



# धारत में नपरीय झुणी चरित्तयों के मुख्य संकेत्हर

एनएसएस 69 वॉ दौर NSS 69th Round (जुलाई 2012 - दिसम्बर 2012) July 2012 - December 2012



भारत सरकार Government of India सांख्यिकी और कार्यक्रम कार्यान्वयन मंत्रालय Ministry of Statistics & Programme Implementation राष्ट्रीय प्रतिदर्श सर्वेक्षण कार्यालय National Sample Survey Office

> दिसम्बर 2013 December 2013



# भारत में नगरीय झुग्गी बस्तियों के मुख्य संकेतक Key Indicators of Urban Slums in India

एनएसएस 69 वाँ दौर NSS 69<sup>th</sup> Round

(जुलाई 2012 - दिसम्बर 2012) (JULY 2012 - DECEMBER 2012)



भारत सरकार
Government of India
सांख्यिकी और कार्यक्रम कार्यान्वयन मंत्रालय
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दिसम्बर 2013 December 2013 झुग्गी वस्तियाँ शहरी माहौल का एक भाग हैं । भीड़-भाड़, साफ-सफाई तथा स्वछता की कमी, अपर्याप्त पेय जल और कच्चे मकान, आदि जैसी जीवन-यापन की अवांछित परिस्थितियाँ द्वारा इनकी पहचान होती है । झुग्गी बस्तियाँ की समस्यायों के निदान के लिए इनके बारे में आंकड़े उपलब्ध कराने के उद्देश्य से, राष्ट्रीय प्रतिदर्श सर्वेक्षण कार्यालय (एनएसएसओ) ने जुलाई 2012-दिसम्बर 2012 के दौरान 69वें दौर के अपने सर्वेक्षण में देश में शहरी झुग्गी बस्तियों का एक अखिल भारतीय सर्वेक्षण किया था । इस विषय पर यह पांचवा अखिल भारतीय सर्वेक्षण था और देश के रूप में चुने गये शहरी प्रखण्डों में यह सर्वेक्षण किया गया था । एनएसएस का 31वां दौर ( जुलाई 1976-जून 1977), 49वां दौर (जनवरी - जून 1993), 58वां दौर (जुलाई - दिसम्बर 2002) और 65वां दौर (जुलाई 2008 - जून 2009) ये पिछले दौर हैं, जिनके दौरान झुग्गी बस्तियों के बारे में सर्वेक्षण किया गया था ।

इस दस्तावेज में जुलाई से दिसम्बर 2012 के दौरान झुग्गी बस्तियों की प्रमुख विशेषताओं से संबंधित जानकारी दी गई है, जैसे कि झुग्गी बस्तियों की संख्या, इन झुग्गी बस्तियों में रहने वाले परिवारों की अनुमानित संख्या, बिजली, नाली, कूझ-कचरा निस्तारण व्यवस्था जैसी सुविधाओं से वंचित झुग्गी बस्तियों का अनुपात और साथ ही ज्यादातर पक्के मकान, पेय जल के प्रमुख स्रोत के तौर पर नलों से पानी, पक्की सड़कों की सुविधा से युक्त झुग्गी बस्तियों के अनुपात आदि है । इस दस्तावेज में, सर्वेक्षण निष्कर्ष अधिसूचित और गैर-अधिसूचित झुग्गी बस्ती क्षेत्रों तथा उन राज्यों से संबंधित हैं जहां 'अधिसूचित झुग्गी' बस्ती' और 'गैर-अधिसूचित झुग्गी बस्ती', प्रत्येक श्रेणी के लिये प्रतिदर्श के तौर पर कम से कम 10-10 झुग्गी बस्तियों के चयन पर निर्भर करते हुए, 20 या इससे अधिक बस्तियां चुनी गई थीं ।

एनएसएसओं के सर्वेक्षण अभिकल्प और अनुसंधान प्रभाग (एसडीआरडी) ने सर्वेक्षण पद्धित, सर्वेक्षण साधन विकसित करने और यह दस्तावेज तैयार करने का कार्य संभाला । एनएसएसओं के क्षेत्र संकार्य प्रभाग(एफओडी) ने सर्वेक्षण का फील्ड कार्य किया । आंकड़ा विधायन और सारणीयन का कार्य एनएसएसओं के समंक विधायन प्रभाग (डीपीडी) ने किया । समन्वय एवं प्रकाशन प्रभाग (सीपीडी) ने सर्वेक्षण के विभिन्न कार्यकलापों में समन्वयन का कार्य किया ।

भैं सर्वेक्षण के विभिन्न चरणों में अपना बहुमून्य मार्गदर्शन प्रदान करने हेतु राष्ट्रीय प्रतिदर्श सर्वेक्षण के 69वें दौर के कार्य दल और राष्ट्रीय सांख्यिकीय आयोग (एनएससी) के अध्यक्ष और सदस्यों का अत्यंत आभारी हूँ। मैं इस दस्तावेज को तैयार करने में शामिल एनएसएसओं के विभिन्न प्रभागों के अधिकारियों द्वारा किये गये प्रयासों के प्रति भी अपना आभार प्रकट करता हूँ। मैं आशा करता हूँ कि यह दस्तावेज योजनाकारों, नीति-निर्माताओं, शिक्षाविदों, और शोधकर्ताओं के लिए उपयोगी सिद्ध होगा। इस दस्तावेज की विषयवस्तु और कवरेज में सुधार के लिये सुझावों का स्वागत है।

कार्ग्य **%** (ए. के. मेंहरा)

महा निदेशक एवं मुख्य कार्यकारी अधिकारी राष्ट्रीय प्रतिदर्श सर्वेक्षण कार्यालय

नई दिल्ली दिसम्बर 2013

#### Foreword

Slums are part of urban environment and they are identified by the presence of features of living conditions that are undesirable like overcrowding, lack of sanitation and hygiene, inadequacy of drinking water and poor construction, etc. With a view to provide data on slums for addressing their problems, the National Sample Survey Office (NSSO) conducted an all-India survey of urban slums in the country in the 69th round of survey during July 2012 – December 2012. This survey is the fifth all-India survey of NSSO on the subject and was conducted in randomly selected sample urban blocks spread over the entire geographical area of the country. The previous NSS rounds during which survey on slums were conducted are the 31st (July 1976 – June 1977). 49th (January – June 1993), 58th (July – December 2002) and the 65TH (July 2008 – June 2009).

This document contains information relating to July to December 2012 on some key characteristics of slums such as number of slums, approximate number of households living in the slums, proportion of slums without electricity, drainage facilities, a garbage disposal system along with their proportions with the majority of the households having pucca structure, tap water as major source of drinking water, and a pucca road within the slum, etc. In this document, the survey results are presented for the *notified* and *non-notified* slum areas and those States where the number of sample slums was 20 or more, subject to a minimum of 10 sample slums for each of categories "notified slum" and "non-notified slum".

The Survey Design and Research Division (SDRD) of the NSSO undertook the development of the survey methodology, survey instruments and the preparation of this document. The field work was carried out by the Field Operations Division (FOD) of NSSO while the data processing and tabulation work was handled by the Data Processing Division (DPD) of NSSO. The Coordination and Publication Division (CPD) coordinated various activities pertaining to the survey.

I am highly thankful to the members of the Working Group for NSS 69<sup>th</sup> round and National Statistical Commission for their valuable guidance provided at various stages of the survey. I also place on record my appreciation of efforts made by officers of different Divisions of the NSSO involved in the preparation of this document. I hope, this document will be found useful by planners, policy makers, academicians and researchers. Suggestions for improvement of its content and coverage will be highly appreciated.

New Delhi December 2013

(A.K.Mehra)
Director General & Chief Executive Officer

National Sample Survey Office

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#### Chapter One

#### Introduction

#### 1.1 Background

- 1.1.1 The first nationwide survey on the "economic condition of slum dwellers in urban cities" was conducted by the National Sample Survey Organisation (NSSO) in its 31st round enquiry (July 1976 June 1977). The survey was restricted to (i) all the Class I towns having 1971 census population one lakh or more and (ii) two Class II towns, viz. Shillong and Pondicherry. Only the cities proper and not the urban agglomerations were considered for the survey coverage. 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". For identifying "undeclared slums", a slum was defined as an areal unit having twenty five or more katcha structures mostly of temporary nature, or fifty or more households residing mostly in katcha structures, huddled together, or inhabited by persons with practically no private latrine and inadequate public latrine and water facilities. The survey results were published in NSS Report No. 290: Condition of Slum Areas in Cities.
- 1.1.2 The second nationwide survey on particulars of slums was conducted by the NSSO in its 49th round enquiry (January June 1993), which covered rural as well as urban areas. Again both declared and undeclared slums were covered, with declared slums defined as before. 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. The survey results, published in September 1997, are available in NSS Report No. 417: Slums in India.
- 1.1.3 After a gap of nearly ten years, the third survey in the series was conducted in the 58<sup>th</sup> round enquiry (July-December 2002). The concept of slum being basically urban, the Governing Council of the NSSO decided, on the recommendation of the Working Group on NSS 58<sup>th</sup> round, to cover only urban slums in the survey. It is worth mentioning that the results of both the 49<sup>th</sup> and the 58<sup>th</sup> round survey reflect only the availability and not the adequacy of the facilities available in the slums. The survey results, published in December 2003, are available in NSS Report No. 486: Condition of Urban Slums, 2002: Salient Features.

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1.1.4 The fourth survey in the series was conducted in the 65<sup>th</sup> round of NSS. It relates to the period July 2008 to June 2009. Like the 49<sup>th</sup> and 58<sup>th</sup> 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. The survey was confined to the urban sector. Only slums found in the randomly selected urban blocks were surveyed.

1.1.5 The present NSS 69<sup>th</sup> round survey on slums was of six months' duration starting on 1st July 2012 and ending on 31st December 2012. The survey was confined to the urban sector. Only slums found in the randomly selected urban blocks were surveyed.

