18	25.19	66.63	100.00
58 th NSS Round (2002) (%)	17.68	44.99	37.33	100.00

Type of Area of Slum

During the survey, information was also collected regarding the type of area, surrounding the slums. It has come to understand that more than 64% of the slums are surrounded by residential areas, about 16% by industrial areas, 8% by commercial areas and rest by other type of areas.

Statement No.4.5: Distribution of Slums by type of area surrounding the Slum

Particulars	Type of area surrounding the slum					
	Residential	Industrial	Commercial	Others	n.r.	Total
No. of Slums	2822	681	346	352	189	4390
%	64.28	15.51	7.88	8.02	4.31	100.00
58 th NSS Round (2002) (%)	60.31	36.47	1.61	1.61	0.00	100.00

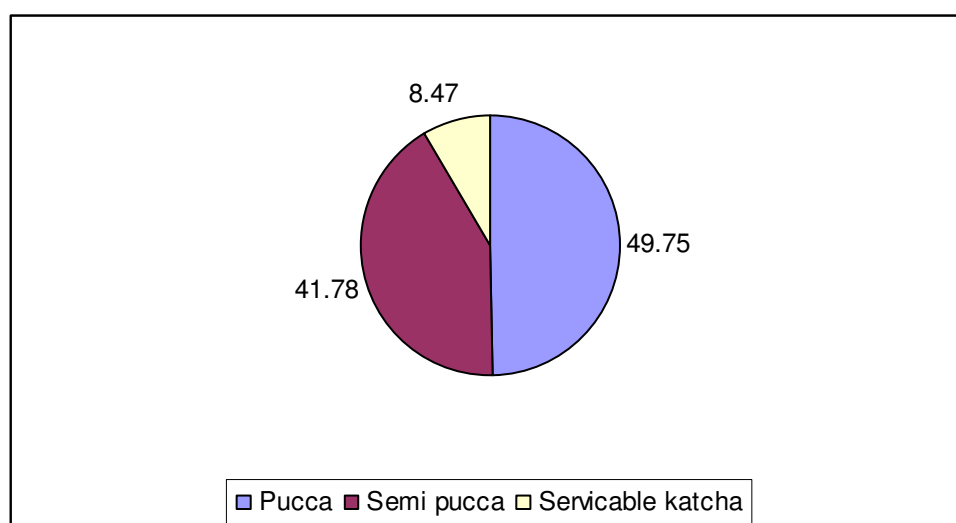
Type of Structure

Under the survey, data was collected on the over all status of majority of structures of the slums rather than collecting the micro level information at the household level. Accordingly, it was found that about 50% of the slums were found to be having pucca and 42% of the slums were having semi pucca type dwellings in Delhi and the remaining 8% were serviceable kutcha in nature.

Statement No.4.6: Distribution of Slums by type of structure of the majority of houses

Particulars	Type of structure of the majority of houses					Total
	Pucca	Semi pucca	Servicable katcha	Unserviceable katcha	No structure	
No. of Slums	2184	1834	372	0	0	4390
%	49.75	41.78	8.47	0.00	0.00	100.00
58 th NSS Round (2002)	26.41	46.97	25.01	1.61	0.00	100.00

Distribution of Slums by type of structure of the majority of houses (%)



