



GOVERNMENT OF MAHARASHTRA

**A REPORT ON
“HOUSING CONDITION”
BASED ON DATA COLLECTED IN STATE SAMPLE OF
58th ROUND OF NATIONAL SAMPLE SURVEY
(JULY – DECEMBER, 2002)**

VOL.I

Directorate of Economics and Statistics, Planning Department,

Government of Maharashtra,

Mumbai

PREFACE

The Directorate of Economics and Statistics has prepared a report on '**Housing Condition**' based on the data of state sample collected in the 58th round (July – December, 2002) of National Sample Survey.

2. Vol. I of the report contains important findings of the survey in 'Executive Summary' while detailed results are given in 'findings of the survey'. Estimation procedure, concepts and definitions and some statistical tables are given in Vol. II, which is available on the website "<http://mahades.maharashtra.gov.in>" along with detailed tables.

3. I hope the results of this survey will be useful to senior officers of the Government involved in policy framing, researchers, economists and academicians.

Mumbai:

Date:

Director of Economics and Statistics,
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CONTENTS

Sr.No.	Description	Page No.
(1)	(2)	(3)
1	Executive summary	1
2	Survey Findings	3

Chapter-1

Executive Summary

Background

Dwelling unit i.e. house is one of the most basic needs of human being. Housing condition is one of the important indicators of socio-economic development and reflects many aspects of living including hygiene & sanitation and living standard. The concept of 'Housing Condition' is not limited to the construction aspect, but encompasses the availability of various facilities in and around the dwelling unit including basic facilities of drinking water and toilet besides garbage disposal facilities, electricity, etc. National Sample Survey Organisation conducted survey on "Housing Condition" in its 58th round (July - December, 2002). In this report, estimates of some main characteristics generated from the data collected on "Housing Condition" in the State sample in the 58th round survey are presented. Moreover comparison of some important characteristics such as house rent, drinking water, sanitation and construction based on 58th (July – December, 02), 49th (January, 93 – June, 93) and 44th (July,88 – June, 89) round are presented.

Findings

1. Only about 37 per cent households were living in pucca structure in rural areas with maximum proportion of households (50 per cent) living in semi pucca structures. In urban areas 85 per cent of the households had pucca dwelling units. The difference in proportions of households having pucca structures in rural and urban areas is remarkably high, even for the same MPCE class.
2. As many as 91 per cent of rural households reported to have own dwelling units in rural areas. The percentage of owned dwelling units remained almost same during 1988-89 to 2002 in rural areas, while this percentage increased in urban areas from 45 per cent to 66 per cent; may be due to easy availability of housing finance. The percentage of urban households living in hired dwelling units reduced from 46 per cent in 1988-89 to 26 per cent in 2002.
3. Only 47 per cent rural and 81 per cent urban households had drinking water facility within premises. On perusal of figures of earlier rounds, it is observed that during the period 1988-89 to 1993, the situation had improved in both rural and urban areas, but has deteriorated during 1993 to 2002. About 52 per cent of total rural households and 95 per cent urban households reported to have tap as the major source of drinking water. Tube-well and well are still major drinking water providers for as many as 47 per cent of rural households.
4. In rural areas, the percentages of dwelling units having Pucca floor, walls and roof are considerably lower than those in urban area. More than one-fourth of the total urban households were living in slums, of which half were living in notified slums. This percentage in rural areas was marginal. A high proportion of 64 per cent of urban slums had zero plinth level and 68 per cent had plinth area of less than 50 sq. mts.
5. The average per capita floor area is found to be 7.14 sq. mts in rural areas, 3.74 sq. mts in urban slum area, 8.27 sq. mts in urban area excluding slums and 7.08 sq. mts in total urban area.
6. About 85 per cent rural and 14 per cent urban households were not having any latrine facility. In urban areas only about 48 per cent households had independent latrine facility. Though the percentage of households without latrine has reduced in both the rural and urban areas during the period from 1988-89 to 2002 due to implementation of various schemes by the Government to encourage construction of latrines, much is yet to be achieved.

7. About 26 per cent households living in the slum areas reported that there were no arrangements for garbage disposal. This percentage in other areas (excluding slums) was only four.

8. The percentage of households having lighting facility has increased over the period from 1988-89 to 2002. About three-fourth of the households in the rural areas and 94 per cent households in the urban areas is utilizing electricity for lighting purpose. About 22 per cent rural households were still dependent on kerosene or other source for lighting purpose though this percentage is observed to be decreasing steadily over the last decade.

Other findings

- The proportion of affluent households in urban was more than that in rural areas
- About 34 per cent rural and 37 per cent urban households had zero plinth level which is not proper as far as hygienic conditions are considered.

Survey Recommendations

1. The availability of drinking water facility within premises is a basic need of a household. The fact that more than half of the rural households and about 20 per cent of the urban households are deprived of this facility is a matter of concern. The situation should be dealt with on priority.

2. The finding that about 85 percent rural and 14 percent urban households do not have any latrine facility should be considered as a social stigma. Immediate steps need to be taken to improve the situation.

3. The garbage disposal system needs to be improved.

Chapter – 2

Survey Findings

Introduction

2.1 The NSSO was set up in 1950 by the Government of India with a view to have a permanent survey organization to collect data on various facets of the economy through nationwide sample surveys in order to provide primary data for socio-economic planning and policy making. All the states in the country participate in these surveys on a matching sample basis in terms of the number of samples (villages/ urban frame survey blocks) allotted for the central sample. Maharashtra State has an equal matching sample for the rural areas and one & half times matching sample for the urban areas.

2.2 The current round i.e. the 58th round of NSS was devoted to survey on ‘Village Facilities’, ‘Particulars of Slums’, ‘Disabled Persons’, ‘Housing Condition’ and ‘Household Consumer Expenditure’. The present report is based on the data collected in this round in the state sample on the subject of ‘Housing Condition’

About the Survey

2.3 **Survey period:** - The field work of 58th round survey was carried out during the second half of 2002 starting from July to December.

2.4 **Coverage:** - The geographical coverage of the 58th round survey was the entire rural and urban area of Maharashtra State.

2.5 **Sample size:** - The data on housing condition was collected (through schedule 1.2 of 58th round of NSS) from 10,958 households (3,430 rural and 7,528 urban) spread over 286 villages in the rural areas and 628 blocks in the urban areas.

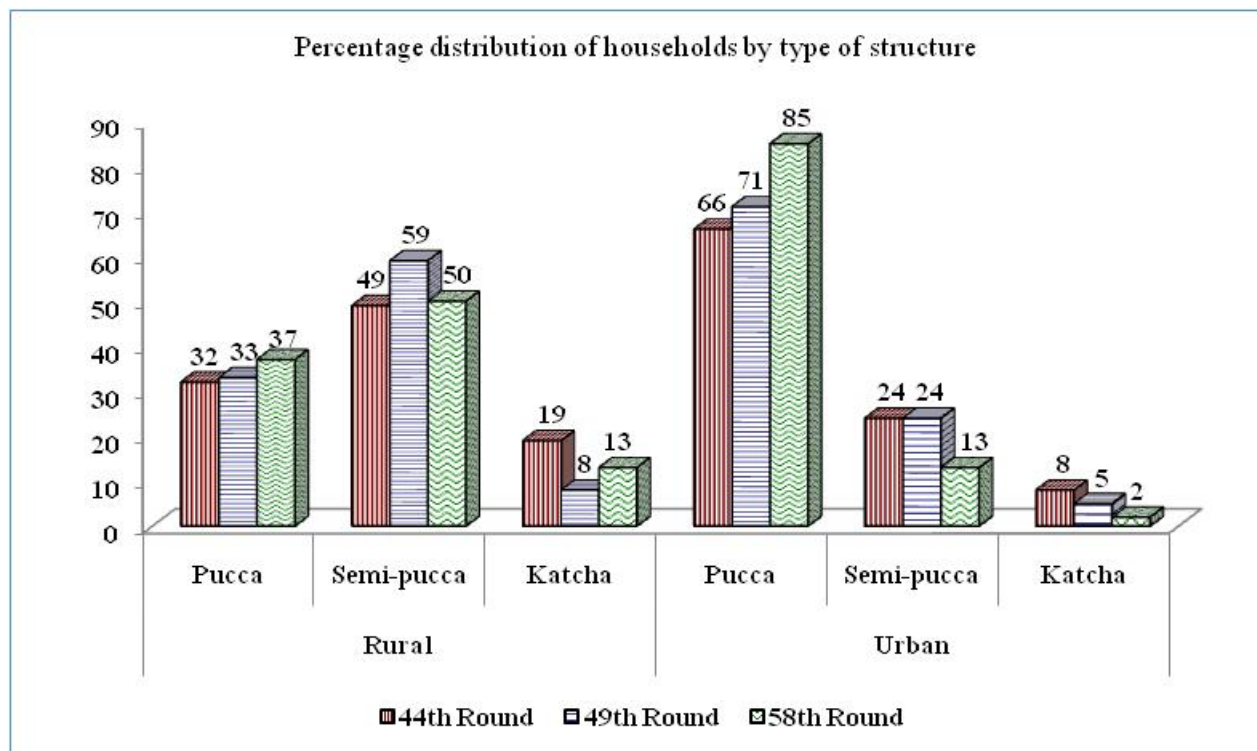
Findings of Survey

2.6 It is seen from table 1 that only about 37 per cent households were living in pucca structure in rural areas with maximum proportion of households (50 per cent) living in semi pucca structures. In urban areas 85 per cent of the households had pucca dwelling units.

2.7 Over the period from 1988-89 to 2002, a steady rise in proportion of households living in pucca structure is observed for both rural and urban areas.