#### 1.2 Objectives of the NSS surveys of slums

- 1.2.1 Any attempt to address the various aspects of urban slums that are undesirable, such as overcrowding, lack of hygiene and sanitation, inadequacy of drinking water, and poor construction, requires an appropriate data base.
- 1.2.2 Accordingly the NSS slum survey was oriented towards measuring the extent of the various problems affecting slums through estimation of (among other characteristics) the number of slums, the number of slum-dwelling households, and the percentage of slums having access to specific facilities that are required for a slum. Estimation was done State/UT-wise, and separately for *notified* slums and *non-notified* slums (see Section 1.3 below), as well as for all slums taken together.
- 1.2.3 The 69th round NSS survey of slums, like the preceding surveys, also attempted to assess the dynamics of the condition of slums whether certain undesirable ("slum-like") features were improving or worsening over time. For this purpose, estimates were generated for each of about a dozen facilities of the proportion of slums reporting improvement in the facility during the last 5 years, the proportion of slums reporting deterioration in the facility, and the proportion reporting no change.

#### 1.3 Operational definition of slum in the 69th round survey

For operational purposes, slums were defined as follows:

- Areas notified as slums by the concerned municipalities, corporations, local bodies or development authorities were termed *notified* slums.
- Also, any 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, was considered a slum by the survey,

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provided at least 20 households lived there. Such a settlement, if not a *notified* slum, was called a *non-notified* slum. (Note that while a *non-notified* slum had to consist of at least 20 households, no such restriction was imposed in case of *notified* slums.)

• Slums: The word "slum" covered both *notified* slums and *non-notified* slums.

When the slum lay only partly within the sample UFS block, it was surveyed even if the approximate number of households in the part of the slum within the block was less than 20.

#### 1.4 Outline of survey programme

- 1.4.1 **Geographical Coverage:** The NSS 69<sup>th</sup> round survey on slums covered the whole urban area of the Indian Union.
- 1.4.2 **Sample units:** The sampling units were Urban Frame Survey (UFS) blocks. In case of each sample UFS block, any slum (*notified* and *non-notified*) lying wholly or partly within the sample UFS block was eligible for survey and was covered.
- 1.4.3 **Schedule of enquiry:** A single schedule was used for each sample UFS block for filling up details of slums. If, for a sample block, more than one slum was eligible for survey, particulars of each such slum were recorded separately in the schedule. When the slum lay only partly within the sample UFS block, the slum characteristics recorded related to only the part of the slum which fell within the block. Information was obtained from persons judged by the data collecting personnel to be knowledgeable about the slum(s). Although no particulars of any slum households were recorded in the schedule, some information regarding characteristics possessed by "most of the slum dwellers" or the "majority of the slum houses" was recorded.
- 1.4.5 **Sampling Frame:** The latest updated list of UFS blocks (2007-12) was considered as the sampling frame.
- 1.4.6 **Total sample size:** For the Central sample (surveyed by NSSO), 3835 UFS blocks were allocated at all-India level. For the State sample (surveyed by the State Governments), there were 4608 UFS blocks allocated for all-India. At the all-India level, a total of 881 slums were located and covered in the surveyed urban blocks of the Central sample. Statewise numbers of Central sample UFS blocks allotted and surveyed, and number of surveyed slums (*notified* and *non-notified*) are given in Statement 0.

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1.4.7 **Selection of UFS blocks:** The NSS Urban Frame Survey (UFS 2007-12 phase) blocks were used for all towns and cities. From each stratum/sub-stratum UFS blocks were selected using Simple Random Sampling Without Replacement (SRSWOR). Samples were drawn in the form of two independent sub-samples and equal sized samples were allocated to the two sub rounds. In the Sub-stratum 1, additional sample blocks were drawn independently to form of sub-sample 3.

#### 1.5 Presentation of results

1.5.1 The relevant concepts and definitions used in this survey are presented in Chapter Two. The summary of findings based on the survey data is discussed in Chapter Three. Estimates are presented in respect of *notified/non-notified* slums for all-India (based on all surveyed slums) and for States where the number of *notified/non-notified* slums surveyed was 10 or more, provided the total number of slums surveyed in the State was 20 or more. Thus, separate Statewise results are presented for the following States:

Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal.

Appendix A sets out the Statewise estimated number of slums obtained from the 69<sup>th</sup> round survey alongside those obtained from the last survey (NSS 65<sup>th</sup> round). It also explains clearly the differences between the two surveys in the method of estimating the number of slums and the proportion of slums possessing any characteristic. Appendix B gives details of the sample design and estimation procedure for the survey. A copy of the schedule of enquiry – "Schedule 0.21" – is given in Appendix C.

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Statement 0: Number of sample blocks allotted and surveyed, and number of sample slums surveyed for each State/UT of NSS  $69^{\rm th}$  round

-	no. of san	nple blocks	no. of sam	ple slums s	surveyed
State/UT	allotted	surveyed	notified	non- notified	all
(1)	(2)	(3)	(4)	(5)	(6)
Andhra Pradesh	268	268	82	25	107
Arunachal Pradesh	32	31	4	0	4
Assam	68	67	3	5	8
Bihar	114	114	4	17	21
Chhattisgarh	78	78	10	15	25
Delhi	153	153	0	12	12
Goa	14	14	5	1	6
Gujarat	193	193	8	49	57
Haryana	77	77	2	5	7
Himachal Pradesh	24	24	0	1	1
Jammu & Kashmir	74	74	4	7	11
Jharkhand	78	78	1	18	19
Karnataka	200	200	35	25	60
Kerala	163	163	4	1	5
Madhya Pradesh	226	226	57	17	74
Maharashtra	374	374	81	75	156
Manipur	80	80	0	0	0
Meghalaya	37	36	1	1	2
Mizoram	48	48	3	1	4
Nagaland	28	28	0	0	0
Odisha	98	98	1	26	27
Punjab	95	95	9	8	17
Rajasthan	153	153	24	17	41
Sikkim	24	24	0	0	0
Tamil Nadu	263	263	26	36	62
Tripura	73	73	4	0	4
Uttar Pradesh	367	367	23	21	44
Uttaranchal	37	37	0	5	5
West Bengal	313	313	46	42	88
A & N Islands	12	12	0	0	0
Chandigarh	17	17	2	2	4
D & N Haveli	9	9	0	4	4
Daman & Diu	9	9	0	4	4
Lakshadweep	8	8	0	0	0
Pondicherry	28	28	2	0	2
all-India	3835	3832	441	440	881

#### Chapter Two

#### **Concepts and Definitions**

- 2.1 For collection of data on the presence and condition of slums, certain concepts and definitions were formulated. These are explained below.
- 2.2 **Notified slums:** These are areas notified as slums by the concerned State governments, municipalities, corporations, local bodies or development authorities.
- 2.3 **Non-notified slums:** Any 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, was considered a slum for the survey, provided at least 20 households live there. If such a settlement was not notified as a slum, it was called a *non-notified* slum. Note that while a *non-notified* slum had to consist of at least 20 households, no such restriction was imposed in case of *notified* slums.
- 2.4 **Slums:** The word "slum" refers to both *notified* slums and *non-notified* slums.
- 2.5 **Slums eligible for survey:** For each sample UFS block, any slum (*notified* or *non-notified*) lying wholly or partly within the block was eligible for survey and had to be covered. If, for a sample block, more than one slum was eligible for survey, particulars of each such slum were obtained separately.
- 2.6 **Part-slums:** When the slum lay only partly within the sample UFS block, the part of the slum which fell within the block was called a part-slum. In such cases all the slum particulars recorded relate to only the part-slum. Such 'part-slums' were surveyed even if the approximate number of households in the part-slum (i.e., the part of the slum within the sample UFS block) was less than 20. **This differed from the procedure followed in the last survey (NSS 65th round), where a part-slum qualified for survey only if it contained 20 or more households.**
- 2.7 **Procedure for identifying a slum:** *Notified* slums were identified with the help of knowledgeable persons and, if necessary, by obtaining a list of *notified* slums from the concerned municipalities, corporations, local bodies or development authorities. *Non-notified*

slums were identified by the investigator with the help of knowledgeable persons by applying the definition of *non-notified* slums given above.

- 2.8 **Household:** A group of persons normally living together and taking food from a common kitchen constituted a household.
- 2.9 **Pucca structure:** A pucca structure is one whose walls and roofs are made of pucca materials such as 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.
- 2.10 **Katcha structure:** A structure which has walls and roof made of non-pucca materials is regarded as a katcha structure. Non-pucca materials include unburnt bricks, bamboo, mud, grass, leaves, reeds, thatch, etc. Katcha structures can be of the following two types:
  - (a) **Unserviceable katcha** structure includes 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** structure includes all katcha structures other than unserviceable katcha structures.
- 2.11 **Semi-pucca structure:** A structure which cannot be classified as a pucca or a katcha structure as per definition is a semi-pucca structure. Such a structure will have either the walls or the roof but not both, made of pucca materials.
- 2.12 **Type of Latrine**: Descriptions of the broad types of latrine are as follows:
  - (i) **Pit latrine:** This could be (a) Ventilated improved pit latrine (b) Pit latrine with slab and (c) Pit latrine without slab/ open pit. Detailed descriptions of each of these are as follows:
    - (a) **Ventilated improved pit latrine:** This is a dry pit latrine ventilated by a pipe that extends above the latrine roof. The open end of the vent pipe is covered with gauze mesh or fly-proof netting and the inside of the superstructure is kept dark.

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(b) **Pit latrine with slab:** This is a dry pit latrine that uses a hole in the ground to collect the excreta and a squatting slab or platform that is firmly supported on all sides, easy to clean and raised above the surrounding ground level to prevent surface water from entering the pit. The platform has a squatting hole, or is fitted with a seat. Unlike ventilated pit latrine, in this type of latrine vent pipe is not used.