Availability of Basic Civic Amenities in Slums

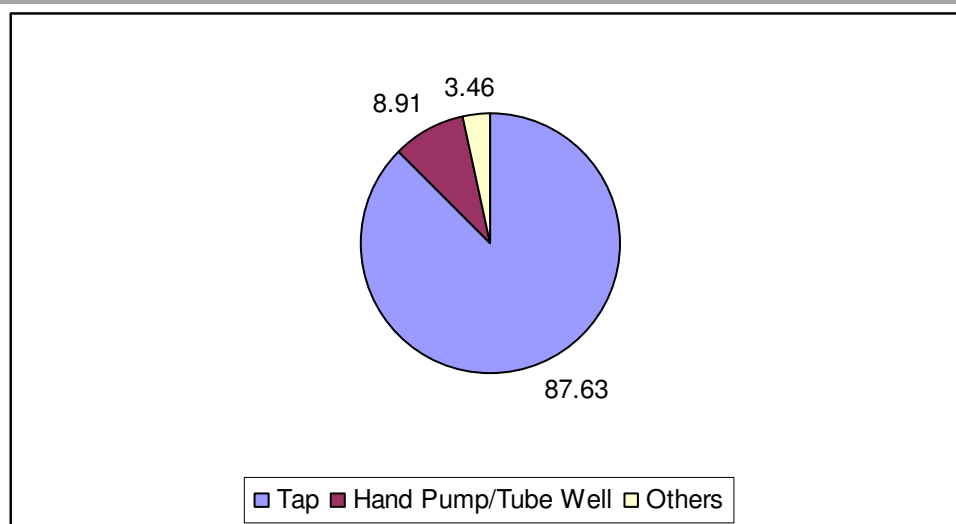
The main focus of the survey is on the availability of various basic civic facilities in the slums of Delhi in order to assess the quality of life in slums of Delhi. The facility covers include source of drinking water, availability of approach road and roads within slums, type of latrine, drainage system, for garbage disposal arrangement and frequency of garbage collection etc.

Statement No.4.7: Distribution of Slums by source of drinking water

Particulars	Major source of drinking water			
	Tap	Hand pump/Tube well	Others	Total
No. of Slums	3847	391	152	4390
%	87.63	8.91	3.46	100.00
58 th NSS Round (2002) (%)	66.31	32.08	1.61	100.00

It was observed that for the 87.63% of slums in Delhi the major source of drinking water was tap. About 8.91% were dependent on hand pump/tube well as major source and rest 3.46% of the slums were served by other sources.

Distribution of Slums by source of drinking water (%)



Survey has brought to the notice that 63% of the slums having latrine with the facility of septic tank/flush (owned, shared and community basis) and about 20% of the slums having reported with no latrine facility.

Statement No.4.8: Distribution of Slums by type of latrine facility used

Latrine facility used by most of the residents of the slum	No. of Slums	%
Owned		
Septic tank/flush	344	7.84
Pit	0	0.00
Service	0	0.00
Shared		
Septic tank/flush	121	2.76
Pit	74	1.69
Service	75	1.71
Public/Community		
Septic tank/flush	2294	52.26
Pit	32	0.73
Service	575	13.10
No Latrine	875	19.93
Total	4390	100.00

Underground sewerage system has been available in the 22.71% of the slums whereas 77.29% of the slums not having any underground sewerage system.

Statement No.4.9: Distribution of Slums by type of sewerage systems

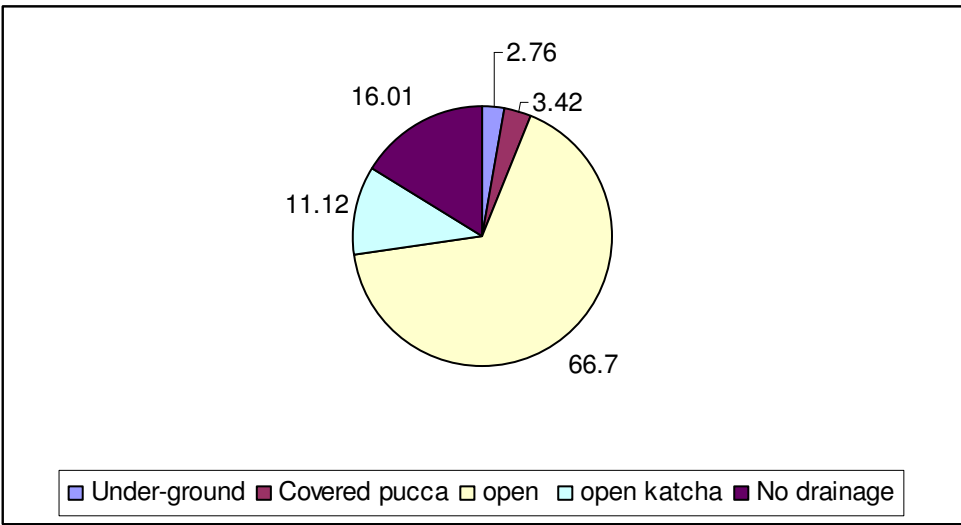
Particulars	Underground sewerage System		
	Available	Not Available	Total
No. of Slums	997	3393	4390
%	22.71	77.29	100.00
58 th NSS Round (2002) (%)	0.00	100.00	100.00