Table 1
Percentage distribution of households with dwelling units by type of structure

Round	Percentage of households							
	Rural				Urban			
	Pucca	Semi-pucca	Katcha	All	Pucca	Semi-pucca	Katcha	All
58 th Round (July – Dec. 2002)	38	50	12	100	85	13	2	100
49 th Round (January – June '93)	33	59	8	100	71	24	5	100
44 th Round (July '88 – June '89)	32	49	19	100	66	24	8	100

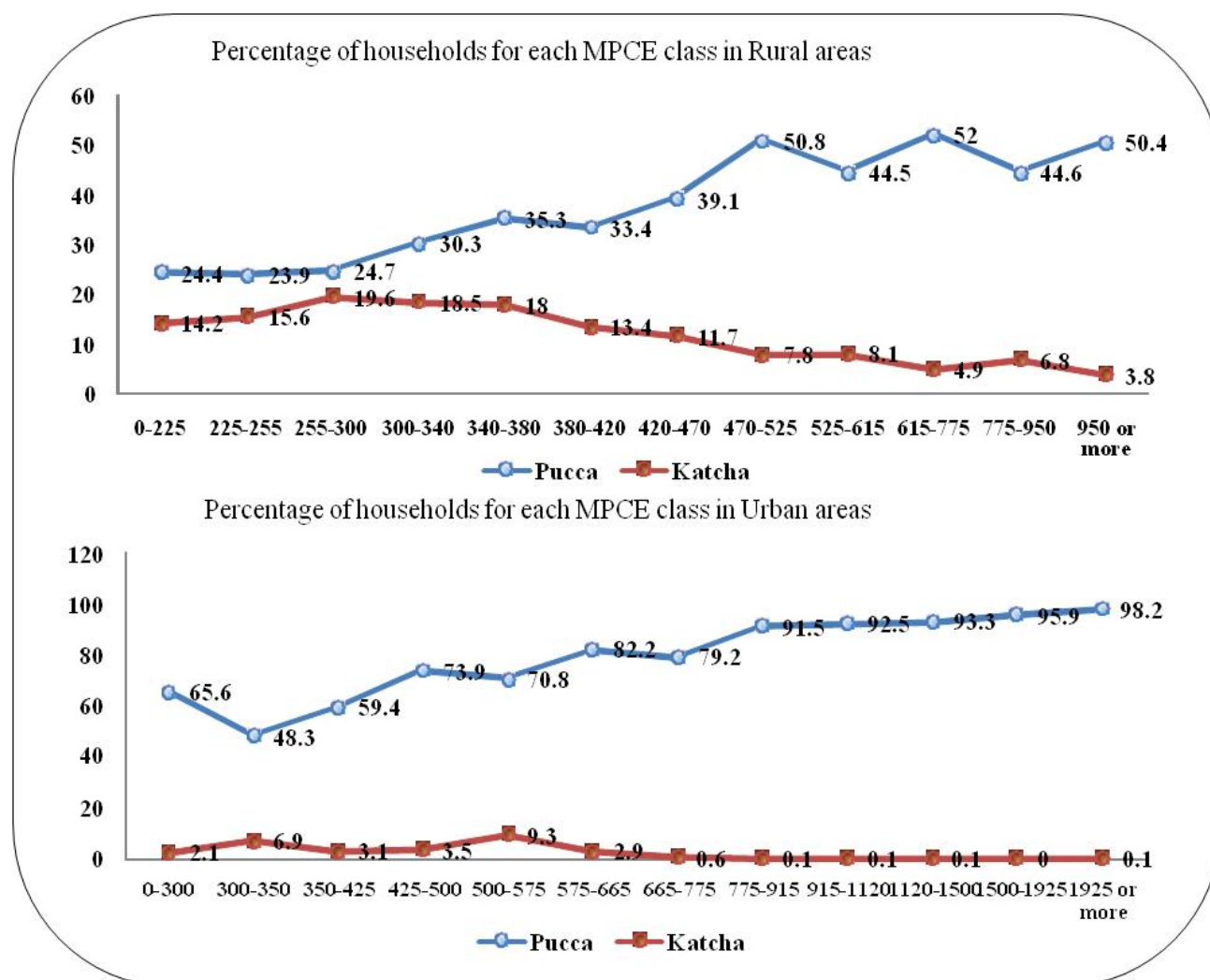


2.8 Table 2 gives the MPCE class wise type of dwelling units; and indicates, as expected, that higher MPCE classes have higher proportion of households residing in pucca structures. However, for the same MPCE classes, the difference in proportions of households having pucca structures in rural and urban areas is remarkably high.

Table 2
Percentage of households with dwelling units by type of structure for each MPCE class

Rural			Urban				All		
MPCE (Rs.)	Pucca	Katcha	MPCE (Rs.)	Slum + Squatter	Other Areas				
				Pucca	Katcha	Pucca	Katcha	Pucca	Katcha
0-225	24.4	14.2	0-300	47.3	0.2	70.5	2.6	65.6	2.1
225-255	23.9	15.6	300-350	44.3	5.2	51.9	8.5	48.3	6.9
255-300	24.7	19.6	350-425	54.2	2.8	63.3	3.4	59.4	3.1
300-340	30.3	18.5	425-500	73.8	3.4	73.9	3.7	73.9	3.5
340-380	35.3	18.0	500-575	67.1	15.9	74.3	2.9	70.8	9.3
380-420	33.4	13.4	575-665	78.2	4.9	34.6	1.6	82.2	2.9
420-470	39.1	11.7	665-775	87.7	0.6	75.7	0.5	79.2	0.6
470-525	50.8	7.8	775-915	90.1	0.4	92.0	0.0	91.5	0.1
525-615	44.5	8.1	915-1120	90.9	0.6	93.0	0.0	92.5	0.1
615-775	52.0	4.9	1120-1500	78.9	0.0	96.5	0.1	93.3	0.1
775-950	44.6	6.8	1500-1925	95.9	0.0	95.9	0.0	95.9	0.0
950 or more	50.4	3.8	1925 or more	97.0	0.5	98.3	0.1	98.2	0.1
All classes	38.0	12.2	All classes	77.4	4.6	87.9	0.8	85.1	1.9

Note: Apart from pucca katcha, there is a third type of dwelling unit called semi-pucca, whose roof or walls (but not both) are built of pucca materials.



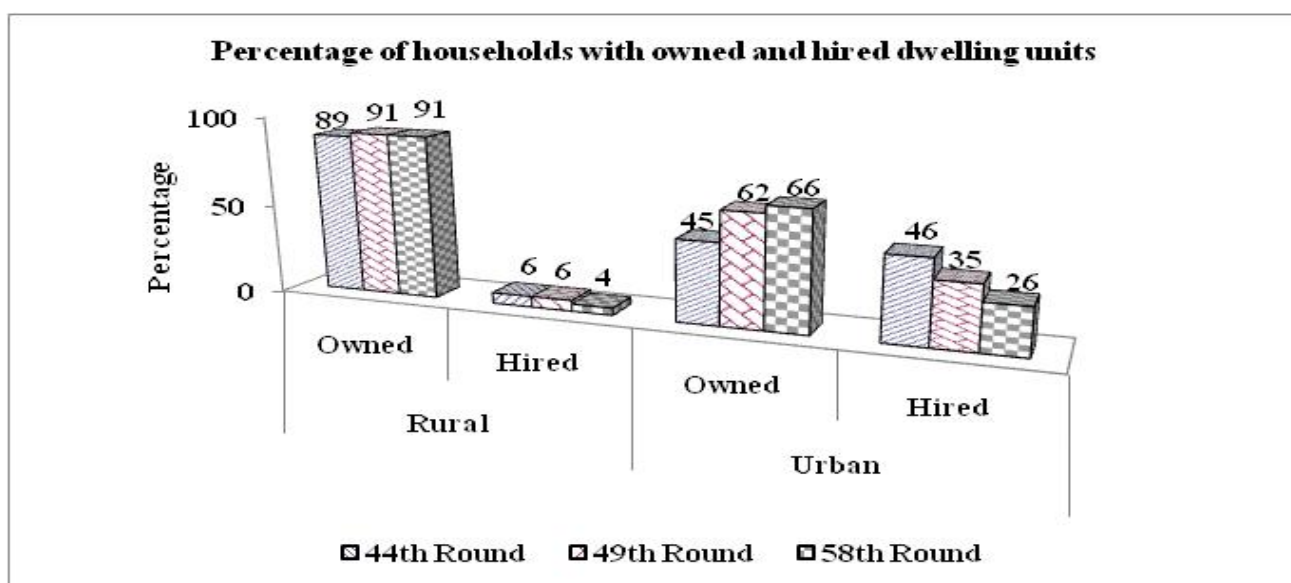
2.9 The survey results show that about two-thirds of the total rural households were living in independent houses while in urban area only 30 per cent of households had independent houses and about 30 per cent households were living in flats.

2.10 As many as 91 per cent of rural households reported to have own dwelling units in rural areas. The percentage of owned dwelling units remained almost same during 1988-89 to 2002 in rural areas, while this percentage increased in urban areas from 45 per cent to 66 per cent; may be due to easy availability of housing finance. As a result, the percentage of urban households living in hired dwelling units reduced from 46 per cent in 1988-89 to 26 per cent in 2002.

Table 3
Percentage of households with owned and hired dwelling units

Round	Percentage of households					
	Rural			Urban		
	Owned	Hired	Others	Owned	Hired	Others
58 th Round (July – Dec. 2002)	91.4	4.0	3.3	66.4	25.7	2.9
49 th Round (January – June '93)	90.7	6.2	3.1	61.6	34.6	3.8
44 th Round (July '88 – June '89)	89.2	6.0	4.8	44.5	46.0	9.5

Note: Others include employers quarters, households with no dwelling, etc.



2.11 The survey results also reveal as indicated in table 4 that proportion of dwelling units owned by households falls and the proportion of households with dwelling units hired rises as MPCE increases. The reason may perhaps be that rent being a part of household consumer expenditure, the payment of rent automatically raises the MPCE of a household from what it would otherwise be, thus placing the household in a higher MPCE class.

Table 4
Percentage of households by category of dwelling unit for each MPCE class

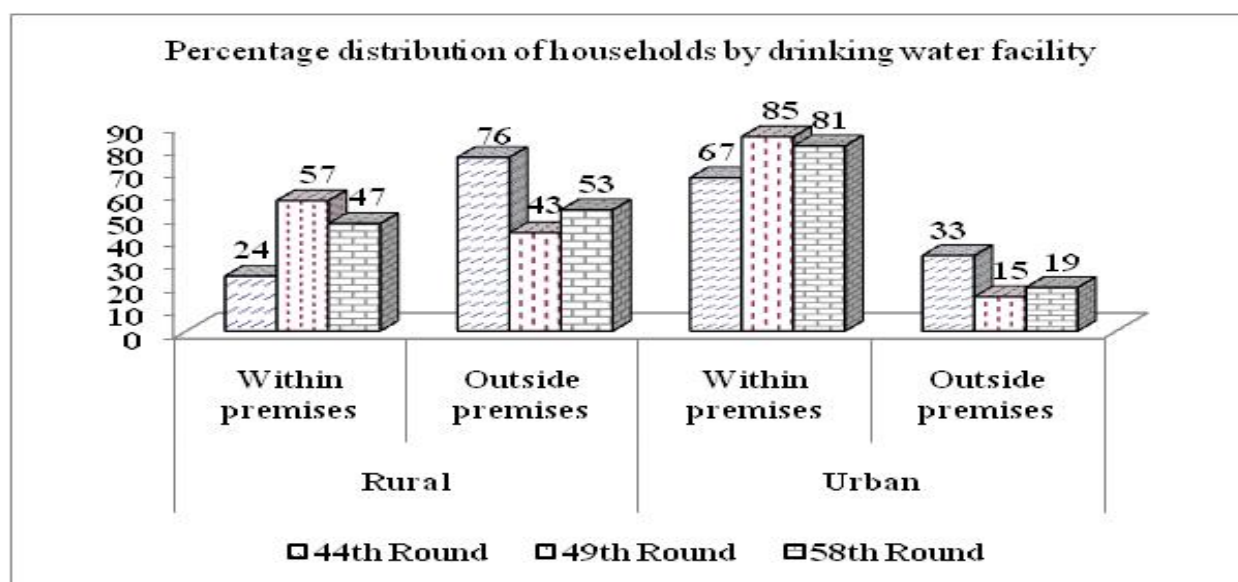
MPCE (Rs.)	Rural		MPCE (Rs.)	Urban				All	
	Owned	Hired		Slum + Squatter		Other Areas		Owned	Hired
				Owned	Hired	Owned	Hired		
0-225	91.3	0.9	0-300	90.4	5.3	86.3	11.6	87.1	10.3
225-255	91.0	1.9	300-350	89.0	6.2	66.8	25.4	77.5	16.1
255-300	90.5	1.3	350-425	78.7	20.2	77.1	17.3	77.8	18.6
300-340	95.3	2.6	425-500	89.4	8.4	72.3	20.2	81.5	13.8
340-380	95.2	2.0	500-575	77.0	21.2	67.7	26.3	72.2	23.8
380-420	94.4	3.7	575-665	76.6	16.4	61.2	29.9	67.1	24.7
420-470	96.2	3.2	665-775	75.1	20.4	63.7	29.0	67.1	26.5
470-525	88.1	4.0	775-915	69.5	22.6	64.1	25.2	65.5	24.5
525-615	95.9	2.8	915-1120	41.1	50.8	61.1	25.9	56.2	32.0
615-775	94.3	11.1	1120-1500	51.4	43.7	63.8	23.6	61.6	27.2
775-950	89.2	6.5	1500-1925	48.3	49.0	69.0	22.7	67.1	25.1
950 or more	75.0	12.2	1925 or more	62.6	33.2	63.4	29.9	63.4	30.0
All classes	91.4	4.0	All classes	69.5	25.9	65.3	25.7	66.4	25.7