- (c) **Pit latrine without slab/ open pit:** Pit latrine without slab uses a hole in the ground for excreta collection and does not have a squatting slab, platform or seat.
- (ii) Flush/pour-flush: Flush latrine uses a cistern or holding tank for flushing water, and a water seal (which is a U-shaped pipe below the seat or squatting pan) that prevents the passage of flies and odours. A pour-flush latrine uses a water seal, but unlike a flush latrine, it uses water poured by hand for flushing (no cistern is used). Depending on the system/site to which human excreta and wastewater are carried off, flush/ pour-flush latrine can be of the following types: (i) piped sewer system, (ii) septic tank, (iii) flush/pour-flush to pit latrine, (iv) other (flush/pour-flush to open drain, open pit, open field, etc.). The different systems of flush/pour-flush latrine are therefore:
  - (a) **Piped sewer system:** Piped sewer system is a system of sewer pipes, also called sewerage, that is designed to collect human excreta and wastewater and remove them from the household environment. In this system flush/pour-flush latrine used by a household is connected to a piped sewer system.
  - (b) **Septic tank:** Septic tank is an excreta collection device consisting of a watertight settling tank, which is normally located underground. The treated effluent of a septic tank usually seeps into the ground through a leaching pit. In this system, flush/pourflush latrine used by a household is connected to a septic tank.
  - (c) **Flush/pour-flush to pit latrine:** In this case, human excreta are flushed or pour-flushed to a hole in the ground or leaching pit which is covered.
  - (d) Flush/pour-flush to elsewhere (open drain, open pit, open field, etc): In this case, excreta are disposed of near the household environment (not into a pit, septic tank, or sewer). Excreta may be flushed to the open drain, open pit, open field, etc.
- (iii) Others: This covered latrines of all types other than those listed above, including (i) hanging latrine, which is built over the sea, a river, or other body of water, into which

excreta drops directly and (ii) service latrine, which is serviced by scavengers. Further, a composting toilet, which is a dry toilet into which carbon-rich material (vegetable wastes, straw, grass, sawdust, ash) is added to the excreta and special conditions maintained to produce inoffensive compost, was recorded under Others.

- 2.13 **Underground Sewerage System:** An underground sewerage system contains underground pipes or conduits for carrying off drainage water, waste matter, discharge from water closets, etc.
- 2.14 **Drainage System:** A system, if any exists, for carrying off waste water and liquid wastes of the area is called a drainage system. Drainage could involve natural or artificial removal of surface and sub-surface water from a given area. However, if water flows down by its own weight under gravity, in an unregulated manner, then it is considered a case of 'no drainage'.
- 2.15 **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 make arrangements for 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.
- 2.16 Whether benefited from JNNURM/RAY/any other slum improvement scheme: Any scheme run by the Central Government, State Government or any local body for improvement of slums, such as Jawaharlal Nehru National Urban Renewal Mission (JNNURM), Rajiv Awas Yojana (RAY), was considered here.

#### **Summary of Findings**

- 3.1 This "Key Indicators" document presents estimates of some key characteristics of slums such as number of slums, approximate number of households living in the slums, proportion of slums without electricity, proportion of slums without drainage facilities, proportion of slums without a garbage disposal system, proportion of slums with the majority of the households having pucca structure, proportion of slums with tap as major source of drinking water, proportion of slums having a pucca road within the slum, etc.
- 3.1.1 In this document, the survey results are presented for the *notified* and *non-notified* slum areas in those States/UTs where the number of surveyed slums (*notified/non-notified*) was 10 or more, provided a minimum of 20 slums (*notified + non-notified*) had been surveyed in the State/UT. There are 12 such States. These are: Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. Estimates for slums in general have been presented for all 12 States. For 3 of these States Bihar, Gujarat and Odisha estimates for *notified* slums could not be presented as the number of *notified* slums surveyed was less than 10.
- 3.1.2 Information was collected in respect of 881 slums surveyed as per the design of random sampling adopted, covering the entire country. Of these 881 surveyed slums, 441 (50%) were *notified* slums. The 12 States for which results have been presented accounted for 86% (762) of the surveyed slums 90% (397) of surveyed *notified* slums and 83% (365) of surveyed *non-notified* slums.
- 3.2 **Number of slums and slum households**: Statement 1 presents estimated number of *notified* and *non-notified* slums<sup>1</sup> and slum households. Some facts that can be ascertained from this statement are listed below.

<sup>&</sup>lt;sup>1</sup> It may be noted that in the NSS 69<sup>th</sup> round the estimates of number of slums, as well as of the proportions of slums having various characteristics, were generated following a different estimation procedure from that adopted in the earlier rounds of slum survey conducted by NSSO. As such, it behoves that a comparative statement of estimated number of slums and of slum households with the earlier NSS 65<sup>th</sup> round is presented in this document. This is done later in Appendix A along with a brief write-up.

- An estimated total of 33,510 slums existed in the urban areas of India.
- An estimated 8.8 million households<sup>2</sup> lived in these slums, about 5.6 million in notified and 3.2 million in non-notified slums.
- Maharashtra, with an estimated 7723 slums, accounted for about 23% of all slums in urban India, followed by Andhra Pradesh, accounting for 13.5%, and West Bengal, which had a share of about 12%.
- Of the 19,749 non-notified slums estimated to exist in urban India, Maharashtra accounted for about 29%, West Bengal for about 14%, and Gujarat for about 10%.
- Out of an estimated 13,761 notified slums in urban India, Andhra Pradesh had about 23%, Maharashtra about 14%, and Madhya Pradesh, West Bengal and Tamil Nadu about 9% each.
- As many as 38% of slum households of urban India were estimated to be living in Maharashtra, and 18% in Andhra Pradesh.
- Of slum households in non-notified slums, 40% were estimated to be present in Maharashtra, and 9% each in Gujarat and West Bengal.

Statement 1: Estimated number of slums and slum households, and number of slums surveyed

	estima	ated num	ber of	estimate	d number o	of slum	number of slums		
		slums		h	ouseholds		surveyed		
State	noti- fied	non- noti- fied	all	notified	non- notified	all	notified	non- noti- fied	all
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Andhra Pradesh	3224	1315	4539	1417890	180769	1598659	82	25	107
Bihar	*	636	655	*	54851	58118	4	17	21
Chhattisgarh	632	446	1079	52846	33395	86241	10	15	25
Gujarat	*	2058	2923	*	284180	336338	8	49	57
Karnataka	716	708	1424	356627	201608	558235	35	25	60
Madhya Pradesh	1327	308	1635	301302	50827	352129	57	17	74
Maharashtra	1954	5769	7723	2033799	1311307	3345106	81	75	156
Odisha	*	744	756	*	136149	137589	1	26	27
Rajasthan	947	653	1600	311672	44793	356466	24	17	41
Tamil Nadu	1208	1156	2364	343521	245089	588611	26	36	62
Uttar Pradesh	836	978	1814	121737	85798	207535	23	21	44
West Bengal	1274	2684	3957	378459	285542	664001	46	42	88
all-India**	13761	19749	33510	5559771	3249236	8809007	441	440	881

<sup>\*</sup>Number of sample slums less than 10, hence estimates not presented (see paragraph 3.1.1).

3.2.1 Statement 2 shows, Statewise, the percentage break-up of slums into notified and nonnotified slums, and also the percentage break-up of slum households over the two slum categories.

<sup>2</sup> Estimates of number of slum households are built up from data collected on approximate number of households in the surveyed slum within the boundaries of the sample UFS block.

<sup>\*\*</sup>Based on all States and UTs, including States and UTs not shown in this statement.

• At all-India level, out of an estimated total of 33,510 slums, 41% were *notified* and 59% *non-notified*.

- In most of the States listed in Statement 2, the percentage of *notified* slums is less than 60%, exceptions being Madhya Pradesh (81%) and Andhra Pradesh (71%).
- At all-India level 63% slum households lived in *notified* slums. Thus the *notified* slums account for 41% of the slums but 63% of slum households.
- In the majority of States, the percentage of slum households living in *notified* slums is less than 65%, exceptions being Andhra Pradesh (89%), Rajasthan (87%) and Madhya Pradesh (86%).

Statement 2: Percentage of notified and non-notified slums and percentages of households in such slums

State	percentage of slums			percentage of slum households		
State	notified	non- notified	all	notified	non- notified	all
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	71	29	100	89	11	100
Bihar	*	97	100	*	94	100
Chhattisgarh	59	41	100	61	39	100
Gujarat	*	70	100	*	84	100
Karnataka	50	50	100	64	36	100
Madhya Pradesh	81	19	100	86	14	100
Maharashtra	25	75	100	61	39	100
Odisha	*	98	100	*	99	100
Rajasthan	59	41	100	87	13	100
Tamil Nadu	51	49	100	58	42	100
Uttar Pradesh	46	54	100	59	41	100
West Bengal	32	68	100	57	43	100
all-India**	41	59	100	63	37	100

<sup>\*</sup>Estimate not presented as the number of sample slums is less than 10.

3.3 **Average slum size**: It would be interesting to consider a particular metric – the average number of slum households per slum, or average slum size. The observed pattern of differences between the break-up of slums and the break-up of slum households among *notified* and *non-notified* slums already suggest that the average number of households per slum is larger for *notified* slums. Also, average slum size may vary appreciably across States. Statement 3, which presents average slum size for *notified* and *non-notified* slums by State, confirms this. It is seen that:

- At the all-India level the average slum size was estimated at 263 households.
- For *notified* and *non-notified* slums taken together, average slum size was highest in Maharashtra (433), followed by Karnataka (392) and Andhra Pradesh (352).

<sup>\*\*</sup>Based on all States and UTs, including States and UTs not shown in this statement.

• The *notified* slums had on the average 404 households and the *non-notified* slums had on the average only 165.

- In every State appearing in Statement 3, the average number of households per slum was higher for *notified* than for *non-notified* slums.
- The estimated average size of a *non-notified* slum was under 300 in all 12 of the States listed in Statement 3 and was less than 100 in 4 of these States.
- State-level average slum sizes of *notified* slums varied widely. For Maharashtra the average was over 1000 households whereas for Chhattisgarh it was only 84.