Coming to the drainage system available in slums, the survey has brought to the notice that about 16% of slums does not have any drainage and 84% of the slums were having under ground/covered pucca/open pucca/kutchcha type of drainage system.

Statement No.4.10: Distribution of slums by type of drainage system

Particulars	Type of drainage system					Total
	Under-ground	Covered pucca	open pucca	open katcha	No drainage	
No. of Slums	121	150	2928	488	703	4390
%	2.76	3.42	66.70	11.12	16.01	100.00
58 th NSS Round (2002) (%)	0.00	0.0	47.75	39.88	12.37	100.00

Distribution of Slums by type of drainage system (%)



Garbage Disposal Arrangement

The arrangement for the disposal of garbage by local bodies was prevalent in about 66.47% of the slums, 8.52% of the slums were having the arrangement made by the residents themselves, about 1.05% were covered by other type of arrangement for garbage disposal. 23.96% remaining slums having reported with no arrangements of the garbage disposal system.

Statement No.4.11: Distribution of Slums by type of garbage disposal arrangement

Particulars	Garbage disposal systems					
	Arranged by				No arrangement	Total
	Local body	Residents	Others	Sub-Total		
No. of Slums	2918	374	46	3338	1052	4390
%	66.47	8.52	1.05	76.04	23.96	100.00
58 th NSS Round (2002) (%)	45.45	19.59	34.96	100.00	0.00	100.00

Further study reveals that out of the slums having garbage disposal arrangement provided by local bodies, and the frequency in which garbage was collected from slums was also closely studied. It was found that in 56% of such slum, garbage clearance is carried out daily or once within two days and in 24% of slums, garbage is cleared once in 3-7 days and 20% in 8 days & above category.

Statement No.4.12: Distribution of Slums by frequency of garbage collection by local body and others

Particulars	Frequency of collection of garbage by local body and others				
	Daily	Once in			Total
		2 days	3 to 7 days	8 days & above	
No. of Slums	1438	429	813	658	3338
%	43.08	12.85	24.36	19.71	100.00

Status of Approach/internal roads

It was found that 84% of the slums were connected by motorable pucca/kutchha roads which by all standards is a satisfactory state in this respect.

Statement No.4.13: Distribution of slums by type of approach roads

Type of approach roads/path to the Slum	No. of Slums	%	58 th NSS Round (2002) (%)
Motorable			
Pucca	3541	80.66	75.21
Kutchha	149	3.39	0.00
Total	3690	84.05	75.21
Non-motorable**			
Pucca	700	15.95	12.42
Kutchha	0	0.00	12.37
Total	700	15.95	24.79
Total			
Pucca	4241	96.61	87.63
Kutchha	149	3.39	12.37
Total	4390	100.00	100.00

Coming to the roads/path lanes, road within slums, it was observed that only about 77% of the slums were having pucca roads/lanes within slums and 23% were having kutchha type of roads which may not perhaps make the life comfortable during rainy season.

** In case of slums those not having motorable approach roads were having the motorable road with in a distance of less than 0.5 km.