Note: 'other' dwelling unit like quarter provided by employer etc. not shown above

2.12 Table 5 indicates that only 47 per cent rural and 81 per cent urban households had drinking water facility within premises. On perusal of figures of earlier rounds, it is observed that during the period 1988-89 to 1993, the situation had improved in both rural and urban areas, but has deteriorated during 1993 to 2002.

Table 5
Percentage distribution of households having drinking water facility within and outside the premises

Round	Percentage distribution of households having drinking water facility					
	Rural			Urban		
	Within premises	Outside premises	All	Within premises	Outside premises	All
58 th Round (July – Dec. 2002)	47	53	100	81	19	100
49 th Round (January – June '93)	57	43	100	85	15	100
44 th Round (July '88 – June '89)	24	76	100	67	33	100



2.13 It is seen that in rural areas about 52 per cent of total rural households and 95 per cent urban households reported to have tap as a major source of drinking water. Tube-well and well are still major drinking water providers for as many as 47 per cent of rural households.

Table 6
Percentage distribution of households by major source of drinking water

Area	Major source of drinking water					
	Tap	Tube well/hand pump	Well	Tank/pond (reserved for drinking)	Others	All
Rural	51.8	20.4	26.2	0.6	1.0	100
Urban						
(i) Slum+squatter	93.0	5.4	1.6	0.0	0.0	100
(ii) Other areas	96.0	2.0	1.5	0.0	0.5	100
(iii) All	95.1	2.9	1.5	0.0	0.5	100

2.14 Although only about 38 per cent of the dwelling units in the rural areas were pucca, the roof of the dwelling units was pucca in as many as 83.5 per cent of cases and the walls were pucca in 56.5 per cent cases. In the urban areas, the roofs of the dwelling unit were pucca in 97.2 per cent cases, and the walls were pucca in 93.2 per cent cases. In this respect too, a positive association is observed between the use of pucca material for construction of the roof or walls and MPCE.

Table 7
Percentage of dwelling units by pucca material for floor, wall and roof for each MPCE class
Rural

MPCE (Rs.)	Percentage of dwelling units with pucca		
	Floor	Wall	Roof
0-225	21.9	34.4	84.8
225-255	23.7	43.8	83.0
255-300	19.1	40.1	77.3
300-340	26.2	45.4	77.8
340-380	30.0	50.6	75.8
380-420	34.1	56.7	80.1
420-470	31.2	56.4	83.5
470-525	45.7	67.0	86.3
525-615	47.6	65.7	87.4
615-775	55.0	75.3	90.6
775-950	59.8	69.5	88.6
950 or more	67.4	80.2	96.0
All classes	37.0	56.5	83.5

Urban

MPCE (Rs.)	Slum + Squatter			Other Areas			All		
	Percentage of dwelling units with pucca								
	Floor	Wall	Roof	Floor	Wall	Roof	Floor	Wall	Roof
0-300	42.2	60.3	99.8	76.6	81.9	95.0	69.4	77.5	96.1
300-350	48.9	59.0	93.1	46.2	67.5	86.5	47.5	63.4	89.7
350-425	63.6	69.7	95.9	68.1	78.0	94.5	66.2	74.4	95.2
425-500	81.1	82.7	96.6	80.1	88.7	94.0	80.6	85.5	95.5
500-575	89.2	73.1	82.3	81.9	87.5	95.9	85.4	80.6	89.3
575-665	91.2	87.1	91.2	87.3	92.1	96.8	88.8	90.2	94.7
665-775	93.9	97.7	97.8	95.5	9.0	97.7	95.0	95.8	97.6
775-915	97.7	96.9	98.7	96.3	97.1	99.6	96.7	97.0	99.3
915-1120	99.6	98.9	99.2	98.4	98.7	99.5	98.7	98.9	99.4
1120-1500	99.9	95.2	100.0	99.5	99.4	99.2	99.5	97.7	99.4
1500-1925	99.6	98.9	100.0	99.6	100.0	99.8	99.5	99.9	99.9
1925 or more	97.1	99.5	98.8	99.7	99.8	99.8	99.6	99.8	99.8
All classes	89.6	86.5	93.8	93.8	95.5	98.3	92.7	93.2	97.2

2.15 Plinth area and plinth level are the basic parameters to judge the construction of dwelling units. It is observed that about 72 per cent dwelling units in rural areas and 42 per cent in urban areas had plinth area upto 50 sq.m. The percentage of dwelling units with plinth area more than 100 sq.ft. was more (36 percent) in urban areas. About 73 per cent of semi pucca households in rural areas had plinth upto 50 sq. mts. and 60 per cent of them had the plinth level of 0.3 to 1 mts. About 72 per cent rural and 61 per cent urban pucca houses had a reasonably good plinth level of 0.3 to 1 mts. But about 34 per cent rural and 37 per cent urban households had zero plinth level which is not proper as far as hygienic conditions are considered. More Katcha type dwelling units had zero plinth level than other types

Table 8
Percentage distribution of dwelling units of different structures by (i) plinth area and (ii) plinth level

Structure	Area	Plinth area (sq.mt.)				Plinth level (mt.)			
		No plinth	Upto 50	50 –100	100 or more	Zero	<0.3	0.3 to 1	More than 1
Pucca	Rural	0.2	65.1	25.1	9.5	23.2	0	72.2	4.6
	Urban	0.2	37.3	22.2	40.2	34.6	0	60.9	4.5
Semi pucca	Rural	0.3	72.8	22.3	4.5	37.7	0	59.7	2.6
	Urban	0.0	65.3	21.4	13.3	50.0	0	47.3	2.6
Serviceable katcha	Rural	0.0	83.2	13.3	3.5	50.0	0	46.4	3.8
	Urban	0.0	96.4	2.7	0.8	76.9	0	22.1	1.0
Unserviceable katcha	Rural	0.0	92.0	8.0	0.0	70.1	0	28.4	1.6
	Urban	0.0	100.0	0.0	0.0	100.0	0	0.0	0.0
All	Rural	0.2	71.4	22.2	6.2	34.2	0	62.5	3.4
	Urban	0.2	42.1	21.7	36.0	37.4	0	58.5	4.1

2.16 It is seen that more households with lower MPCE, as expected, lived in smaller dwelling units compared to the households of higher MPCE classes in both rural and urban areas, but the variation in area among the lower MPCE classes was not very pronounced for the rural areas. It may be noted that more rural households (71.6 per cent) have smaller dwelling units than urban households (42.3 per cent) and more urban households (36 per cent) have larger households with 100 or more sq. ft. plinth area compared to rural area (6.2 per cent) indicating that the proportion of affluent households in urban was more than that in rural areas.

Table 9
Percentage of dwelling units by plinth area house and by MPCE class of occupant household

Rural										
MPCE (Rs.)	Plinth area of house (Sq M.)			Plinth area of house (Sq M.)			Plinth area of house (Sq M.)			All
	Upto 50	50 – 100	100 or more	Upto 50	50 – 100	100 or more	Upto 50	50 – 100	100 or more	
0-225	76.8	16.5	6.6	76.8	16.5	6.6	76.8	16.5	6.6	
225-255	62.9	32.8	4.3	62.9	32.8	4.3	62.9	32.8	4.3	
255-300	72.6	22.4	5.2	72.6	22.4	5.2	72.6	22.4	5.2	
300-340	84.1	12.1	3.7	84.1	12.1	3.7	84.1	12.1	3.7	
340-380	76.2	20.1	3.7	76.2	20.1	3.7	76.2	20.1	3.7	
380-420	72.7	21.8	5.6	72.7	21.8	5.6	72.7	21.8	5.6	
420-470	72.9	24.2	2.9	72.9	24.2	2.9	72.9	24.2	2.9	
470-525	65.2	26.0	8.7	65.2	26.0	8.7	65.2	26.0	8.7	
525-615	68.2	22.8	9.0	68.2	22.8	9.0	68.2	22.8	9.0	
615-775	66.0	26.6	7.2	66.0	26.6	7.2	66.0	26.6	7.2	
775-950	60.1	32.9	7.0	60.1	32.9	7.0	60.1	32.9	7.0	
950 or more	64.5	23.0	12.5	64.5	23.0	12.5	64.5	23.0	12.5	
All classes	71.6	22.2	6.2	71.6	22.2	6.2	71.6	22.2	6.2	

Urban										
MPCE (Rs.)	Slum + Squatter			Other Areas			Other Areas			All
	Upto 50	50 – 100	100 or more	Upto 50	50 – 100	100 or more	Upto 50	50 – 100	100 or more	
0-300	93.1	5.0	2.1	48.6	27.6	23.7	57.9	22.8	19.2	
300-350	73.6	21.7	4.6	64.8	29.1	6.0	69.2	25.5	5.3	
350-425	80.2	17.6	2.3	77.8	14.0	8.2	78.8	15.5	5.6	
425-500	88.3	8.0	3.7	55.7	25.1	19.2	73.1	15.9	10.8	
500-575	85.3	9.1	5.7	56.7	22.3	20.9	70.5	15.9	13.5	
575-665	76.4	10.1	13.6	44.0	26.7	29.2	56.5	20.3	23.2	
665-775	64.7	20.1	15.1	40.1	38.1	21.7	47.4	32.8	19.8	
775-915	55.6	25.1	19.2	36.8	26.4	36.7	41.9	26.1	32.1	
915-1120	45.6	23.7	30.7	31.3	30.3	38.3	34.8	28.7	36.4	
1120-1500	43.5	16.8	39.6	23.2	18.6	58.1	26.9	183	54.8	
1500-1925	54.5	18.8	26.7	14.4	18.1	67.5	18.0	18.1	63.8	
1925 or more	20.8	11.3	67.9	11.6	13.2	75.2	11.9	13.1	75.0	
All classes	67.7	16.0	16.2	32.9	23.8	43.3	42.3	21.7	36.0	

2.17 Considerations of hygiene dictate that the floor of the dwelling unit be raised to a certain height above the ground level. In the survey, information was collected on plinth level of the house, i.e., the level of the constructed ground floor of the house above the land on which the building was constructed. The plinth level of 63.6 per cent of the dwelling units was zero in the slum and squatter areas of the urban areas. For other urban areas this proportion was observed to be 27.8 per cent. In the rural areas the proportion of the dwelling units with zero plinth level is 34.2 per cent. It is found that the distribution gradually shifts towards higher plinth levels from poor households (lower MPCE) to rich households (higher MPCE) in both rural and urban areas. That is, the richer households generally lived in houses with higher plinth levels than the poorer households, and to that extent, had more hygienic dwelling units. A high proportion of about 64 per cent of dwelling units in slum areas have zero plinth level indicating unhygienic conditions.