Statement 3: Average slum size in terms of number of households per slum

	no. of households per slum			
State	notified	non- notified	all	
(1)	(2)	(3)	(4)	
Andhra Pradesh	440	137	352	
Bihar	*	86	89	
Chhattisgarh	84	75	80	
Gujarat	*	138	115	
Karnataka	498	285	392	
Madhya Pradesh	227	165	215	
Maharashtra	1041	227	433	
Odisha	*	183	182	
Rajasthan	329	69	223	
Tamil Nadu	284	212	249	
Uttar Pradesh	146	88	114	
West Bengal	297	106	168	
all-India**	404	165	263	

<sup>\*</sup>Estimate not presented as the number of sample slums is less than 10.

3.4 **Distribution of slums by slum size:** Statement 4 shows the percentage break-up of number of *notified* slums, *non-notified* slums and all slums by slum size, separately for (a) the million-plus cities of urban India as a whole, and (b) the remaining urban areas. While the vast majority (77% in the million-plus cities and 74% in other urban areas) of *non-notified* slums had less than 150 households, the *notified* slums had a greater proportion in the 150-450 size class (40% in the million-plus cities and also in the other urban areas) than in the <150 class (31% in the million-plus cities and 34% in other urban areas). Taking all slums together, *notified* and *non-notified*, about 56% of those in the million-plus cities and 58% of those in other urban areas had less than 150 households.

<sup>\*\*</sup>Based on all States and UTs, including States and UTs not shown in this statement.

Statement 4: Percentage distribution of notified and non-notified slums in million-plus cities and other urban areas by size of slum (no. of households), all-India

size class o		estimated percentage of			
sector	slum (no. of hhs)	notified slums	non- notified slums	all slums	
(1)	(2)	(3)	(4)	(5)	
	0-150	31.3	77.2	56.3	
million- plus cities	150-450	40.2	8.7	23.1	
	450-750	5.2	7.6	6.5	
	750-1500	11.0	2.0	6.1	
	>1500	12.2	4.4	8.0	
	all size classes	100.0	100.0	100.0	
	0-150	34.4	73.7	58.4	
other urban	150-450	39.8	21.5	28.6	
areas	>450	25.8	4.8	13.0	
	all size classes	100.0	100.0	100.0	

3.5 **Ownership of land**: Statement 5 shows the estimated proportion of slums located on privately owned land.

Statement 5: Proportion of slums located on privately owned land

	per 1000 number of slums on			
State	priv	ately owned la	ınd	
State	notified	non- notified	all	
(1)	(2)	(3)	(4)	
Andhra Pradesh	587	632	600	
Bihar	*	171	171	
Chhattisgarh	74	190	122	
Gujarat	*	246	441	
Karnataka	212	806	507	
Madhya Pradesh	574	179	500	
Maharashtra	291	549	484	
Odisha	*	403	413	
Rajasthan	307	79	214	
Tamil Nadu	489	213	354	
Uttar Pradesh	247	342	298	
West Bengal	648	458	520	
all-India**: 2012	479	413	440	
all-India**: 2008 - 09	371	416	393	

<sup>\*</sup>Estimate not presented as number of sample slums is less than 10.

<sup>\*\*</sup>Based on all States and UTs, including States and UTs not shown in this statement.

3.5.1 At all-India level 44% of slums - 48% of *notified* slums and 41% of *non-notified* slums – were located on private land. The proportion of slums on private land was 30% or more in 9 of the 12 States for which results are presented in Statement 5. It was 60% in Andhra Pradesh and 50-52% in West Bengal, Karnataka and Madhya Pradesh. The proportions of such slums among *notified* and *non-notified* slums varied more widely across States. In Karnataka as many as 80% of *non-notified* slums were found on land that was privately owned.

3.6 **Pucca structure of majority of houses:** The survey of slums not being a household survey, information on the type of structure of the houses in the surveyed slums was not collected separately for each house but obtained in respect of the majority of the houses.

Statement 6: Proportion of slums with majority of houses having pucca structure

	g puccu stru	cture			
State	per 1000 number of slums with majority of houses having pucca structure				
	notified	non- notified	all		
(1)	(2)	(3)	(4)		
Andhra Pradesh	942	451	799		
Bihar	*	19	29		
Chhattisgarh	911	380	691		
Gujarat	*	386	559		
Karnataka	804	602	704		
Madhya Pradesh	819	408	742		
Maharashtra	803	484	565		
Odisha	*	453	462		
Rajasthan	919	317	674		
Tamil Nadu	762	562	664		
Uttar Pradesh	883	289	562		
West Bengal	716	518	582		
all-India**: 2012	850	419	596		
all-India**: 2008 - 09	636	500	569		
*E-timete and amounted and affirm the 10					

<sup>\*</sup>Estimate not presented as no. of sample slums is less than 10.

3.6.1 Statement 6 shows Statewise proportions of *notified* and *non-notified* slums where the majority of houses had pucca structure. At the all-India level the proportion of slums with the majority of houses having pucca structures was about 60% taking all slums into consideration. But *notified* slums were much better placed than *non-notified* slums in this respect. In about 85% of *notified* slums, the majority of houses had pucca structures, the proportion being 71% or more for all 9 States for which estimates have been shown in Statement 6, and over 80% in 7 of these States. On the other hand, only 42% of *non-notified* 

<sup>\*\*</sup>Based on all States and UTs, including States and UTs not shown in this statement.

slums at the all-India level were estimated to have this desirable character. Among *non-notified* slums the proportion of such slums was 60% or less in all the 12 States appearing in Statement 6.

3.7 **Effect of slum improvement schemes:** For each surveyed slum, it was enquired whether the slum had benefited from any welfare scheme like Jawaharlal Nehru National Urban Renewal Mission (JNNURM), Rajiv Awas Yojana (RAY), or any other scheme run by the Central Government or State Government or any local body. Statement 7 presents the proportion of slums that reported having benefited from slum improvement schemes.

Statement 7: Proportion of slums benefiting from slum improvement schemes such as JNNURM

1				
State	per 1000 number of slums benefiting from any slum improvement scheme			
	notified	non- notified	all	
(1)	(2)	(3)	(4)	
Andhra Pradesh	456	270	402	
Bihar	*	8	20	
Chhattisgarh	15	398	174	
Gujarat	*	263	319	
Karnataka	398	98	249	
Madhya Pradesh	237	398	267	
Maharashtra	231	149	170	
Odisha	*	128	126	
Rajasthan	231	32	150	
Tamil Nadu	52	62	57	
Uttar Pradesh	330	207	264	
West Bengal	526	384	430	
all-India**: 2012	323	180	239	

<sup>\*</sup>Estimate not presented as number of sample slums is less than 10.

3.7.1 At the all-India level 24% of slums benefited from the abovementioned schemes – 32% among *notified* and 18% among *non-notified* slums. The benefits of these schemes appear to have gone more to the *notified* than to the *non-notified* slums. At least 23% of *notified* slums benefited from such schemes in 7 of the 9 States for which estimates are shown in column 2 of Statement 7. Among *non-notified* slums, the incidence of benefit from slum improvement schemes was 38-40% for Madhya Pradesh, Chhattisgarh and West Bengal, but much lower in Bihar, Rajasthan and Tamil Nadu. In West Bengal, as many as 53% of *notified* slums reported benefits from the schemes.

<sup>\*\*</sup>Based on all States and UTs, including States and UTs not shown in this statement.

3.8 **Source of drinking water:** Information about the major source of drinking water available to the slum dwellers was collected in the survey. If drinking water was obtained as the result of an arrangement made by corporation, municipality or other local authorities or any private or public agency to supply water through pipe, then the source of drinking water was considered as *tap*. Statement 8 provides the Statewise proportion of slums having tap water as major source of drinking water.

Statement 8: Proportion of slums having tap water as major source of drinking water

State	per 1000 number of slums having tap water as major source			
State	notified	non- notified	all	
(1)	(2)	(3)	(4)	
Andhra Pradesh	768	775	770	
Bihar	*	40	46	
Chhattisgarh	895	870	885	
Gujarat	*	730	801	
Karnataka	965	930	948	
Madhya Pradesh	731	682	722	
Maharashtra	843	806	815	
Odisha	*	144	142	
Rajasthan	982	494	783	
Tamil Nadu	961	986	973	
Uttar Pradesh	458	271	357	
West Bengal	860	610	691	
all-India**: 2012	816	643	714	
all-India**: 2008 - 09	790	766	778	

<sup>\*</sup>Estimate not presented as no. of sample slums less than 10.

3.8.1 At the all-India level 71% of all slums had *tap* as major source of drinking water, the figure being 82% for *notified* slums and 64% for *non-notified* slums. A wide divergence is noticeable among the States – about 97% and 95% of all slums in Tamil Nadu and Karnataka respectively had *tap* as major source of drinking water, the corresponding figures for Bihar and Odisha being as low as 5% and 14% respectively. For Rajasthan, Karnataka and Tamil Nadu, as many as 98%, 97% and 96% of *notified* slums respectively had *tap* as major source of drinking water.

<sup>\*\*</sup>Based on all States and UTs, including States and UTs not shown in this statement.

3.9 **Availability of electricity connection:** Statement 9 shows the proportion of slums having no electricity either for street lights or for household use. The phenomenon of absence of electricity in slums appears to be largely confined to *non-notified* slums. At all-India level only 6.5% of all slums had no electricity – the corresponding figures being 11% for *non-notified* slums but only 0.1% for *notified* slums. The proportion of *non-notified* slums without electricity was about 66% in Rajasthan, 30% in Uttar Pradesh, and 23% in Madhya Pradesh. Taking both *notified* and *non-notified* slums into consideration, the proportion of slums without electricity was under 10% in all the States shown in Statement 9 except Rajasthan (27%) and Uttar Pradesh (16%).

Statement 9: Proportion of slums having no electricity

	per 1000	number of	slums
State	havir	ng no electric	city
State	notified	non- notified	all
(1)	(2)	(3)	(4)
Andhra Pradesh	0	177	51
Bihar	*	29	40
Chhattisgarh	0	0	0
Gujarat	*	117	84
Karnataka	0	0	0
Madhya Pradesh	0	232	44
Maharashtra	0	128	96
Odisha	*	15	14
Rajasthan	0	656	268
Tamil Nadu	0	0	0
Uttar Pradesh	0	299	161
West Bengal	0	50	34
all-India**: 2012	1	111	65
all-India**: 2008 - 09	8	65	36

<sup>\*</sup>Estimate not presented as no. of sample slums less than 10.