Statement No.4.14: Distribution of Slums by type of internal roads

Particulars	Type of roads/lane/path constructed within the slums		
	Pucca	Katcha	Total
No. of Slums	3370	1020	4390
%	76.77	23.23	100.00
58 th NSS Round (2002) (%)	45.47	54.53	100.00

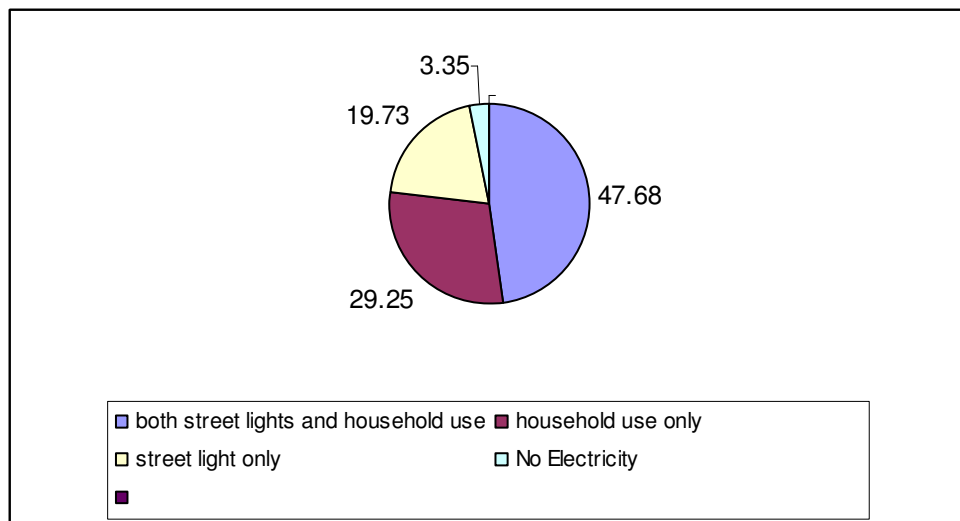
Availability of Electricity

Electricity connections in the slums may be for household use, street lights or both. About 48% of slums were having electricity for both street lights and for household use, about 29% of slums were having electricity for household use only, 20% of slums having street lights where 3% households were having no electricity connection.

Statement No.4.15: Distribution of Slums by type of electricity facilities

Particulars	Number of Slum				
	Electricity for			No electricity	Total
	both street lights and household use	household use only	street light only		
No. of Slums	2093	1284	866	147	4390
%	47.68	29.25	19.73	3.35	100.00

Distribution of Slums by type of electricity facilities (%)



Education and Health Facilities

The other important parameters in the context of status of slums is the availability of educational and health facilities at the reach of slum dwellers. For this purpose, the proximity of slum colonies to the nearest govt. primary schools and govt. hospitals was ascertained during the survey. It was observed that about 61% of the slums were having primary schools in the proximity of less than ½ km., 33% in the range of 0.5 to 1 km, 5% in the range of 1-2 km and only 1% of the slum colonies were having primary schools in a distance of 2-5 km which is very comfortable by any standard.

Statement No.4.16: Number of slums from nearest government primary school

Particulars	Distance from nearest primary school (km)					Total
	Less than 0.5	0.5-1	1-2	2-5	5 & above	
No. of Slums	2674	1462	0	41	0	4390
%	60.91	33.30	4.85	0.93	0.00	100.00
58 th NSS Round (2002) (%)	83.89	14.51	0.00	1.60	0.00	100.00

On the other hand, in respect of health facilities, 26% of the slum colonies were having the government hospital facilities within the distance of ½ km followed by 25% slums in the distance of 0.5-1km, 19% in the distance of 1-2 km, 18% in the range of 2-5 km and more than 13% slum colonies are covered by government hospitals in the distance of 5 km and above.