Table 10
Percentage of households with dwelling units in specific plinth level ranges by MPCE class of household
Rural

MPCE (Rs.)	Plinth level of house (Mt.)		
	Nil	< 0.3	0.3-1
0-225	36.4	34.0	28.1
225-255	39.5	30.6	27.4
255-300	40.5	20.4	36.2
300-340	35.9	30.4	30.2
340-380	34.3	26.0	34.9
380-420	34.0	29.3	33.9
420-470	36.6	23.3	36.6
470-525	30.5	27.4	38.8
525-615	35.5	29.5	33.5
615-775	33.2	23.7	38.5
775-950	26.7	25.5	43.6
950 or more	25.3	19.0	50.0
All classes	34.2	27.6	34.9

Urban

MPCE (Rs.)	Slum + Squatter			Other Areas			All		
	Plinth level of house (Mt.)								
	Nil	< 0.3	0.3-1	Nil	< 0.3	0.3-1	Nil	< 0.3	0.3-1
0-300	81.7	7.9	9.4	30.2	19.5	5.6	41.0	17.1	28.1
300-350	69.2	15.8	15.0	41.5	18.6	8.3	56.9	17.2	25.9
350-425	61.1	23.6	13.2	38.3	26.8	11.7	48.1	25.4	23.3
425-500	64.2	23.5	12.1	33.0	18.1	12.8	49.8	21.0	26.4
500-575	77.7	14.5	7.0	31.8	28.5	14.2	54.1	21.7	22.2
575-665	72.3	17.7	9.7	22.7	39.9	9.6	41.8	31.4	23.9
665-775	63.4	27.1	8.2	27.2	25.8	15.8	37.8	26.2	33.6
775-915	49.0	44.9	6.1	30.0	21.3	10.7	35.0	27.6	29.0
915-1120	56.0	36.3	7.4	31.0	27.0	10.7	37.2	29.3	30.2
1120-1500	53.1	41.8	3.7	28.5	33.4	10.8	33.0	35.0	28.7
1500-1925	47.4	50.2	2.1	19.9	42.0	5.5	22.4	42.7	29.5
1925 or more	25.1	32.6	10.1	24.7	51.7	4.7	24.7	51.1	18.3
All classes	63.6	27.2	8.0	27.8	32.9	10.1	37.4	31.4	27.1

2.18 Table 11 indicates that the average size of a household residing in rural areas was 5.0 and was a little lower at 4.6 in urban areas. The average size of a household was 4.7 in the urban slums. The average floor area of dwelling unit was found to be 35.7 sq. m. in rural areas and 32.6 sq. m. in urban areas with the average floor area in urban slums being lowest and was found to be 17.6 sq. m. The average floor area of verandah in rural area was double that in urban area which matches with the ground reality. The average per capita floor area is found to 7.14 sq. mts in rural areas, 3.74 sq. mts in urban slum area, 8.27 sq. mts in urban area excluding slums and 7.08 sq. mts in total urban area.

Table 11
Average floor area of dwelling units occupied by households for each MPCE class
Rural

MPCE (Rs.)	Average household size	Floor area (sq m.)	
		Room	Verandah
0-225	5.6	28.6	3.1
225-255	5.5	31.3	3.8
255-300	6.5	31.2	4.6
300-340	5.0	27.7	2.8
340-380	5.2	30.3	3.5
380-420	5.2	32.7	2.9
420-470	6.0	31.5	3.0
470-525	4.3	33.6	4.1
525-615	4.9	37.3	3.6
615-775	4.5	37.6	4.5
775-950	4.2	38.6	2.1
950 or more	3.5	32.7	2.8
All classes	5.0	32.3	3.4

Urban

MPCE (Rs.)	Slum + Squatter			Other Areas			All		
	Average household size	Floor area (sq m.)		Average household size	Floor area (sq m.)		Average household size	Floor area (sq m.)	
		Room	Verandah		Room	Verandah		Room	Verandah
0-300	6.0	20.8	1.5	6.3	37.2	2.1	6.9	32.9	2.0
300-350	5.9	20.9	0.7	6.4	27.6	1.1	4.6	24.4	0.9
350-425	5.4	17.7	0.3	5.6	25.2	1.0	4.5	22.0	0.7
425-500	6.0	16.7	1.1	7.1	31.4	2.7	4.6	23.5	1.9
500-575	5.3	16.9	1.0	5.3	29.5	1.2	3.8	23.4	1.6
575-665	5.0	16.8	0.7	5.1	30.0	1.8	4.4	24.9	1.4
665-775	5.0	17.0	0.5	5.2	31.7	2.0	5.1	27.4	1.6
775-915	5.2	17.4	0.2	4.9	34.1	2.0	5.0	30.7	1.5
915-1120	3.3	15.6	0.1	4.5	36.0	2.0	4.3	31.0	1.6
1120-1500	3.4	18.3	0.1	4.1	37.9	2.7	4.7	34.3	2.3
1500-1925	2.5	16.8	0.1	3.4	38.4	2.0	4.3	36.3	1.8
1925 or more	2.3	25.7	0.2	3.0	48.4	2.6	4.1	47.6	2.5
All classes	4.7	17.1	0.5	4.5	35.0	2.2	4.6	30.9	1.7

2.19 Table 12 shows that more than one-fourth of the total urban households were living in slums. This percentage in rural areas was marginal (that is only one per cent). About 21 per cent of households had Pucca houses even in urban slums, while 65 per cent of households in non-slum areas had Pucca houses.

Table 12
Percentage distribution of households by type of structure and area type

Area	Area type where the house is located								All
	Slum areas				Non-slum areas				
	Pucca	Semi-pucca	Serviceable katcha	Unserviceable katcha	Pucca	Semi-pucca	Serviceable katcha	Unserviceable katcha	
Rural	1.0	0.2	0.1	0.0	37.0	49.6	9.9	2.2	100
Urban	20.6	4.8	1.2	0.1	64.4	8.3	0.6	0.0	100

2.20 About 27 per cent households in the urban areas were living in slum areas of which fifty per cent were living in notified slums.

Table 13
Percentage distribution of households by area type in which their house is located

Area	Area type in which their house is located				All
	Notified slum	Non – notified slum	Squatter settlement	Other area	
Rural	0.3	1.0	0.3	98.4	100
Urban	13.3	13.4	0.3	73.0	100

2.21 It is seen that in both rural and urban areas, the percentage of households with per capita floor area between 3 to 5 sq.m. was highest. In urban slums, about 39 per cent households had only 1 to 3 per capita floor area.

Table 14
Percentage distribution of households by size class of per capita floor area

Per capita floor area (sq.m.)	Percentage of households				All
	Rural	Urban		All	
		Slum + squatter	Other areas		
0 – 1	0.1	0.7	0.1	0.2	
1 – 3	11.3	39.1	10.4	18.2	
3 – 5	24.1	31.5	19.0	22.3	
5 – 7	22.3	12.8	14.8	14.3	
7 – 9	12.4	4.9	11.4	9.6	
9 – 11	9.7	3.7	10.3	8.5	
11 – 13	5.6	3.4	9.0	7.5	
13 – 15	3.8	1.6	5.1	1.1	
15 – 20	4.6	1.2	9.2	7.1	
20 & above	6.1	1.1	10.4	7.9	
All	100.0	100.0	100.0	100.0	

2.22 From table 16 it is seen that in rural areas about 5 per cent and in urban areas about 26 per cent households were living in hired dwelling units.

Table 15
Percentage of dwelling units owned and hired (other than employees quarters)

Type of dwelling unit	Percentage of households			
	Rural	Urban		All
		Slum + squatter	Other areas	
Owned	91	70	65	66
Hired	5	27	32	26

2.23 Table 17 shows that average monthly rent paid in urban areas (Rs. 777) was more than double that in rural area (Rs. 325). For pucca type dwelling unit, average monthly rent was Rs.390 for rural areas, which was Rs.450 in urban slums and Rs.955 in other urban areas. As expected, the average rent varied considerably over the types of structure. It ranged from Rs.390 for pucca dwellings to Rs.145 for serviceable katcha in the rural areas. The corresponding variation in urban areas was from Rs.955 in pucca dwellings in non-slum areas to Rs.50 in unserviceable katcha.

Table 16**Average monthly rent paid by households living in hired dwelling units according to type of structure**

Structure type	Average rent paid (in Rs.)			
	Rural	Urban		
		Slum + squatter	Other areas	All
Pucca	390	450	955	835
Semi pucca	253	264	421	380
Serviceable katcha	145	80	142	135
Unserviceable katcha	185	0	50	50
All	325	424	889	777

2.24 In both rural and urban areas, the average rent paid by households living in hired dwelling unit according to MPCE classes shows that as the expenditure increases, the average rent also increases. It is interesting to note that in urban areas, for the lowest MPCE class, the rent paid is quite high, indicating that persons/households with lower MPCE tend to share their accommodation paying higher rent.

Table 17**Average rent paid by households living in hired dwelling units according to MPCE class**

MPCE (Rs.)	Rural	MPCE (Rs.)	Average rent paid (in Rs.)		
			Urban		All
			Slum + squatter	Other areas	
0-225	139	0-300	235	794	737
225-255	136	300-350	301	244	257
255-300	58*	350-425	367	329	346
300-340	227	425-500	451	362	392
340-380	287	500-575	349	523	451
380-420	351	575-665	407	486	466
420-470	267	665-775	431	674	621
470-525	329	775-915	609	668	656
525-615	345	915-1120	377	660	570
615-775	397	1120-1500	565	1010	901
775-950	369	1500-1925	260	1116	981
950 or more	353	1925 or more	594	1736	1696
All classes	325	All classes	424	889	777

* inadequate sample size

2.25 Table 18 gives the percentage distribution of dwelling units by condition and age of dwellings. In rural areas, about 12 per cent and in urban areas 13 per cent dwelling units were in bad condition respectively. However, this percentage was as high as 35 for urban slum and squatter areas; which should be a matter of concern.