3.10 **Availability of pucca road within slum:** Statement 10 shows the proportion of slums where the road within the slum used by the dwellers as main thoroughfare was pucca. At the all-India level, it was found that in about 66% of all slums, the road within the slum used by the dwellers as main thoroughfare was pucca. The proportion of such slums (*notified* and *non-notified* together) was 60% or more in 7 of the 12 States for which results are presented in Statement 10. The figures are higher for *notified* slums - in all 9 States for which results are

<sup>\*\*</sup>Based on all States and UTs, including States and UTs not shown in this statement.

presented, the proportion was more than 70%. At the all-India level, the proportion was 83% for *notified* slums and 55% for *non-notified* slums.

Statement 10: Proportion of slums having pucca road within slum

	per 1000 number of slums			
State	having pu	ıcca road witl	nin slum	
State	notified	non- notified	all	
(1)	(2)	(3)	(4)	
Andhra Pradesh	893	490	776	
Bihar	*	305	307	
Chhattisgarh	1000	868	946	
Gujarat	*	560	537	
Karnataka	741	601	672	
Madhya Pradesh	887	865	883	
Maharashtra	781	556	613	
Odisha	*	305	300	
Rajasthan	769	94	494	
Tamil Nadu	944	699	824	
Uttar Pradesh	876	273	551	
West Bengal	875	621	703	
all-India**: 2012	826	547	661	
all-India**: 2008 - 09	783	566	676	
*Estimate not presented as the number of sample slums is less				

<sup>\*</sup>Estimate not presented as the number of sample slums is less than 10.

3.11 Availability of latrine facility within slum: The survey collected information on the nature of latrine facility used by most of the slum dwellers. Statement 11 shows the proportion of slums where the sanitary conditions in the slums in terms of latrine facility could be called the poorest in the sense that most of the slum dwellers had no latrine facility. At the all-India level 31% of slums had no latrine facility, the figure being 42% for *non-notified* and 16% for *notified* slums. Among *notified* slums the percentage of such slums was estimated at 35% in Karnataka and 18% or less in the remaining 8 States appearing in the statement. Among *non-notified* slums the incidence of the phenomenon is seen to be much higher, with over 90% of such slums found in Bihar, Madhya Pradesh and Rajasthan, and over 80% in Chhattisgarh and Odisha.

<sup>\*\*</sup>Based on all States and UTs, including States and UTs not shown in this statement.

Statement 11: Proportion of slums having no latrine facility

	per 1000 number of slums					
State	having no latrine facility					
State	notified	non- notified	all			
(1)	(2)	(3)	(4)			
Andhra Pradesh	168	556	280			
Bihar	*	983	984			
Chhattisgarh	72	856	397			
Gujarat	*	597	426			
Karnataka	353	164	259			
Madhya Pradesh	176	964	324			
Maharashtra	149	256	229			
Odisha	*	841	828			
Rajasthan	173	916	476			
Tamil Nadu	116	224	169			
Uttar Pradesh	126	728	450			
West Bengal	180	337	286			
all-India**: 2012	155	424	313			
all-India**: 2008 - 09	100	195	147			

<sup>\*</sup>Estimate not presented as the number of sample slums is less than 10.

3.12 **Availability of drainage facility within slum:** Statement 12 shows the proportion (number per 1000) of slums without any drainage system. At the all-India level 31% of all slums had no drainage facility – the figure being considerably higher for *non-notified* slums (45%) than for *notified* slums (11%). Except for Chhattisgarh, the proportion for *notified* slums was 15% or less in all the States for which results are presented below. For *non-notified* slums it was more than 40% in 8 of the 12 States appearing in the statement, and as high as 90% for Rajasthan and 72% for Uttar Pradesh. The overall situation appears to be best in Karnataka, where only 6% of slums had no drainage facility – compared to 17% or more in all the other States for which results are presented below – and least satisfactory in Chhattisgarh and Odisha.

<sup>\*\*</sup>Based on all States and UTs, including States and UTs not shown in this statement.

Statement 12: Proportion of slums having no drainage facility

CL	per 1000 number of slums having no drainage facility				
State	notified	non- notified	all		
(1)	(2)	(3)	(4)		
Andhra Pradesh	88	437	189		
Bihar	*	216	229		
Chhattisgarh	836	405	658		
Gujarat	*	600	427		
Karnataka	0	128	63		
Madhya Pradesh	151	278	175		
Maharashtra	58	263	211		
Odisha	*	553	560		
Rajasthan	19	902	379		
Tamil Nadu	45	532	283		
Uttar Pradesh	20	718	396		
West Bengal	3	456	310		
all-India**: 2012	106	451	309		
all-India**: 2008 - 09	96	226	160		

<sup>\*</sup>Estimate not presented as the number of sample slums is less than 10.

3.13 Availability of garbage disposal arrangement within slum: Information on the arrangement prevailing for the colony/locality of the slum regarding garbage disposal was obtained during the survey period. Statement 13 shows the all-India and State-level proportions of *notified*, *non-notified*, and *all* slums having no garbage disposal arrangement. At the all-India level, 27% of all slums had no garbage disposal arrangement – the figures being about 38% for *non-notified* slums and about 11% for *notified* slums. The proportion of such slums among *notified* slums was 18% in Madhya Pradesh and 14% or less in all other States for which results are presented here. For *non-notified* slums, on the other hand, the proportion was less than 23% in only 2 of the 12 States – Karnataka (13%) and Maharashtra (18%). The proportion of *non-notified* slums without any garbage disposal arrangement was, further, as high as 89% in Rajasthan, 83% in Bihar, and over 60% in Odisha, Chhattisgarh and Gujarat.

<sup>\*\*</sup>Based on all States and UTs, including States and UTs not shown in this statement.

Statement 13: Proportion of slums having no garbage disposal arrangement

	0					
	per 1000 number of slums having					
State	no garbage disposal arrangement					
State	notified	non-	all			
		notified				
(1)	(2)	(3)	(4)			
Andhra Pradesh	77	234	123			
Bihar	*	831	819			
Chhattisgarh	0	659	273			
Gujarat	*	612	440			
Karnataka	38	126	82			
Madhya Pradesh	180	301	203			
Maharashtra	138	183	172			
Odisha	*	685	674			
Rajasthan	119	889	433			
Tamil Nadu	107	435	267			
Uttar Pradesh	120	464	305			
West Bengal	60	392	285			
all-India**: 2012	114	375	268			
all-India**: 2008 - 09						
#E .: 1			. 1 .1			

<sup>\*</sup>Estimate not presented as number of sample slums is less than 10.

3.14 Waterlogging of the approach road to the slum due to rainfall: The survey collected information on whether the slum, and the approach road to the slum, usually remained waterlogged due to rainfall. Statement 14 shows the proportion of slums where the approach road usually remained waterlogged due to rainfall. At the all-India level it was estimated that for 32% of all slums, the approach road to the slum usually remained waterlogged due to rainfall – the figures being 35% for notified slums and 29% for nonnotified slums. In respect of this particular characteristic – propensity for waterlogging during rainfall – there does not appear to be any systematic pattern of difference between notified and non-notified slums. In case of both kinds of slum, the State-level percentages reported to be usually waterlogged varied from under 15% to over 80% The most unsatisfactory situation appears to be that of Chhattisgarh, where 90% of all slums - 95% of notified and 83% of non-notified slums – were reported to be usually waterlogged during rainfall.

<sup>\*\*</sup>Based on all States and UTs, including States and UTs not shown in this statement.

Statement 14: Proportion of slums where approach road usually remains waterlogged due to rainfall

assumed a succession of the su							
State	per 1000 number of slums whose approach road usually remains waterlogged due to rainfall						
	notified	non- notified	all				
(1)	(2)	(3)	(4)				
Andhra Pradesh	160	191	169				
Bihar	*	205	199				
Chhattisgarh	953	832	903				
Gujarat	*	451	612				
Karnataka	588	329	459				
Madhya Pradesh	146	64	131				
Maharashtra	175	300	269				
Odisha	*	78	92				
Rajasthan	402	250	340				
Tamil Nadu	136	344	238				
Uttar Pradesh	414	167	281				
West Bengal	353	322	332				
all-India**: 2012	350	292	316				
all-India**: 2008-09 <sup>®</sup> 362 450 406							
*Estimate not proceeded so the propher of comple along is less than 10							

<sup>\*</sup>Estimate not presented as the number of sample slums is less than 10.

3.15 Improvements in various aspects of the condition of slums: For several aspects of living conditions in slums, including water supply, availability of electricity, drainage system, garbage disposal system, road used as main thoroughfare within the slum, approach road to the slum, and so on, it was ascertained whether the slums had experienced an improvement, a deterioration, or no change in that respect during the last 5 years.<sup>3</sup> For five important types of facilities, namely, drainage, sewerage, garbage disposal, education facilities at primary level, and medical facilities, the estimated percentage of slums, at all-India level, that reported (i) an improvement in that respect (ii) a deterioration is shown in Statement 15, separately for different size classes of *notified* and *non-notified* slums in (a) the million-plus cities of India and (b) the remaining urban areas of India. By adding the percentage reporting improvement in a specific facility and the percentage reporting deterioration, and subtracting the sum from 100, one would obtain the percentage of slums that reported no change, plus the percentage of slums in which the facility neither existed on the date of survey nor 5 years earlier.

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<sup>\*\*</sup>Based on all States and UTs, including States/UTs not shown here.

<sup>@</sup>In the 2008-09 survey, the words 'during monsoon' were used instead of 'due to rainfall'.

<sup>&</sup>lt;sup>3</sup> If a facility existed on the date of survey but did not exist 5 years earlier, it was regarded as an improvement.