Statement No.4.17: Number of slums from nearest government hospital

Particulars	Distance from nearest hospital (km)					Total
	Less than 0.5	0.5-1	1-2	2-5	5 & above	
No. of Slums	1159	1082	817	773	559	4390
%	26.40	24.65	18.61	17.61	12.73	100.00
58 th NSS Round (2002) (%)	35.76	21.36	30.89	8.83	3.16	100.00

It was further noticed that around 15.72% of the slums at the experienced water logging during monsoon season. This conclusion is based on the experience of the last five years

Statement No.4.18: Distribution of slums by status of water logging

Particulars	Number of slums usually water logged during monsoon		
	Yes	No	Total
No. of Slums	690	3700	4390
%	15.72	84.28	100.00
58 th NSS Round (2002) (%)	82.60	17.40	100.00

Association for Development

The knowledgeable persons present at the time of survey were asked to provide information as to the existence of any association of slum dwellers in the given slum working for the betterment of these slums conditions. It has come to understand that about 35% of the slums in Delhi were having association either formal/informal to oversee the betterment of slums formed by the slum dwellers themselves.

Statement No.4.19: Distribution of slums by Existence of Association

Particulars	Association for improving the conditions of slums		
	Yes	No	Total
No. of Slums	1549	2841	4390
%	35.28	64.72	100.00
58 th NSS Round (2002) (%)	31.80	68.20	100.00

Improvement of facilities

In order to assess the change in the quality of civic amenities provided to the people living in slums the knowledgeable persons present at the time of survey were asked whether the facilities had undergone any improvement or deterioration during the last five years.

The Statement 4.20 provides the position with respect to 11 such facilities. It may be observed from the table that facilities had improved in about 50% of slums in terms of 6 facilities viz. water supply, electricity, street light, approach road to slum, education facility at primary level and medical facility. The incidents of deterioration of most of the existing facilities in slums during the last five years were quite low (about 6%).

Statement No.4.20: Distribution of slums by status of improvement in facilities during the period of last five years

Facility		No. of Slums			
		Improved	Did not change	Deteriorated	neither existed earlier nor existing now
Water Supply	No.	2126	1819	256	189
	%	48.43	41.44	5.83	4.31
Electricity	No.	2757	1336	150	147
	%	62.80	30.43	3.42	3.35
Street Light	No.	2455	1517	75	343
	%	55.92	34.56	1.71	7.81
Latrine	No.	1201	1917	397	875
	%	27.36	43.67	9.04	19.93
Drainage	No.	823	2617	247	703
	%	18.75	59.61	5.63	16.01
Sewerage	No.	418	579	--	3393
	%	9.52	13.19	--	77.29
Garbage Disposal	No.	1509	1680	149	1052
	%	34.37	38.27	3.39	23.96
Approach road to the Slum	No.	2501	1792	--	97
	%	56.97	40.82	--	2.21
Road within the Slum	No.	1550	2343	377	120
	%	35.31	53.37	8.59	2.73
Educational facility at primary level	No.	2446	1772	75	97
	%	55.72	40.36	1.71	2.21
Medical Facility	No.	2066	2101	75	148
	%	47.06	47.86	1.71	3.37

Source of Improvement of Facilities

Informants reporting improvement in any facility during the last 5 years were also asked about the source of the improvement: whether it had been brought about by the government, by NGOs, by the residents, or by others. The results, shown in Statement 4.21, indicate that the Government has played a vital role in the development of facilities in slums. The contribution of NGOs is particularly noticeable in providing latrine facilities, electricity, street light, medical facility and approach road to the slum.

However, residents themselves also played an important role in improving water supply and drainage facility in slum pockets.