Table 18**Percentage distribution of dwelling units by condition and age of dwellings**

Area	Good		Satisfactory		Bad		All
	Upto 20	More than 20	Upto 20	More than 20	Upto 20	More than 20	
	years	years	years	years	years	years	
Rural	25	10	32	21	8	4	100
Urban							
(i) Slum + squatter	13	12	23	17	26	9	100
(ii) Other areas	46	20	15	14	3	2	100
(iii) All	37	18	17	15	9	4	100

2.26 In rural areas about 70 per cent households were paying rent upto Rs. 400 per month. In urban slums, about 26 per cent households were paying rent in the class Rs. 200-400 and about one per cent households were paying rent in the class Rs. 1501-3000.

Table 19
Percentage of households over different rent classes

Area	1-100	101-200	201-400	401-600	601-800	801-1000	1001-1500	1501-3000	3001-4500	4500 & more
Rural	20	25	25	22	4	2	3	0	0	0
Urban										
(i)Slum+squatter	26	10	26	17	12	6	2	1	0	0
(ii)Other areas	13	8	16	16	7	10	16	11	1	0
(iii) All	16	9	18	16	8	9	13	9	1	0

2.27 The owner shared the same house as the tenant in 37 per cent rural and 30 per cent urban households with hired accommodation. While for 46 per cent rural and 59 per cent urban tenant households, the land lord did not share the accommodation though lived in the same village/town.

Table 20
Percentage of tenant households with owner of accommodation living in the same house or village/town

Area	Owner of the accommodation staying in	
	Same house	Different house of same village/same town
Rural	37	46
Urban		
(i)Slum+squatter	26	62
(ii)Other areas	31	58
(iii) All	30	59

2.28 From table 21 it is found that the sex ratio was better in rural compared to urban area. The percentage of households headed by a female was almost same i.e. seven in both rural and urban areas.

Table 21
Females per thousand males and the percentage of households headed by a female

Area	Females per thousand males	Percentage of households headed by a female
Rural	966	7
Urban	940	7

2.29 It is usually felt that the availability of drinking water, electricity for lighting and latrine, preferably of a flush type, within the premises of a dwelling unit are the minimum requirements for descent living. In this respect, even the urban slums and squatter settlements were found to be better off than the rural areas. About 21.4 per cent of dwelling units in the urban slums had all the three facilities of drinking water, electricity for lighting and latrine, while the corresponding figure was only 10.5 percent in the rural. In urban areas, all these three facilities were available in 62.1 per cent of total dwelling units and in as many as 77.2 per cent of the dwelling units located in the area excluding that of the slums and squatter. On the other hand, none of these facilities were available in about 17.9 per cent of the dwelling units in the rural areas and 16.1 per cent of dwelling units in slums in urban areas. In the other (i.e. excluding slums) urban areas, at least one of the facilities was available in 98.9 per cent of households and none in 1.1 per cent.

Table 22

Percentage of dwelling units having all three facilities – electricity, latrine and drinking water within premises

Rural			Urban						
MPCE (Rs.)	All three facilities	None of them	MPCE (Rs.)	Slum + Squatter		Other Areas		All	
				All three facilities	None of them	All three facilities	None of them	All three facilities	None of them
0-225	3.3	32.5	0-300	4.9	21.4	46.9	7.7	38.1	10.5
225-255	3.0	23.1	300-350	9.5	19.8	31.1	11.0	20.7	15.3
255-300	6.1	22.3	350-425	10.2	15.8	36.3	4.9	25.1	9.5
300-340	4.2	24.1	425-500	7.3	34.1	41.8	1.5	23.2	19.1
340-380	7.2	20.1	500-575	10.6	40.9	56.2	3.7	34.0	21.8
380-420	7.8	16.9	575-665	22.1	20.6	65.2	2.1	48.7	9.2
420-470	6.8	12.2	665-775	20.0	1.7	72.3	0.9	56.9	1.2
470-525	9.1	15.5	775-915	25.9	2.0	79.3	0.0	65.1	0.5
525-615	19.1	11.3	915-1120	34.4	1.6	75.6	0.5	65.5	0.8
615-775	21.0	9.1	1120-1500	43.7	0.1	89.4	0.0	81.1	0.0
775-950	28.1	7.8	1500-1925	27.3	0.6	93.1	0.0	87.0	0.1
950 or more	36.0	11.0	1925 or more	66.1	0.2	97.0	0.0	95.9	0.0
All classes	10.5	17.9	All classes	21.4	16.1	77.2	1.1	62.1	5.1

2.30 About 85 per cent rural and 14 per cent urban households were not having any latrine facility. In urban areas only about 48 per cent households had independent latrine facility. Though the percentage of households without latrine has reduced in both the rural and urban areas during the period from 1988-89 to 2002, due to implementation of various schemes by the Government to encourage construction of latrines, much is yet to be achieved.

Table 23

Percentage distribution of households by facility of latrine during 44th and 58th round

Area	Round	Facility of latrine					
		Owned	Shared	Public community	Others	No latrine	All
Rural	58th Round (July – Dec. 2002)	11.1	2.4	1.3	0.3	84.9	100
	44th Round (July '88 – June '89)	2.4	1.4	1.6	0.0	94.6	100
Urban	58th Round (July – Dec. 2002)	47.6	19.1	19.2	0.5	13.6	100
	44th Round (July '88 – June '89)	26.1	31.5	23.5	0.0	18.9	100

2.31 It is observed that nearly half of the rural and 11 per cent urban households did not have any drainage facility. About 49 per cent rural households had open type drainage. About 39 per cent households reported to have underground drainage system in the urban areas.

Table 24

Percentage distribution of households by type of drainage arrangement

Area	Drainage arrangement					All
	Underground	Covered pucca	Open pucca	Open katcha	No drainage	
Rural	1.0	1.2	31.9	17.3	48.6	100
Urban	39.2	14.6	28.5	7.0	10.7	100

2.32 Table 26 gives the percentage distribution of households reporting availability of garbage disposal in the urban areas. About 26 per cent households living in the slum areas reported that there were no arrangements for garbage disposal. This percentage in other areas was only four.

Table 25
Percentage distribution of households by arrangement of garbage disposal

Area	Arrangement of garbage disposal				
	By Panchayat/Municipality Corporation	By residents	Others	No arrangement	All
Urban slum	70.8	2.7	0.5	26.0	100
Urban other	89.0	6.1	0.5	4.4	100
Urban combined	84.1	5.2	0.5	10.2	100

2.33 It is observed that the percentage of households not having lighting facility has reduced over the period for 1988-89 to 2002. About three-fourth of the households in the rural areas and 94 per cent households in the urban areas were utilizing electricity for lighting purpose. About 22 per cent rural households were still dependent on kerosene or other source for lighting purpose though this percentage is observed to be decreasing steadily over the last decade.

Table 26
Percentage distribution of households by source of lighting

Area	Round	Source of lighting				
		No lighting	Electricity	Kerosene	Others	All
Rural	58th Round (July – Dec. 2002)	1.3	76.4	21.8	0.5	100
	49th Round (January – June '93)	3.1	56.1	40.8	0.0	100
	44th Round (July '88 – June '89)	3.0	44.2	52.8	0.0	100
Urban	58th Round (July – Dec. 2002)	1.7	94.1	4.2	0.0	100
	49th Round (January – June '93)	1.7	88.4	9.9	0.0	100
	44th Round (July '88 – June '89)	2.6	83.3	13.9	0.0	100

2.34 Only 12.4 per cent of rural dwelling units had any of the two kinds of latrine within the premises as against 29.5 per cent of dwellings in the urban slums. Considering the urban areas as whole, while about 66.1 per cent of dwelling units had a latrine of 'flush system' or 'septic tank' type within the premises, 13.6 per cent did not have any latrine within the premises, (being 30.7 per cent for urban slums). The households belonging to higher MPCE classes were found to be much better placed in this respect in both rural and urban areas and in the urban slums as well. 96.0 per cent of dwelling units of the urban households of the topmost MPCE class had the better types of latrine facilities as against 32.0 to 41.7 per cent of dwelling units of the urban households of the lowest MPCE classes, and 2.7 to 6.0 per cent of the rural households of lowest MPCE class.

Table 27
Percentage of dwelling units having owned/shared septic tank/flush latrine within the premises and percentage of dwelling units having no latrine

Rural			Urban						
MPCE (Rs.)	Owned/ shared septic tank or flush	No latrine	MPCE (Rs.)	Slum + Squatter		Other Areas		All	
				Owned/ shared septic tank or flush	No latrine	Owned/ shared septic tank or flush	No latrine	Owned/ shared septic tank or flush	No latrine
0-225	2.7	95.8	0-300	7.8	67.3	50.6	18.3	41.7	28.6
225-255	6.0	94.1	300-350	20.9	55.0	42.4	37.2	32.0	45.8
255-300	6.4	93.2	350-425	28.2	37.0	42.2	26.3	36.2	30.9
300-340	4.7	93.7	425-500	21.2	54.1	45.2	27.0	32.3	41.6
340-380	10.3	88.9	500-575	18.0	55.8	60.8	20.6	39.9	37.7
380-420	9.0	88.1	575-665	28.6	32.8	68.1	14.7	52.9	21.7
420-470	8.0	87.7	665-775	25.0	22.2	74.2	9.3	59.7	13.1
470-525	10.8	86.6	775-915	35.6	13.8	80.2	3.6	70.3	6.3
525-615	20.5	73.4	915-1120	42.5	11.8	79.0	4.1	70.1	6.0
615-775	26.2	71.0	1120-1500	49.8	2.5	92.2	1.2	84.4	1.4
775-950	33.2	58.7	1500-1925	30.7	2.5	94.9	1.0	89.0	1.2
950 or more	39.8	54.1	1925 or more	68.8	3.6	96.9	0.3	96.0	0.4
All classes	12.4	84.9	All classes	29.5	30.7	79.6	7.3	66.1	13.6

2.35 The ventilation of the dwelling units is also one of the important indicators of hygiene. It is found that for 36 per cent of the dwelling units in the rural areas ventilation was reported to be good and 16 per cent of the dwelling units had bad ventilation, while in the urban areas 48 per cent had good and 16 per cent had bad ventilation.