Statement 15: Proportions of slums experiencing improvement/deterioration in specific facilities over the 5 years preceding the date of survey, all-India

sector/	size class of slum (no.					nced improve	
type	of hhs)		drainage	sewerage	garbage disposal	primary education	medical facilities
(1)	(2)		(3)	(4)	(5)	(6)	(7)
	0-150	I	33.3	45.6	4.3	11.1	11.7
	0-150	D	0.0	0.9	0.0	0.0	0.0
	150-450	I	50.6	46.9	28.0	30.6	12.8
notified	130-430	D	2.0	0.0	0.9	0.0	0.0
slums	450-750	I	50.0	35.0	50.1	40.3	51.4
in	430-730	D	0.0	0.0	0.0	14.9	0.0
million-	750 1500	I	47.4	40.8	33.1	26.7	12.3
plus	750-1500	D	0.0	0.0	3.0	0.0	0.0
cities	>1500	Ι	57.2	51.8	62.2	50.2	43.9
	>1500	D	0.0	0.0	0.0	0.0	0.0
	all size	I	45.6	45.8	26.5	26.9	18.2
	classes	D	0.8	0.3	0.7	0.8	0.0
	0.150	I	23.1	20.0	37.0	37.9	18.8
	0-150	D	0.2	0.2	0.0	0.0	0.0
notified	150.450	I	39.3	13.5	42.5	27.6	19.6
slums	150-450	D	1.1	1.9	0.5	1.5	0.5
in other urban	>450	I	50.3	15.1	56.7	32.9	31.5
areas		D	3.8	1.1	0.3	0.7	0.0
	all size classes	I	36.6	16.2	44.3	32.5	22.4
		D	1.5	1.1	0.3	0.8	0.2
	0-150	I	28.2	23.6	46.5	22.3	31.7
		D	0.0	0.0	2.9	0.5	0.5
	150.450	I	19.9	17.7	19.4	22.4	33.7
non-	150-450	D	0.0	0.0	11.2	0.0	0.0
notified	450.550	I	67.4	83.6	68.7	3.7	7.8
slums	450-750	D	0.0	0.0	0.0	0.0	0.0
in million-	750 1500	I	2.8	2.8	0.0	0.0	8.0
plus	750-1500	D	0.0	0.0	0.0	0.0	0.0
cities	>1500	I	61.5	37.1	65.7	22.7	9.8
	>1500	D	1.4	0.0	0.0	0.0	0.0
	all size	I	31.4	27.8	45.7	20.4	28.6
	classes	D	0.1	0.0	3.2	0.4	0.4
	0.150	I	23.3	14.1	18.3	35.4	14.0
44.0**	0-150	D	2.5	2.2	1.6	1.2	3.7
non- notified	150 450	I	40.1	18.5	38.6	27.8	12.1
slums	150-450	D	0.5	3.6	0.4	0.0	0.0
in other	. 450	I	43.9	10.4	53.4	32.7	43.6
urban	>450	D	2.7	2.9	2.9	0.0	2.6
areas	all size	I	27.9	14.9	24.4	33.6	15.0
	classes	D	2.1	2.5	1.4	0.9	2.9

3.16 In conclusion, some salient findings of the survey are stated as follows. Based on an all-India survey covering urban areas of all States and UTs, in which a sample of 3832 urban blocks was surveyed and 881 slums - 441 notified and 440 non-notified - were found in the surveyed blocks, the 69th round NSS survey estimated (a) number of slums and slumdwelling households, and (b) proportions of slums possessing specific desirable and undesirable characteristics, separately for notified and non-notified slums. The number of slums in urban India was estimated at 33,510 - 13,761 notified and 19,749 non-notified. The number of slum-dwelling households was estimated at 8.8 million - about 5.6 million in notified and 3.2 million in non-notified slums. The notified slums accounted for 41% of the slums but, being on the average, larger, contained 63% of all slum households. The average number of households per slum was 263 - 404 per notified slum and 165 per non-notified slum. About 56% of slums in the million-plus cities and 58% of slums in other urban areas of India had less than 150 households. About 23% of the notified slums were in Andhra Pradesh and 14% in Maharashtra. About 29% of the non-notified slums were in Maharashtra and 14% in West Bengal. Maharashtra had about 38% of urban India's slum-dwelling households, and Andhra Pradesh, about 18%. The percentage of slums lacking facilities considered necessary for a decent urban life varied widely across States and was higher in non-notified slums, as in case of latrine facility (absent in 16% of notified and 42% of nonnotified slums), drainage facility (absent in 11% of notified and 45% of non-notified slums), garbage disposal arrangement (absent in 11% of notified and 38% of non-notified slums), and electricity (absent in 0.1% of notified and 11% of non-notified slums).

### Appendix A

#### A note on

# Estimated Number of Slums obtained from the NSS 69<sup>th</sup> Round Survey

vis-a-vis

Estimates from the NSS 65<sup>th</sup> Round Survey

# A Note on Estimated Number of Slums obtained from the 69<sup>th</sup> Round Survey vis-a-vis Estimates from the NSS 65<sup>th</sup> Round Survey

In NSS 69th round, the estimates of number of slums were generated following a different estimation procedure from the earlier rounds of slum survey conducted by NSSO.

Unlike a household or person or enterprise in urban India, a slum has the problem that the survey design may not be able to uniquely associate it with any of the sampling units – in this survey, the urban blocks (UFS blocks) which together constitute the total sampling frame. This happens whenever a slum is spread over more than one UFS block. In such cases, the slum gets associated with each of the blocks which it intersects. The probability of selection of such a slum is the sum of the probabilities of selection of all these blocks.

The general NSS estimation procedure for estimation of the aggregate number of objects/entities in any population (of objects/entities) is based on the assumption that a particular object/entity of the population is associated with one and only one sampling unit. When this does not happen, an adjustment is required in the estimation procedure. Otherwise, the higher probability of selection of the "large" entities that are spread over more than one sampling unit gives these entities an extra weightage that gives an upward boost to the estimate of the aggregate number of entities (here, slums).

For the same reason, the estimate of prevalence of any characteristic of that is positively associated with size of slums (a characteristic that is more likely to be found in large slums than in small slums) gets an upward boost if the usual estimation procedure is used. Conversely, estimates of prevalence of characteristics more often exhibited by small slums are pulled downwards.

The Working Group for NSS  $69^{th}$  Round decided that the appropriate adjustment in the estimation procedure to take care of this problem would be to weight the usual multiplier used for estimating the aggregate number of slums<sup>4</sup> in any geographical region by  $(1/k_i)$ , where  $k_i$  is the number of UFS blocks intersecting the  $i^{th}$  observed slum. The multiplier, computed separately for each observed slum within the UFS block, is the product of  $(1/k_i)$  and usual UFS block multiplier. For this purpose  $k_i$ , the number of UFS blocks

<sup>&</sup>lt;sup>4</sup> or the aggregate number of slums possessing a specific characteristic

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intersecting the i<sup>th</sup> observed slum, was, in the 69<sup>th</sup> round survey, recorded in the survey schedule.

In earlier rounds, this methodology could not be adopted as  $k_i$ , the number of UFS blocks intersecting the  $i^{th}$  observed slum, was not recorded in the survey schedule. Because of the difference in methodology of estimation, a strict comparison of estimated number of slums of the past rounds with the present round is not possible. Because the  $k_i$ 's were not observed and recorded, the estimates for earlier rounds cannot be re-computed now using the present procedure. However, a rough approximation to the estimates of number of *notified* and *non-notified* slums that would have been obtained in the earlier rounds, had the required data been available, can be generated by dividing the estimates for *notified* and *non-notified* slums of the earlier survey by the factor  $k^*$  obtained from the 69th round, where  $k^*$  (the harmonic mean of the  $k_i$  values) is defined by the equation  $1/k^* = (1/n)\sum(1/k_i)$ , the sum ranging over all n sample slums,  $k^*$  being derived separately for *notified* and *non-notified* slums in each State/all-India.

The estimates of numbers of *notified* and *non-notified* slums from the earlier survey (NSS  $65^{th}$  round) adjusted by the factor  $k^*$  is presented in the Statement 16 below to provide estimates roughly comparable with the  $69^{th}$  round estimates.

However the procedure for estimating the number of slum households by State/UT and all-India remains the same as the past NSS procedure. In this procedure, the number of slum households observed within the sample UFS block is blown up by the usual block-level multiplier to estimate the number of slums in the relevant population domain.

Statement 16: Estimated number of slums for the periods July 2008 - June 2009 (NSS  $65^{th}$  round) and July 2012 - December 2012 (NSS  $69^{th}$  round)

				Estimate	ed number o	of slums			
State\$	NSS 65 <sup>th</sup> round (July2008-			NSS 65 <sup>th</sup> round (July2008-		NSS 69 <sup>th</sup> round			
		June 2009)		June	2009) modi	ified "	(July201	2 - Decemb	er2012)
	notified	non- notified	all	notified	non- notified	all	notified	non- notified	all
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8))	(9)	(10)
Andhra Pradesh	3964	1285	5249	1330	848	2178	3224	1315	4539
Bihar	*	*	*	*	*	*	*	636	655
Chhattisgarh	*	*	*	*	*	*	632	446	1079
Gujarat	1342	2017	3360	1146	1503	2649	*	2058	2923
Karnataka	1118	1132	2250	344	540	884	716	708	1424
Madhya Pradesh	759	1456	2215	303	935	1238	1327	308	1635
Maharashtra	9282	7736	17019	1783	4348	6131	1954	5769	7723
Odisha	630	1323	1953	315	645	960	*	744	756
Rajasthan	*	*	*	*	*	*	947	653	1600
Tamil Nadu	1711	1663	3374	760	829	1589	1208	1156	2364
Uttar Pradesh	1334	1060	2394	526	792	1318	836	978	1814
West Bengal	2475	2570	5045	998	1778	2776	1274	2684	3957
all-India**	24781	24213	48994	9402	15283	24685	13761	19749	33510

<sup>&</sup>lt;sup>®</sup>The NSS modified  $65^{th}$  round estimates of number of slums are obtained by dividing the estimates for notified and non-notified slums of the NSS  $65^{th}$  round survey by the factor  $k^*$  obtained from the  $69^{th}$  round, where  $k^*$  (the harmonic mean of the  $k_i$  values) is defined by the equation  $1/k^* = (1/n)\sum(1/k_i)$ , the sum ranging over all n sample slums,  $k^*$  being derived separately for notified and *non-notified* slums. Here  $k_i$  is the number of UFS blocks intersecting the  $i^{th}$  observed slum, was observed at the time of NSS  $69^{th}$  round survey.