Statement No.4.21: Distribution of slums reporting improvement of facility during last five years by type of authority responsible for improvement

Facility		No. of Slum			
		Govt.	NGO	Residents	Others
Water Supply	No.	2044	41	41	--
	%	96.14	1.93	1.93	--
Electricity	No.	2503	254	--	--
	%	90.79	9.21	--	--
Street Light	No.	2303	152	--	--
	%	93.81	6.19	--	--
Latrine	No.	1053	148	--	--
	%	87.68	12.32	--	--
Drainage	No.	782	--	41	--
	%	95.02	--	4.98	--
Sewerage	No.	418	--	--	--
	%	100.00	--	--	--
Garbage Disposal	No.	1509	--	--	--
	%	100.00	--	--	--
Approach road to the Slum	No.	2428	73	--	--
	%	97.08	2.92	--	--
Road within the Slum	No.	1550	--	--	--
	%	100.00	--	--	--
Educational facility at primary level	No.	2405	41	--	--
	%	98.32	1.68	--	--
Medical Facility	No.	1951	115	--	--
	%	94.43	5.57	--	--

Comparison of key findings

Selected findings of State, Central and at all India level are presented in the following Statement 4.22. The important indicators were by and large found to be comparable in both sets of data (i.e. State Sample and Central Sample).

Statement No.4.22: Comparison of key results of State and Central Sample viz-a-viz all India level

SN	Item	State Sample (All)	Central Sample			All India		
			Notified	Non-notified	All	Notified	Non-notified	All
1	Number of Sample Slums surveyed	61	18	35	53	365	365	730
2	Estimated number of Slum Pockets	4390	1058	2075	3133	24781	24213	48994
3	Estimated number of households within these Slums (in lakhs)	5.77	NA	NA	NA	NA	NA	NA
4	% distribution of Slums by type of ownership of land							
	Private	9	12	29		30	42	
	Public	79	66	67		60	54	
	Not known	12	23	5		3	5	
5	% distribution of Slums by type of structure of majority of houses							
	Pucca	50	77	49		64	50	57
	Semi Pucca	42	14	23		30	29	29
	Katcha	8	9	28		7	21	14
	No structure	0	0	0		0	0	0
6	% distribution of Slums by major source of drinking water							
	Tap	88	94	68		79	77	78
	Hand Pump/Tube well	9	4	27		18	19	19
	Others	3	2	5		3	3	3

SN	Item	State Sample (All)	Central Sample			All India		
			Notified	Non-notified	All	Notified	Non-notified	All
7	% distribution of Slums by type of availability of electricity connections							
	Household and Street Light	48	94	49		76	53	65
	Household only	29	6	37		16	26	21
	Street light only	20	0	4		7	15	11
	No electricity	3	0	11		1	7	4
8	% distribution of Slum by location of slums							
	Along Nallah/Drain	8	NA	NA	NA			24
	Along Railway Line	25	NA	NA	NA			12
	Others	67	NA	NA	NA			64
9	% distribution of Slums having pucca road within the slum and pucca approach road to the slum							
	Pucca road within the slum	77	91	43		78	57	
	Pucca approach road to the slum							
	a. Motorable	81	63	49		73	58	
	b. Non motorable	16	37	24		19	18	
10	% distribution of Slums by water logging during monsoon							
	Water logged	16	14	77		41	54	
	Not water logged	84	86	23		59	46	
11	% distribution of Slums having septic/tank/flush latrine and not having							
	Septic/tank/flush latrine	63	96	69		68	47	
	No latrine	20	0	11		10	20	
12	% distribution of slums having under ground sewerage	23	88	12		33	19	
13	% distribution of Slums by type of drainage system							
	Under ground/covered	6	89	23		39	24	
	Opened	78	11	65		51	54	
	No drainage	16	0	13		10	23	

SN	Item	State Sample (All)	Central Sample			All India		
			Notified	Non-notified	All	Notified	Non-notified	All
14	% distribution of Slums by type of agency disposing of garbage							
	Government	66	43	60		75	55	
	Others	10	57	21		15	22	
	No arrangements	24	0	20		10	23	
15	% distribution of Slums by distance from nearest government primary school							
	Within 1 km	94	96	74	81	88	85	87
	More than 1 km	6	5	26	19	12	15	13
16	% distribution of Slums by distance from nearest government hospital							
	Within 1 km	51	90	55	67	54	42	48
	More than 1 km	49	10	46	33	46	58	52