Table 28
Percentage of households by ventilation of the dwelling unit and ownership of dwelling

Area	Ventilation of the dwelling unit									
	Good			Satisfactory			Bad			All
	Owned	Hired	Others	Owned	Hired	Others	Owned	Hired	Others	
Rural	31.2	2.7	2.3	45.3	2.1	0.7	14.9	0.6	0.3	100.0
Urban										
(i) Slum+squatter	11.7	5.1	0.2	26.9	13.8	2.2	31.0	8.4	0.8	100.0
(ii) Other areas	41.3	17.7	1.1	19.2	12.0	1.4	4.5	2.1	0.3	100.0
(iii) All	33.3	14.3	0.9	21.5	12.5	1.6	11.6	3.8	0.4	100.0

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GOVERNMENT OF MAHARASHTRA

**A REPORT ON
“HOUSING CONDITION”
BASED ON DATA COLLECTED IN STATE SAMPLE OF
58th ROUND OF NATIONAL SAMPLE SURVEY
(JULY – DECEMBER, 2002)**

VOL.II

Directorate of Economics and Statistics, Planning Department,

Government of Maharashtra,

Mumbai

CONTENTS

Sr. No.	Description	Page No.
(1)	(2)	(3)
1	List of Tables	1
2	Concepts and Definitions	9
3	Sample Design and Estimation Procedure	13

Chapter-1

List of Tables

Table no.	Title
4.	Estimated number of households and population
5.	Number of sample households by gender of head of the household
6.	Estimated number of households by gender of head of the household and social group of the household
7.	Estimated population (in hundred) by social group
8.	Number of persons by MPCE class per 1000 persons
9.	Number of households by principal industry (NIC '98) of the household per 1000 households
10.	Number of households by principal industry (NIC '98) of the household per 1000 households for each MPCE class
11.	Number of households by principal occupation (NCO '68) per 1000 households
12.	Number of households by principal occupation (NCO '68) per 1000 households for each MPCE class
13.	Number of households by distance (normally travelled) to the place of work of the principal earner of the households per 1000 households
14.	Number of households by maximum distance (normally travelled) to the place of work of any of the member of the household per 1000 households
15.	Number of households by migration status and social group per 1000 households
16.	Number of households by migration status and social group per 1000 households for each land possessed class
17.	Number of households by migration status and social group per 1000 households for each MPCE class
18.	Number of households by location of their last residence per 1000 households who moved to the village/town of enumeration during last 365 days
19.	Number of households by nature of movement per 1000 households who moved to the village/town of enumeration during last 365 days
20.	Number of households by reason for movement from last residence per 1000 households who moved to the village/town of enumeration during last 365 days
21.	Number of households by nature of movement per 1000 households who moved to the village/town of enumeration during last 365 days for each reason of movement
22.	Number of households by nature of movement per 1000 households who moved to the village/town of enumeration during last 365 days for each location of last residence
23.	Number of households by nature of movement per 1000 households who moved to the village/town of enumeration during last 365 days for each MPCE class
24.	Number of households by type of structure where the household lived last per 1000 households who moved to the village/town of enumeration during last 365 days for each present structure type
25.	Number of households by household size per 1000 households where at least one member has moved into the household during last 365 days
26.	Number of households by household size per 1000 households where at least one member has moved into the household during last 365 days for each MPCE class
27.	Number of households by household size per 1000 households where at least one member has moved out of the household during last 365 days
28.	Number of households by household size per 1000 households where at least one member has moved into the household during last 365 days for each MPCE class

Table no.	Title
29.	Number of households by major source of drinking water per 1000 households
30.	Number of households by availability of drinking of water, source of drinking water per 1000 households
31.	Number of households by facility of drinking water per 1000 households
32.	Number of households by facility of drinking water per 1000 households for each MPCE class
33.	Number of households by distance to the source of drinking water per 1000 households
34.	Number of households by distance to the source of drinking water per 1000 households for each MPCE class
35.	Number of households by type of bathroom per 1000 households
36.	Number of households by type of bathroom per 1000 households for each MPCE class
37.	Number of households by distance from the bathing place per 1000 households having no bathroom
38.	Number of households by type of latrine per 1000 households
39.	Number of households by type of latrine per 1000 households for each MPCE class
40.	Number of households number of households sharing different types of latrine per 1000 households using shared latrine
41.	Number of households by distance (in km.) to travel for latrine per 1000 households using public/using shared latrine
42.	Number of households by primary source of energy for cooking per 1000 households
43.	Number of households by primary source of energy for cooking per 1000 households for each MPCE class
44.	Number of households by primary source of energy for lighting per 1000 households
45.	Number of households by primary source of energy for lighting per 1000 households for each MPCE class
46.	Number of households by type of electric wiring per 1000 households using electricity as primary source of energy for lighting
47.	Number of households by type of electric wiring per 1000 households using electricity as primary source of energy for lighting for each structure type
48.	Number of households having drinking water facility within premises, shared/own latrine and electricity as primary source of lighting per 1000 households for lighting
49.	Number of households having drinking water facility within premises, shared/own latrine and electricity as primary source of lighting per 1000 households for lighting for each MPCE class
50.	Number of households possessing selected items per 1000 households
51.	Number of households possessing selected items per 1000 households for each MPCE class
52.	Number of households by facility of drinking water per 1000 households for each social group
53.	Number of households by distance to the source of drinking water per 1000 households for each social group
54.	Number of households by type of bathroom per 1000 households for each social group
55.	Number of households by type of latrine per 1000 households for each social group
56.	Number of households by primary source of energy for cooking per 1000 households for each social group
57.	Number of households by primary source of energy for lighting per 1000 households for each social group
58.	Number of households having drinking water facility within premises, shared/own latrine and electricity as primary source of energy for lighting per 1000 households for each social group
59.	Number of households possessing selected items per 1000 households for each social group
60.	Number of households by area type in which their house is located per 1000 households

Table no.	Title
61.	Number of households by area type in which their house is located per 1000 households for each MPCE class
62.	Number of households by area type in which their house is located per 1000 households for each structure type
63.	Number of households by structure type of their house per 1000 households
64.	Number of households by plinth area of the house per 1000 households living in a house
65.	Number of households by plinth area of the house per 1000 households living in a house for each MPCE class
66.	Number of households by plinth area of the house per 1000 households living in a house for each structure type
67.	Number of households by plinth level of the house per 1000 households living in a house
68.	Number of households by plinth level of the house per 1000 households living in a house for each MPCE class
69.	Number of households by plinth level of the house per 1000 households living in a house for each structure type
70.	Number of households by plinth level of the house per 1000 households living in a house for each type of experience of flood during last 5 years
71.	Number of households by type of use of the house per 1000 households living in a house
72.	Number of households by area type per 1000 households living in a house
73.	Number of households by type of structure of the house and area type per 1000 households living in a house for each MPCE class
74.	Number of households by period since built and condition of structure per 1000 households living in a house
75.	Number of households by period since built and condition of structure per 1000 households living in a house for each type of structure
76.	Number of households by type of drainage arrangement per 1000 households living in a house
77.	Number of households by type of drainage arrangement per 1000 households living in a house for each MPCE class
78.	Number of households by type of drainage arrangement per 1000 households living in a house for each structure type
79.	Number of households by arrangement of garbage disposal per 1000 households living in a house
80.	Number of households by arrangement of garbage disposal per 1000 households living in a house for each MPCE class
81.	Number of households by arrangement of garbage disposal per 1000 households living in a house for each structure type
82.	Number of households by proximity of house to animal shed per 1000 households living in a house
83.	Number of households by proximity of house to animal shed per 1000 households living in a house for each MPCE class
84.	Number of households by proximity of house to animal shed per 1000 households living in a house for each structure type
85.	Number of households by type of approach road/lane/constructed path to the house per 1000 households living in a house
86.	Number of households by type of approach road/lane/constructed path to the house per 1000 households living in a house for each MPCE class
87.	Number of households by type of approach road/lane/constructed path to the house per 1000 households living in a house for each structure type

Table no.	Title
88.	Number of households by experiencing floods during last 5 years per 1000 households living in a house
89.	Number of households by experiencing floods during last 5 years per 1000 households living in a house for each MPCE class
90.	Number of households by experiencing floods during last 5 years per 1000 households living in a house for each structure type
91.	Number of households by area type in which their house is located per 1000 households for each social group
92.	Number of households by plinth area of the house per 1000 households living in a house for each social group
93.	Number of households by plinth level of the house per 1000 households living in a house for each social group
94.	Number of households by type of structure of the house and area type per 1000 households living in a house for each social group
95.	Number of households by type of drainage arrangement per 1000 households living in a house for each social group
96.	Number of households by arrangement of garbage disposal per 1000 households living in a house for each social group
97.	Number of households by proximity of house to animal shed per 1000 households living in a house for each social group
98.	Number of households by type of approach road/lane/constructed path to the house per 1000 households living in a house for each social group
99.	Number of households by experiencing flood during last 5 years per 1000 households living in a house for each social group
100.	Number of households by type of ownership of dwelling per 1000 households
101.	Number of households by type of ownership of dwelling per 1000 households for each MPCE class
102.	Estimated number of households living in hired accommodation by monthly rent class and average monthly rent payable
103.	Estimated number of households living in hired accommodation by monthly rent class and average monthly rent payable for each MPCE class
104.	Estimated number of households not living in hired accommodation (excluding households with no dwelling) by monthly rent class and average imputed monthly rent payable (in Rs.)
105.	Estimated number of households not living in hired accommodation (excluding households with no dwelling) by monthly rent class and average imputed monthly rent payable (in Rs.) for each MPCE class
106.	Number of households by monthly rent class and average non-adjustable deposit paid per 1000 households living in hired accommodation
107.	Number of households by monthly rent class and average non-adjustable deposit paid per 1000 households living in hired accommodation for each MPCE class
108.	Number of households by monthly rent class and average non-adjustable deposit paid per 1000 households living in hired accommodation for each structure type
109.	Number of households by residential status of landlord per 1000 households living in hired accommodation (except employer quarter)
110.	Number of households by residential status of landlord per 1000 households living in hired accommodation (except employer quarter) for each rent class
111.	Number of households by year of taking on rent per 1000 households living in hired accommodation

Table no.	Title
112.	Number of households by year of taking on rent per 1000 households living in hired accommodation for each rent class
113.	Average rent paid per household (in Rs.) living in hired accommodation by year of taking on rent
114.	Average rent paid per household (in Rs.) living in hired accommodation by year of taking on rent for each MPCE class
115.	Average rent paid per household (in Rs.) living in hired accommodation by year of taking on rent for each structure type
116.	Average rent paid per household (in Rs.) living in hired accommodation by floor area of the dwelling unit for each year of taking on rent
117.	Number of households by type of dwelling and ownership of the dwelling per 1000 households with dwelling
118.	Number of households by type of dwelling and ownership of the dwelling per 1000 households with dwelling for each MPCE class
119.	Average number of living rooms, other rooms and average floor area of the dwelling for households with dwelling
120.	Average number of living rooms, other rooms and average floor area of the dwelling for households with dwelling for each MPCE class
121.	Average number of living rooms, other rooms and average floor area of the dwelling for households with dwelling for each ownership type of dwelling
122.	Number of households by ventilation of the dwelling unit and ownership of the dwelling per 1000 households with dwelling
123.	Number of households by ventilation of the dwelling unit and ownership of the dwelling per 1000 households with dwelling for each MPCE class
124.	Number of households by number of married couples in a household per 1000 households
125.	Number of households by number of married couples in a household per 1000 households for each MPCE class
126.	Estimated number of households by number of married couple in a household and proportion of married couples not getting a separate room among households with at least one married couple
127.	Estimated number of households by number of married couple in a household and proportion of married couples not getting a separate room among households with at least one married couple for each MPCE class
128.	Number of households by floor type of the dwelling unit per 1000 households with dwelling
129.	Number of households by floor type of the dwelling unit per 1000 households with dwelling for each MPCE class
130.	Number of households by wall type of the dwelling unit per 1000 households with dwelling
131.	Number of households by wall type of the dwelling unit per 1000 households with dwelling for each MPCE class
132.	Number of households by roof type of the dwelling unit per 1000 households with dwelling
133.	Number of households by roof type of the dwelling unit per 1000 households with dwelling for each MPCE class
134.	Number of households by type of structure of dwelling per 1000 households with dwelling for each per capita floor area class
135.	Number of households by per capita floor area per 1000 households with dwelling
136.	Number of households by type of dwelling per 1000 households with dwelling for each per capita floor area class
137.	Number of households who have initiated construction during the last 5 years per 1000