<sup>\*</sup>Estimate not presented as number of sample slums is less than 10.

<sup>\$</sup>For States/UTs not appearing in this statement, estimates have not been presented as the number of slums surveyed was less than 20.

<sup>\*\*</sup>Based on all States and UTs, including States and UTs not shown in this statement.

# Appendix B

Sample Design and Estimation Procedure

Note on Sample Design and Estimation Procedure of NSS 69th Round

Survey on Particulars of Slums

1. Introduction

1.1 The National Sample Survey (NSS), set up by the Government of India in 1950 to collect

socio-economic data employing scientific sampling methods, conducted its 69th round of

operations during July to December 2012. Two surveys were carried out: a survey of

drinking water, sanitation, hygiene and housing condition, and a survey of slums. The last

survey on these subjects was conducted during the 65th round of NSS (July 2008- June 2009).

The survey of slums was confined to the urban sector.

2. Outline of Survey Programme

2.1 Geographical coverage: The NSS 69th round survey on slums covered the whole urban

area of the Indian Union.

2.2 **Period of survey and work programme**: The survey was of six months' duration

starting on 1st July 2012 and ending on 31st December 2012. The survey period of this round

was divided into two sub-rounds of three months' duration each as follows:

sub-round 1:

July - September 2012

sub-round 2:

d 2: October - December 2012

Equal numbers of sample blocks were allotted to the two sub-rounds to ensure uniform

spread of sample blocks over the survey period.

3 Schedule of enquiry: A single schedule was used for each sample UFS block for

recording particulars of slums. In case of each sample UFS block, any slum (notified or non-

notified) lying wholly or partly within the sample UFS block was eligible for survey and was

covered. If, for a sample block, more than one slum was eligible for survey, particulars of

each such slum were recorded separately in the schedule. When the slum lay only partly

within the sample UFS block, all the slum characteristics recorded related to only the part of

the slum which fell within the block.

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2.4 **Participation of States:** In this round all the States and Union Territories except Andaman & Nicobar Islands, Chandigarh, Dadra & Nagar Haveli and Lakshadweep participated. The ratio of the size of the "State sample" (surveyed by State Government officials) to the size of the "Central sample" (surveyed by NSSO officials) was as follows:

Nagaland : triple Andhra Pradesh, J & K, Manipur, Delhi : double

Maharashtra : one and a half Remaining States/ UTs : one (equal)

#### 3. Sample Design

- 3.1 **Sampling Frame:** The latest updated list of Urban Frame Survey (UFS) blocks (2007-12) was taken as the sampling frame.
- 3.2 Sample units: The sampling units were the UFS blocks (UFS 2007-12).
- 3.3 **Stratification:** Within the urban areas of a district, each town with population 10 lakhs or more as per Population Census 2011 formed a separate basic stratum and the remaining urban areas of the district were together considered as another basic stratum.
- 3.4 **Sub-stratification:** Each stratum was divided into 2 sub-strata as follows:

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

- 3.5 **Total sample size:** 3835 UFS blocks were allocated to the Central sample at all-India level. For the State sample, there were 4608 UFS blocks allocated for all-India. At the all-India level, a total of 881 slums were located and covered in the surveyed urban blocks of the Central sample. For the Central sample, Statewise numbers of UFS blocks allotted and surveyed, and number of sample slums (notified and non- notified), are given in Statement 0 (Chapter One).
- 3.6 Allocation of total sample to States and UTs: The total number of sample UFS blocks had been allocated to the States and UTs in proportion to population as per Census 2011 subject to a minimum sample allocation to each State/UT. While doing so, the resource availability in terms of number of field investigators was taken into consideration, as well as comparability with the previous round of survey on the same subjects.

- 3.7 **Allocation to strata**: Within a State/UT, the sample size was allocated to the different strata in proportion to the population as per Census 2011. Allocations at stratum level were adjusted to multiples of 2 with a minimum sample size of 2. For the special stratum in Nagaland and A & N Islands, 4 UFS blocks were allocated to each.
- 3.8 **Allocation to sub-strata**: Stratum allocations were distributed among the two sub-strata in proportion to the number of UFS blocks in the sub-strata. Minimum allocation for each sub-stratum was 2. Equal number of samples had been allocated among the two sub-rounds.
- 3.9 **Selection of UFS blocks**: The NSS Urban Frame Survey (UFS 2007-12 phase) blocks were used for all towns and cities. From each stratum/sub-stratum UFS blocks were selected using Simple Random Sampling Without Replacement (SRSWOR). Samples were drawn in the form of two independent sub-samples and equal sized samples were allocated to the two sub rounds. Also, an additional sample of UFS blocks in the form of sub-sample 3, equal to the number of sample UFS blocks in each of the sub-samples 1 & 2, was allocated to sub-stratum 1 only.

#### 4. Estimation Procedure

#### 4.1 Notations:

s = subscript for s-th stratum

t = subscript for t-th sub-stratum

m = subscript for sub-sample (m = 1, 2, 3)

i = subscript for i-th UFS block

a = subscript for a-th slum (whole or part) found within the UFS block

N = total number of UFS blocks in any urban sub-stratum

n = number of sample UFS blocks surveyed including 'uninhabited' and 'zero cases' but excluding casualty for a particular sub-sample and sub-stratum.

L = total number of slums (whole or part) found within the sample UFS block

b = total number of UFS blocks intersecting the slum.

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,

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 $y_{stmidjk}$  = observed value of the characteristic y for the k-th household in the j-th second stage stratum of the d-th hg/ sb (d = 1, 2) of the i-th UFS block belonging to the m-th sub-sample for the t-th sub-stratum of s-th stratum.

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

# 4.2 Formulae for estimation of aggregates for a particular sub-sample and stratum × sub-stratum

#### for sub-samples 1, 2 and 3:

(i) For estimating the number of slums in a stratum × sub-stratum possessing a characteristic:

$$\hat{Y} = \frac{N}{n} \sum_{i=1}^{n} \sum_{a=1}^{Li} \frac{1}{b_{ia}} y_{ia}$$

where *yia* was taken as 1 for a-th slum of i-th sample block possessing the characteristic and 0 otherwise.

(ii) For estimating the number of slum households in a stratum × sub-stratum possessing a characteristic:

$$\hat{Y} = \frac{N}{n} \sum_{i=1}^{n} y_{ia}$$

where *yia* is the number of households possessing the characteristic y belonging to the a-th slum of the i-th sample block.

#### 4.3 Overall estimate for aggregates for a sub-stratum

Overall estimate for aggregates for a sub-stratum  $(\hat{Y}_{st})$  based on all sub-samples in a sub-stratum obtained as:

(i) For sub-stratum with 2 sub-samples: 
$$\hat{Y}_{st} = \frac{1}{2} \sum_{m=1}^{2} \hat{Y}_{stm}$$

(ii) For sub-stratum with 3 sub-samples: 
$$\hat{Y}_{st} = \frac{1}{3} \sum_{m=1}^{3} \hat{Y}_{stm}$$

#### 4.4 Overall estimate for aggregates for a stratum

Overall estimate for a stratum ( $\hat{Y}_s$ ) obtained as

$$\hat{Y}_s = \sum_t \hat{Y}_{st}$$

#### 4.5 Overall estimate of aggregates at State/UT/all-India level

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

#### 4.6 Estimates of ratios

Let  $\hat{Y}$  and  $\hat{X}$  be the overall estimates of the aggregates Y and X for two characteristics y and x respectively at the State/UT/ all-India level.

Then the combined ratio estimate  $(\hat{R})$  of the ratio  $(R = \frac{Y}{X})$  obtained as  $\hat{R} = \frac{\hat{Y}}{\hat{X}}$ .

#### 4.7 Estimates of Error

The estimated variances of the above estimates are as follows.

#### 4.7.1 For aggregate $\hat{Y}$ :

$$V\hat{a}r(\hat{Y}) = \sum_{s} V\hat{a}r(\hat{Y}_{s}) = \sum_{s} \sum_{t} V\hat{a}r(\hat{Y}_{st})$$
 where  $V\hat{a}r(\hat{Y}_{st})$  is given by

(i) for sub-stratum with 2 sub-samples:

 $Va\hat{r}(\hat{Y}_{st}) = \frac{1}{4}(\hat{Y}_{st1} - \hat{Y}_{st2})^2$ , where  $\hat{Y}_{st1}$  and  $\hat{Y}_{st2}$  were the estimates for subsample 1 and sub-sample 2 respectively for stratum 's' and sub-stratum 't'.

(ii) for sub-stratum with 3 sub-samples:

$$Va\hat{r}(\hat{Y}_{st}) = \frac{1}{6} \sum_{m=1}^{3} \left( \hat{Y}_{stm} - \frac{\hat{Y}_{st1} + \hat{Y}_{st2} + \hat{Y}_{st3}}{3} \right)^2$$
, where  $\hat{Y}_{stm}$  is the

estimate for sub-sample 'm' for stratum 's' and sub-stratum 't'.