GOVERNMENT OF INDIA
NATIONAL SAMPLE SURVEY ORGANISATION
SOCIO-ECONOMIC SURVEY
SIXTY-FIFTH ROUND: JULY 2008 – JUNE 2009

CENTRAL	*
STATE	

SCHEDULE 0.21: PARTICULARS OF SLUM

[0] descriptive identification of sample FSU (Urban)	
1. state / u. t.:	4. ward / investigator unit:
2. district:	5. block:
3. town name:	

[1] identification of sample FSU (Urban)						
item no.	item	code	item no.	item	code	
1.	srl. no. of sample FSU (Urban)	<input type="text"/>	8.	stratum number	<input type="text"/>	
2.	round number	6 <input type="text"/> 5 <input type="text"/>	9.	sub-stratum	<input type="text"/>	
3.	schedule number	0 <input type="text"/> 2 <input type="text"/> 1 <input type="text"/>	10.	sub-round	<input type="text"/>	
4.	sample (central– 1, state – 2)	<input type="text"/>	11.	sub-sample	<input type="text"/>	
5.	sector (rural – 1, urban – 2)	2 <input type="text"/>	12.	FOD sub-region	<input type="text"/>	
6.	NSS region	<input type="text"/>	13.	no. of slums in the FSU (Urban)	<input type="text"/>	
7.	district	<input type="text"/>				

[2] particulars of field operations										
srl. no.	item	investigator/ senior investigator			superintendent/senior superintendent			Other supervisory officer		
(1)	(2)	(3)			(4)			(5)		
1.	i) name (block letters)	<input type="text"/>			<input type="text"/>			<input type="text"/>		
	ii) code	<input type="text"/>			<input type="text"/>			<input type="text"/>		
2.	date(s) of:	DD	MM	YY	DD	MM	YY	DD	MM	YY
	(i) survey / inspection	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	(ii) receipt				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	(iii) scrutiny				<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
	(iv) despatch	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
3.	no. of additional sheets for blocks 3 and 4 attached									
4.	total time taken to canvass schedule 0.21 (in minutes)	<input type="text"/>	<input type="text"/>	<input type="text"/>						
5.	whether schedule contains remarks (<i>yes-1, no-2</i>)	in block 5			in block 6/7			elsewhere in the schedule		
		<input type="text"/>			<input type="text"/>			<input type="text"/>		
6.	signature	<input type="text"/>			<input type="text"/>			<input type="text"/>		

* tick mark (✓) may be put in the appropriate place.