Table no.	Title
	households and average number of constructions initiated during the last 5 years
138.	Number of households who have initiated construction during the last 5 years per 1000 households and average number of constructions initiated during the last 5 years for each MPCE class
139.	Estimated number of constructions initiated during last 5 years and average cost of construction (in Rs.'000) by type of construction
140.	Estimated number of constructions initiated during last 5 years and average cost of construction (in Rs.'000) by type of construction for each MPCE class
141.	Estimated number of constructions completed during last 5 years and average cost of construction (in Rs.'000) by type of construction
142.	Estimated number of constructions completed during last 5 years and average cost of construction (in Rs.'000) by type of construction for each MPCE class
143.	Estimated number of constructions completed during last 5 years and average cost of construction (in Rs.'000) by type of construction for each structure type
144.	Estimated number of constructions completed during last 5 years and average floor area (in sq. meter)
145.	Estimated number of constructions completed during last 5 years and average floor area (in sq. meter) for each MPCE class
146.	Estimated number of constructions completed during last 5 years and average floor area (in sq. meter) for each structure type
147.	Average cost of constructions completed during last 5 years (in Rs.'000)
148.	Average cost of constructions completed during last 5 years (in Rs.'000) for each MPCE class
149.	Average cost of constructions completed during last 5 years (in Rs.'000) for each structure type
150.	Average cost of constructions completed during last 5 years (in Rs.'000) for each type of construction
151.	Average cost of construction per square meter for new building whose construction was initiated and completed during last 5 years (in Rs.) by year of completion
152.	Average cost of construction per square meter for new building whose construction was initiated and completed during last 5 years (in Rs.) by year of completion for each MPCE class
153.	Average cost of construction per square meter for new building whose construction was initiated and completed during last 5 years (in Rs.) by year of completion for each structure type
154.	Average amount of finance (in Rs.) raised per construction work initiated and completed within last 5 years by year of completion
155.	Average amount of finance (in Rs.) raised per construction work initiated and completed within last 5 years by year of completion for each MPCE class
156.	Average amount of finance (in Rs.) raised per construction work initiated and completed within last 5 years by year of completion for each structure type
157.	Average amount of finance (in Rs.) raised per construction work initiated and completed within last 5 years by year of completion for each type of construction
158.	Average amount of finance (in Rs.) raised per construction work initiated by source of finance
159.	Average amount of finance (in Rs.) raised per construction work initiated by source of finance for each MPCE class
160.	Average amount of finance (in Rs.) raised per construction work initiated by source of finance for each structure type
161.	Average amount of finance (in Rs.) raised per construction work initiated by source of finance for each type of construction

Table no.	Title
162.	Average cost incurred per completed construction during last 365 days by type of cost
163.	Average cost incurred per completed construction during last 365 days by type of cost for each MPCE class
164.	Average cost incurred per completed construction during last 365 days by type of cost for each structure type
165.	Average cost incurred per completed construction during last 365 days by type of cost for each type of construction
166.	Average expenditure (in Rs.'000) incurred for acquiring new residential unit during last 5 years
167.	Average expenditure (in Rs.'000) incurred for acquiring new residential unit during last 5 years or each MPCE class
168.	Number of households owning dwelling units elsewhere inside the country by place of the dwelling unit owned elsewhere per 1000 households
169.	Number of households owning dwelling units elsewhere inside the country by place of the dwelling unit owned elsewhere per 1000 households for each MPCE class
170.	Number of households by type of structure per 1000 households owning dwelling units elsewhere inside the country
171.	Number of households by type of structure per 1000 households owning dwelling units elsewhere inside the country for each MPCE class
172.	Number of households by location of the dwelling units elsewhere per 1000 households owning dwelling units elsewhere inside the country
173.	Number of households by location of the dwelling units elsewhere per 1000 households owning dwelling units elsewhere inside the country for each MPCE class
174.	Number of households by present use of the dwelling units per 1000 households owning dwelling units elsewhere inside the country
175.	Number of households by present use of the dwelling units per 1000 households owning dwelling units elsewhere inside the country for each MPCE class
176.	Number of households owning cultivable land elsewhere inside the country by place of the cultivable land owned elsewhere per 1000 households
177.	Number of households owning cultivable land elsewhere inside the country by place of the cultivable land owned elsewhere per 1000 households for each land possessed class
178.	Number of households owning cultivable land elsewhere inside the country by place of the cultivable land owned elsewhere per 1000 households for each MPCE class
179.	Number of households owning a plot for residential house construction inside the country by place of the plot for residential house construction owned elsewhere per 1000 households
180.	Number of households owning a plot for residential house construction inside the country by place of the plot for residential house construction owned elsewhere per 1000 households for each MPCE class
181.	Number of households planning to construct/acquire a house during next two years by source of finance per 1000 households
182.	Number of households planning to construct/acquire a house during next two years by source of finance per 1000 households
183.	Number of households by duration of stay in slum per 1000 households staying in notified/non-notified slum
184.	Number of households by duration of stay in slum per 1000 households staying in notified/non-notified slum for each MPCE class
185.	Number of households by place of stay before coming to the slum per 1000 households staying in notified/non-notified slum
186.	Number of households by place of stay before coming to the slum per 1000 households staying

Table no.	Title
	in notified/non-notified slum for each MPCE class
187.	Number of households by type of structure of accommodation before coming to the slum per 1000 households staying in notified/non-notified slum and was residing in same town before coming to the slum
188.	Number of households by type of structure of accommodation before coming to the slum per 1000 households staying in notified/non-notified slum and was residing in same town before coming to the slum for each MPCE class
189.	Number of households by reason for movement to the slum per 1000 households staying in notified/non-notified slum and was residing in same town before coming to the slum
190.	Number of households by reason for movement to the slum per 1000 households staying in notified/non-notified slum and was residing in same town before coming to the slum for each MPCE class
191.	Number of households by reason for movement to the slum per 1000 households staying in notified/non-notified slum and was residing in same town before coming to the slum for each structure type of accommodation availed before coming to the slum
192.	Number of households by possession of some specific documents per 1000 households staying in notified/non-notified slum
193.	Number of households by possession of some specific documents per 1000 households staying in notified/non-notified slum for each MPCE class
194.	Number of households by receipt of benefit and number of households who have attempted to move out of the slum with reason thereof per 1000 households staying in notified/non-notified slum
195.	Number of households by receipt of benefit and number of households who have attempted to move out of the slum with reason thereof per 1000 households staying in notified/non-notified slum for each MPCE class

Note: Hard copy of detailed tables is available at the Directorate of Economics and Statistics, Government of Maharashtra, Mumbai Office.

Chapter-2

Concepts and Definitions

2.0 Concepts and definitions which are followed during the survey are explained in this chapter.

2.1 **Household:** A group of persons normally living together and taking food from a common kitchen will constitute a household. The members of a household may or may not be related by blood to one another. The following cases are to be noted while determining the group of persons as households for the current survey:

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

(ii) Under trial prisoners in jails and indoor patients of hospitals, nursing homes etc., are to be excluded but residential staff therein will be listed while listing is done in such institutions. The former persons will be considered as normal members of their parent households and will be counted there. Convicted prisoners undergoing sentence will be outside the coverage of the survey.

(iii) Floating population i.e. persons without any normal residence will not be listed. But households residing in open space, roadside shelter, under a bridge etc., more or less regularly in the same place will be listed.

(iv) Foreign nationals will not be listed, nor do their domestic servants, if by definition they later belong to the foreign national's household. If however, a foreign national becomes an Indian citizen for all practical purposes, he/she will be covered.

(v) Persons residing in barracks of military and paramilitary forces (like police, BSF etc.) will be kept outside the survey coverage for difficulty in conduct of survey therein. However, civilian population residing in their neighborhood, including the family quarters of service personnel are to be covered, for which, of course, permission may have to be obtained from appropriate authorities.

(vi) Orphanages, rescue homes, ashrams and vagrant houses are outside the survey coverage. However, the students staying in hostels (if any) and the residential staff (other than monks/nuns) of ashrams may be listed. For orphanages, although orphans are not to be listed, the persons looking after them and staying there may be considered for listing.

2.2 **Household size:** The number of normally resident members of a household is its size. It will include temporary stay-aways but exclude temporary visitors and guests. Even though the determination of the actual composition of a household will be left to the judgement of the head of the households, the following procedures will be adopted as guidelines:

(i) In deciding the composition of a household, more emphasis is to be placed on 'normally living together' than on 'ordinarily taking food from a common kitchen'. In case the place of residence of

a person is different from the place of boarding, he or she will be treated as a member of the household with whom he or she resides.

(ii) 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.

(iii) 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 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.

(iv) If a member of a household (say, a son or daughter of the head of the household) 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.

2.3 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 poly vinyl chloride (PVC) material.

2.4 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.

2.5 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.

2.6 Building: Building is a free-standing structure comprising one or more rooms or other spaces covered by a roof and usually enclosed within external walls or dividing walls which extend from the foundation to the roof. Dividing walls refer to the walls of adjoining buildings, i.e. dividing walls of a row of houses. These houses are practically independent of one another and likely to have been built at different times and owned by different persons. If more than one physically separated structure constitute one living unit, all of them together also form a building. Usually, building will have four external walls. But in some areas the nature of building construction is such that it has no walls. Instead, it has a roof which almost touches the ground and it is provided with an entrance. Such structures and also structures standing only on pillars will also be treated as buildings for the purpose of the survey.

2.7 Dwelling unit: It is the accommodation availed of by a household for its residential purpose. It may be an entire structure or a part thereof or consisting of more than one structure. There may be cases of more than one household occupying a single structure such as those living in independent flats or sharing a single housing unit, in which case, there will be as many dwelling units as the number of

households sharing the structure. There may also be cases of one household occupying more than one structure (i.e. detached structures for sitting, sleeping, cooking, bathing etc) for its housing accommodation. In this case, all the structures together constitute a single dwelling unit. In general, a dwelling unit consists of living room, kitchen, store, bath, latrine, garage, open and closed veranda, etc. A structure or a portion thereof used exclusively for non-residential purpose or let out to other households does not form part of the dwelling unit of the household under consideration. However, a portion of a structure used for both residential and non-residential purposes is treated as part of the dwelling unit except when the use of such portion for residential purpose is very nominal. The dwelling unit covers all pucca, semi-pucca and katcha structures used by a household. Households living more or less regularly under bridges, in pipes, under staircase, in purely temporary flimsy improvisations built by the road side (which are liable to be removed at any moment) etc., are considered to have no dwelling.

2.8 **Independent house:** An independent house is one which has a separate structure and entrance with self-contained arrangements. In other words, if the dwelling unit and the entire structure of the house are physically the same, it should be considered as an independent house. In some parts, particularly in rural areas, two or more structures together may constitute a single housing unit. While the main residence may be in one of the structures, the other structures may be used for sleeping. Sitting and for store, bath etc. In all cases, all the structure together will form a single housing unit and will be treated as an independent house.