B-6 Appendix B

4.7.2 For ratio  $\hat{R}$ :

$$\hat{MSE}(\hat{R}) = \sum_{s} \sum_{t} \hat{MSE}_{st}(\hat{R})$$
 where  $\hat{MSE}_{st}(\hat{R})$  is given by:

(i) for sub-stratum with 2 sub-samples:

$$M\hat{S}E_{st}(\hat{R}) = \frac{1}{4\hat{X}^{2}} \left[ \left( \hat{Y}_{st1} - \hat{Y}_{st2} \right)^{2} + \hat{R}^{2} \left( \hat{X}_{st1} - \hat{X}_{st2} \right)^{2} - 2\hat{R} \left( \hat{Y}_{st1} - \hat{Y}_{st2} \right) \left( \hat{X}_{st1} - \hat{X}_{st2} \right) \right]$$

(ii) for sub-stratum with 3 sub-samples:

$$\frac{1}{6\hat{X}^{2}} \sum_{m=1}^{3} \left[ \left( \hat{Y}_{stm} - \frac{\sum_{m=1}^{3} \hat{Y}_{stm}}{3} \right)^{2} + \hat{R}^{2} \left( \hat{X}_{stm} - \frac{\sum_{m=1}^{3} \hat{X}_{stm}}{3} \right)^{2} \right] \\
-2\hat{R} \left( \hat{Y}_{stm} - \frac{\sum_{m=1}^{3} \hat{Y}_{stm}}{3} \right) \left( \hat{X}_{stm} - \frac{\sum_{m=1}^{3} \hat{X}_{stm}}{3} \right) \right]$$

#### 4.7.3 Estimates of Relative Standard Error (RSE)

$$R\hat{S}E(\hat{Y}) = \frac{\sqrt{V\hat{a}r(\hat{Y})}}{\hat{Y}} \times 100$$

$$R\hat{S}E(\hat{R}) = \frac{\sqrt{M\hat{S}E(\hat{R})}}{\hat{R}} \times 100$$

#### 5. Multipliers

The formulae for multipliers attached to sample slums (for estimating aggregate no. of slums) and to sample UFS blocks (for estimating aggregate no. of slum households) at stratum/sub-stratum level for a particular sub-sample are given below:

Sl. no.	Type of estimator	Formula for multipliers
1.	Estimating total number of slums and number of slums possessing a characteristic	$\frac{N_{st}}{n_{stm}} \frac{1}{b_{stmia}}$
2.	Estimating number of slum households	N <sub>st</sub> n <sub>stm</sub>

for the a-th slum in the i-th sample block,  $a = 1, 2, ..., L_i$ , and b = total number of blocks intersecting the a-th slum

# **Appendix C**

Schedule 0.21

**Particulars of Slums** 

# GOVERNMENT OF INDIA NATIONAL SAMPLE SURVEY OFFICE SOCIO-ECONOMIC SURVEY SIXTY-NINTH ROUND: JULY - DECEMBER 2012

CENTRAL	*
STATE	

SCHEDULE 0.21: PARTICULARS OF SLUMS

[0] descriptive identification of sample UFS block						
1. state/ UT:	4. investigator unit:					
2. district:	5. block:					
3. town name:						

[1] id	[1] identification of sample UFS block											
sl. no.	item	code		sl. no.	item	со		de				
1.	srl. no. of sample UFS block				8.	stratum						
2.	round number	6		9	9.	sub-stratum						
3.	schedule number	0	2	1	10.	sub-round						
4.	sample (central -1, state -2)				11.	sub-sample						
5.	sector (rural -1, urban -2)		2		12.	FOD sub-region						
6.	NSS region				13.	no. of slum(s) wholly or						
7.	district					partly within the sample UFS block						

[2] so	[2] some salient features of the slum(s) lying wholly or partly within the sample UFS block							
sl. no.	particulars	serial number of the slum			ı			
1.	srl. number of the slum in the UFS block	1	2	3	4	5		
2.	is the slum a notified one? (yes -1, no -2)							
3.	if code 1 in item 2, year of notification (4-digit)							
4.	total number of UFS blocks intersecting the slum							
5.	approximate number of households in the slum (within UFS block*)							
6.	approximate number of households in the WHOLE SLUM#							
7.	approximate area of the slum (within UFS block*) (code)							
8.	approximate area of the WHOLE SLUM# (code)							

# including part of slum lying outside sample UFS block, if any

item no. 7,8: **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

<sup>\*</sup>irrespective of sub-block formation

<sup>\*</sup> tick mark (✓) may be put in the appropriate place

C-2 Appendix C

#### **CODES FOR BLOCK 3**

item 2	<b>ownership of the land where slum is located</b> : private - 1; public: railway - 2, local bodies - 3, others - 9; not known – 4
item 3	<b>type of area surrounding the slum</b> : residential -1, industrial -2, commercial -3, slum(s) -4, others -9
item 5	<b>physical location of the slum</b> : along nallah/drain -1, along railway line -2, river bank/ river bed -3, hilly terrain/ slope -4, park/ open space -5, others - 9.
item 8	whether the slum has electricity: <u>yes:</u> for street lights only -1, for household use only -2, for street lights and household use -3; <u>no</u> -4
item 9	<b>type of structure of the majority of houses</b> : pucca -1, semi-pucca -2, serviceable katcha -3, unserviceable katcha -4, no structure-5
item 11	approach road/ lane/ constructed path to the slum: motorable: pucca -1, katcha -2; non- motorable: pucca -3, katcha -4
item 12	<b>distance from the nearest motorable road</b> : 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 13	major source of drinking water: tap -1, tube well/ borehole -2, protected well -3, unprotected well -4, others -9
item 14	latrine facility used by most of the residents:  public/community latrine (without payment): dry pit -01, flush/ pour-flush -02, others - 03;  public/community latrine (with payment): dry pit -04, flush/ pour-flush -05, others - 06;  shared latrine: dry pit -07, flush/ pour-flush -08, others - 10;  own latrine: dry pit -11, flush/ pour-flush -12, others - 13;  no latrine facility -14
item 16	type of drainage system: underground -1, covered pucca -2, open pucca -3, open katcha - 4, no drainage system -5
item 17	garbage disposal for the slum: arrangement by: municipality / corporation -1, resident(s) -2, others -9; no arrangement -3
item 18	<b>frequency of garbage collection</b> : daily -1, once in two days -2, once in 3 to 7 days -3, once in 8 to 15 days -4, others -9
items 19, 20	<b>distance</b> : 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 23	informant code: knowledgeable person from (i) the slum: male -1, female -2; (ii) outside the slum -9

Schedule 0.21

[3] cl	haracteristics of slum(s) lying wholly or partly within the sa	ample	UFS b	lock		
sl. no.	item	serial number of the slu  1 2 3 4			m	
1.	serial number of the slum in the sample UFS block	1	2	3	4	5
2.	ownership of the land where slum is located (code)					Ì
3.	type of area surrounding the slum (code)					
4.	location of slum (fringe area - 1, other area - 2)					
5.	physical location of the slum (code)					
6.	does the slum usually remain water-logged due to rainfall? (yes -1, no -2)					
7.	does the approach road / lane / constructed path usually remain waterlogged due to rainfall? (yes -1, no -2)					
8.	whether the slum has electricity (code)					
9.	type of structure of the majority of houses (code)					
10.	type of road/ lane/ constructed path within the slum (pucca -1, katcha -2)					
11.	approach road/lane/constructed path to the slum (code)					
12.	for code 3 or code 4 in item 11, distance from the nearest motorable road (code)					
13.	major source of drinking water (code)					
14.	latrine facility used by most of the residents (code)					
15.	does the slum have underground sewerage system? (yes -1, no -2)					
16.	type of drainage system (code)					
17.	garbage disposal for the slum (code)					
18.	frequency of garbage collection (code)					
19.	distance from nearest government primary school (code)					1
20.	distance from nearest government hospital/ health centre/ etc. (code)					
21.	do the slum dwellers have an association for improving the condition of the slum? (yes -1, no -2)					
22.	whether the slum has benefited from JNNURM/RAY/any other slum improvement scheme (yes -1, no -2)					
23.	informant code					_ <del></del>

Note: If slum lies partly inside sample UFS block and partly outside it, all information recorded in this block will relate to that part of the slum that is inside the sample block.

C-4 Appendix C

						serial nu	ımber of tl	he slum			
			1		2		3		4	5	
sl. no.	item	change in condi- tion (code)	for code 1 in col. (3), source of improve- ment (code)	change in condi- tion (code)	(5),	in condi-	for code 1 in col. (7), source of improve- ment (code)	in	(9),	in condi-	(11),
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
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. 3/5/7/9/11: **change in condition**: improvement - 1, no change - 2, deterioration - 3; neither existed earlier nor existing now - 4

cols. 4/6/8/10/12: **source of improvement**: government - 1, non-governmental organisation - 2, residents - 3, others - 9

Note: If slum lies partly inside sample UFS block and partly outside it, all information recorded in this block will relate to that part of the slum that is inside the sample block.

Schedule 0.21 C-5

[5] p	articulars of field ope	erations										
sl. no.	item			sstt.		rinte	or (FI)/ ending	field officer (FO)/ superintending officer (SO)				
(1)	(2)				(3	3)		(4)				
1(a).	(i) name (block letters)											
	(ii) code											
	(iii) signature											
1(b).	(i) name (block letters)											
	(ii) code											
	(iii) signature											
2.	date(s) of:			D	M	M	YY	DD	MM	YY		
	(i) commencement of survey/ inspection											
	(ii) completion of survey / inspection											
	(iii) receipt											
	(iv) scrutiny											
	(v) despatch											
3.	number of additional sh	neet(s) attached										
4.	total time taken to canv team of investigators (F (in minutes) [no decima	T/ASO)										
5.	number of investigators	(FI/ASO) in the team										
	whether any remark	(i) in block 6/7										
6.	has been entered by FI/ASO/supervisory officer (yes-1, no-2)	(ii) elsewhere in the schedule										

[6] remarks by field investigator / asstt. superintending officer	

C-6 Appendix C

[7] comments by supervisory officer(s)	

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12	432 (Part-I)	Households Assets and Indebtedness of Social Groups as on 30.6.91	250	15	9	1140	68	42			
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16	429	Housing Conditions in India	150	11	7	380	25	16			
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		Consumer Expenditure, NSS 57th Round (July 2001 - June 2002)						
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88	482	Unorganised Service Sector in India 2001 - 02 Salient Features	250	15	10	1925	98	65
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		Consumer Expenditure, NSS 58 <sup>th</sup> Round (July 2002 - December 2002)						
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