CODES FOR BLOCK 3

item no. 3:	approximate area of the slum: class intervals in hectares: less than 0.05 – 1, 0.05 to 1.00 – 2, 1.00 to 2.00 – 3, 2.00 to 3.00 – 4, 3.00 to 4.00 – 5, 4.00 to 6.00 – 6, 6.00 to 8.00 – 7, 8.00 or more – 8
item no. 6:	ownership of the land where slum is located: private – 1; public: railway – 2, local bodies – 3, others – 9; not known – 4
item no. 7:	type of area surrounding the slum: residential – 1, industrial – 2, commercial – 3, slum(s) – 4, others – 9
item no. 9:	physical location of the slum: along <i>nallah</i> /drain – 1, along railway line – 2, river bank – 3, river bed – 4, others – 9
item no. 12:	whether the slum has electricity: yes: for street lights only – 1, for household use only – 2, for street lights and household use – 3; no – 4
item no. 13:	type of structure of the majority of houses: pucca – 1, semi-pucca – 2, serviceable katcha – 3, unserviceable katcha – 4, no structure – 5
item no. 15:	approach road / lane / constructed path to the slum: motorable: pucca – 1, katcha – 2; non-motorable: pucca – 3, katcha – 4
item no. 16:	distance from the nearest motorable road: less than 0.5 km – 1, 0.5 to 1 km – 2, 1 to 2 km – 3, 2 to 5 km – 4, 5 km or more – 5
item no. 17:	major source of drinking water: tap – 1, tube well / hand pump – 2, well – 3, others – 9
item no. 18:	latrine facility used by most of the residents: public/community latrine: service – 01, pit – 02, septic tank/ flush – 03; shared latrine: service – 04, pit – 05, septic tank/flush – 06; own latrine: service – 07, pit – 08, septic tank/flush – 10; other latrine – 99; no latrine facility – 11
item no. 20:	the type of drainage system: underground – 1, covered pucca – 2, open pucca – 3, open katcha – 4, no drainage system – 5
item no. 21:	garbage disposal for the slum: arrangement by: municipality / corporation – 1, resident(s) – 2, others – 9; no arrangement – 3
item no. 22:	frequency of garbage collection: daily – 1, once in two days – 2, once in 3 to 7 days – 3, once in 8 to 15 days – 4, others – 9
item nos. 23 & 24:	distance: less than 0.5 km – 1, 0.5 to 1 km – 2, 1 to 2 km – 3, 2 to 5 km – 4, 5 km or more – 5
item no. 26:	informant code: knowledgeable person from (i) the slum: male – 1, female – 2; (ii) outside the slum – 9

[3] Particulars about the slum						
Item no.	Item	serial number of the slum				
		1	2	3	4	5
1.	srl. number of the slum in the block/ FSU (Urban)					
2.	approximate number of households in the slum					
3.	approximate area of the slum (code)					
4.	is the slum a notified one? (yes – 1, no – 2)					
5.	if code 1 in sl. 4, year of notification					
6.	ownership of the land where slum is located (code)					
7.	type of area surrounding the slum (code)					
8.	location of slum (fringe area – 1, other area – 2)					
9.	physical location of the slum (code)					
10.	does the slum usually remain waterlogged during monsoon? (yes – 1, no – 2)					
11.	does the approach road / lane / constructed path usually remain waterlogged in monsoon? (yes – 1, no – 2)					
12.	whether the slum has electricity? (code)					
13.	type of structure of the majority of houses (code)					
14.	type of road / lane / constructed path within the slum (pucca – 1, katcha – 2)					
15.	approach road / lane / constructed path to the slum (code)					
16.	for code 3 or code 4 in col. 15, distance from the nearest motorable road (code)					
17.	major source of drinking water (code)					
18.	latrine facility used by most of the residents (code)					
19.	does the slum have underground sewerage system? (yes – 1, no – 2)					
20.	type of drainage system (code)					
21.	garbage disposal for the slum (code)					
22.	frequency of garbage collection (code)					
23.	distance from nearest government primary school (code)					
24.	distance from nearest government hospital / health centre etc. (code)					
25.	do the slum dwellers have an association for improving the condition of the slum? (yes – 1, no – 2)					
26.	informant code					

[4] change in the condition of the slum during the last 5 years							
srl. no.	item	srl. number of the slum					
		1		2		3	
		condition (code)	for code 1 in col. (3), source of improvement (code)	condition (code)	for code 1 in col. (5), source of improvement (code)	condition (code)	for code 1 in col. (7), source of improvement (code)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	road : approach						
2.	road : within						
3.	water supply						
4.	street lights						
5.	electricity						
6.	latrine facility						
7.	sewerage						
8.	drainage						
9.	garbage disposal						
10.	educational facility at primary level						
11.	medical facility						

cols. 3 / 5 / 7: **condition:** improvement – 1, no change – 2, deterioration – 3; neither existed earlier nor existing now – 4

cols. 4 / 6 / 8: **source of improvement:** government – 1, non-governmental organisation – 2, residents – 3, others – 9

[5] remarks by investigator/senior investigator