2.9 **Flat:** A flat, generally, is a part of the building and has one or more rooms with self-contained arrangements and normal housing facilities like water supply, latrine, toilet, etc., which are used exclusively by the household residing therein or jointly with other households. It also includes detached room or rooms with or without other housing facilities.

2.10 **Room:** A constructed area with walls or partitions on all side with at least one door way and a roof overhead. Wall/partition means a continuous solid structure (except for the doors, windows, ventilators, air-holes, etc.) extending from floor to ceiling. A constructed space with grill or net on one or more sides in place of wall or partition is not treated as a room. In case of conical shaped structures in which the roof itself is built to the floor level, the roof is also regarded as wall.

2.11 **Living room:** A room with floor area (carpet area) of at least 4 square metres, a height of at least 2 metres from the floor to the highest point in the ceiling and used for living purposes will be considered as a living room. Thus, rooms used as bedroom, sitting room, prayer room, dining room, servant's room - all are considered as living rooms provided they satisfy the size criterion. Kitchen, bathroom, latrine, store, garage etc. are not living rooms. A room used in common for living purpose and as kitchen or store is also considered as living room.

2.12 **Other room:** A room which does not satisfy the specification of 4 square metres floor area and 2 metres height from the floor to the highest point of the ceiling or a room which though satisfies the specification, not used for living purposes. A room satisfying the size criterion when shared by more than one household or when used for both residential and business purposes is to be treated as other room.

2.13 **Veranda:** A roofed space often without a door adjacent to living/other room. It is generally used as an access to the room(s) and is not walled from all sides. In other words, at least one side of such space is either open or walled only to some height or protected by grill, net etc. A veranda is considered as a 'covered veranda', if it is protected from all sides and an 'uncovered veranda', if is not protected at least from any one of the sides. A covered veranda may have a door also. Corridor or passage within the

dwelling unit is treated as portion of a room or a veranda depending on its layout. However, veranda does not cover a common corridor or passage used mainly as an access to the dwelling itself.

2.14 Land possessed: The area of land possessed will include land ‘owned’, ‘leased in’ and ‘land neither owned nor leased in’ (i.e. encroached) by the household but exclude land ‘leased out’. The total land area possessed by the household as on the date of survey is taken into account. A piece of land is considered to be owned by the household if permanent heritable possession with or without the right to transfer the title vests in a member or members of the household. Land held in owner-like possession say, under perpetual lease, hereditary tenure, long-term lease for 30 years or more, etc., will also be considered as land owned. For a piece of land under the possession of the household, if the household lacks title of ownership and also does not have lease agreement for the use of land transacted, either verbally or in writing, such land will be considered as ‘neither owned nor leased in’. In collecting information regarding land possessed, the actual position as obtained on the date of survey will be considered. It may be noted that the ‘area of land possessed’ to be recorded should not include the area of land owned, leased-in, etc., by the servants/paying guests who are considered as normal members of the household.

2.15 Slum: A slum is a compact area within the First Stage Unit (FSU) with a collection of poorly built tenements, mostly of temporary nature, crowded together usually with inadequate sanitary and drinking water facilities in unhygienic conditions. Such an area will be considered as a slum if at least 20 households live in that area for the purpose of this survey. Certain areas notified as slums by the respective municipalities, corporations, local bodies or development authorities will be treated as ‘notified slums’. Slum will be considered in urban areas only. An area having at least 20 households of notified slum within an FSU will always be considered as a slum. Slum dwellings are commonly known as ‘Jhopad Patti’ in Mumbai and ‘Jhuggi Jhopri’ in Delhi.

2.16 Squatter settlement: Sometimes an area develops into an unauthorised settlement with unauthorised structures put up by ‘squatters’. Squatter settlement will include all slums like settlements which do not have the stipulated number of 20 households to be classified as a slum.

2.17 Household monthly per capita expenditure: Household consumer expenditure is measured as the expenditure incurred by a household or domestic account during a specified period, called reference period. It also includes the imputed values of goods and services which are not purchase but produced otherwise for consumption. In other words, it is the sum total of monetary values of all the items (i.e. goods and services) consumed by the household on domestic account during the reference period. The imputed rent of owner-occupied houses is excluded from consumption expenditure. Any expenditure incurred towards the productive enterprises of the households is also excluded from the household consumer expenditure. Monthly per capita expenditure (MPCE) is the household consumer expenditure over a period of 30 days divided by household size. A person’s MPCE is understood as that of the household to which he/she belongs.

Chapter-3

Sample Design and Estimation Procedure

3.0 Sample Design

3.1 **Outline of Sample Design:** A stratified multi-stage design was adopted for the NSS 58th round survey. The first-stage units were census villages in the rural area and the NSSO Urban Frame Survey (UFS) blocks in the urban area. The ultimate stage units were households in both the areas.

3.2 **Sampling Frame for First-Stage Units:** For the rural area, the list of Census 1991 villages constituted the sampling frame. For the urban area, the list of latest available Urban Frame Survey (UFS) blocks was considered as the sampling frame.

3.3 Stratification

3.3.1 **Urban Area:** In the urban area, stratum was formed within each NSS region on the basis of size class of towns as per Census 1991 town population. The stratum number and their composition (within each region) are given below:

Stratum 1: all towns with population $(P) < 0.1$ million

Stratum 2: all towns with $0.1 \leq P < 0.5$ million

Stratum 3: all towns with $0.5 \leq P < 1$ million

Stratum 4, 5, 6 ... each town with $P \geq 1$ million

The stratum numbers was retained as above even if, in some regions, some of the stratum is not formed.

3.4 **Sub-stratification:** There was no sub-stratification in the rural area. However, to cover more number of households living in slums, in urban area 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

If there was one UFS block with area type 'slum area' within a stratum, sub-stratum 1 was not formed, it was merged with sub-stratum 2.

3.5 **Total sample size (FSUs):** A total number of and first-stage units were selected for survey in the Central and State samples respectively.

3.6 **Allocation of total sample to States:** The total sample FSUs was allocated to the States and in proportion to provisional population as per Census 2001 subject to the availability of investigators ensuring more or less uniform work-load.

3.7 **Allocation of State level sample to Rural and Urban areas:** State level sample was allocated between two areas in proportion to provisional population as per Census 2001 with double weightage to urban area.

3.8 **Allocation of Urban area level sample size to strata/sub-strata:** The urban areas samples allotted to a State were allocated to different strata in proportion to population of the stratum. All the stratum-level allocations were adjusted to multiple of 2. Stratum-level sample size in the urban area was further allocated to 2 sub-strata in proportion to the number of UFS blocks in them with double weightage to sub-stratum 1 subject to a minimum sample size of 2 or 4 to sub-stratum 1 according as stratum-level allocation is 4 or greater than 4. Sub-stratum level allocations in the urban area were made even.

3.9 **Selection of FSUs:** FSUs were selected in the form of two independent sub-samples. FSUs were selected by simple random sampling without replacement (SRSWOR).

4.0 Estimation Procedure

4.1 Notations:

s = subscript for s-th stratum

t = subscript for t-th sub-stratum of an urban stratum (t=1, 2)

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

i = subscript for i-th FSU

u = subscript for a segment (u = 1, 2)

j = subscript for j-th second stage stratum of FSU

k = subscript for k-th sample household under a particular second stage stratum within FSU

D = total number of hg's/sb's formed in sample village/block

$D^* = 1$ if $D = 1$

= $D/2$ for rural FSUs with $D > 1$

= $(D-1)$ for urban FSUs with $D > 1$ and with segment 1

= $D/2$ for urban FSUs with $D > 1$ and without segment 1

N = total number of FSUs in an urban/sub-stratum or rural stratum 1

n = number of sample village/block including zero cases but excluding casualty for particular sub-sample and stratum/sub-stratum

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

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

Under the above symbols,

y_{stmij} = observed value of the characteristic y in j-th second stage stratum of the u-th segment (u = 1,2) of the i-th FSU belonging to the m-th sub-sample for the s-th rural stratum;

y_{smiujk} = observed value of the characteristic y for the k-th household in the j-th second stage stratum of the u-th segment (u = 1, 2) of the i-th FSU belonging to the m-th sub-sample for the t-th sub-stratum of s-th urban stratum.

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

4.2 Formulae for estimation of aggregates for a particular sub-sample and stratum/sub-stratum in Rural/Urban sector:

Rural:

(a) Estimation formula for stratum 1:

(i) For households selected in j-th second stage stratum:

$$\hat{Y} = \frac{N}{n_j} \sum_{i=1}^{n_j} \left[D_i * X \frac{H_{i2j}}{h_{i2j}} \sum_{k=1}^{h_{i2j}} y_{i2jk} \right]; (j = 1, 2 \text{ or } 3)$$

(ii) For all selected households:

$$\hat{Y} = \sum_{j=1}^3 \hat{Y}_j$$

(b) Estimation formulae for general strata:

(i) For households selected in j-th second stage stratum:

$$\hat{Y}_j = \frac{Z}{n_j} \sum_{i=1}^{n_j} \frac{1}{z_i} \left[D_i * X \frac{H_{i2j}}{h_{i2j}} \sum_{k=1}^{h_{i2j}} y_{i2jk} \right]; (j = 1, 2 \text{ or } 3)$$

(ii) For all selected households:

$$\hat{Y} = \sum_{j=1}^3 \hat{Y}_j$$

Urban:

(a) Estimation formula for a sub-stratum of urban stratum

(i) For households selected in j-th second stage stratum:

$$\hat{Y} = \frac{N}{n_j} \sum_{i=1}^{n_j} \left[\frac{H_{i1j}}{h_{i1j}} \sum_{k=1}^{h_{i1j}} y_{i1jk} + D_i * X \frac{H_{i2j}}{h_{i2j}} \sum_{k=1}^{h_{i2j}} y_{i2jk} \right]; (j = 1, 2 \text{ or } 3)$$

(ii) For all selected households:

$$\hat{Y} = \sum_{j=1}^3 \hat{Y}_j$$

(b) For the s^{th} stratum:

$$\hat{Y}_s = \sum_{t=1}^2 \hat{Y}_{st}$$

4.3 Overall estimate for aggregates:

Overall estimate for aggregates for a stratum (\hat{Y}_s)/sub-stratum (\hat{Y}_{st}) based on two sub-samples is obtained as:

(i)

$$\hat{Y}_s = \frac{1}{2} \sum_{m=1}^2 \hat{Y}_{sm}, \quad \text{for rural stratum,}$$

(ii)

$$\hat{Y}_{st} = \frac{1}{2} \sum_{m=1}^2 \hat{Y}_{stm}, \quad \text{for urban sub-stratum and}$$

(iii)

$$\hat{Y}_s = \sum_{t=1}^2 \hat{Y}_{st}, \quad \text{for urban stratum}$$

4.4 Overall estimate of aggregates at State level:

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

4.5 Estimates of ratios:

Let \hat{Y} and \hat{X} be the overall estimate of the aggregates Y and X for two characteristics y and x respectively at the state level.

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

$$\hat{R} = \frac{\hat{Y}}{\hat{X}}$$