



GOVERNMENT OF MAHARASHTRA

**A REPORT ON
'MORBIDITY AND HEALTH CARE'
BASED ON DATA COLLECTED IN
CENTRAL, STATE AND POOLED SAMPLES OF
60TH ROUND OF NATIONAL SAMPLE SURVEY
(JANUARY – JUNE, 2004)**

**Directorate of Economics and Statistics, Planning Department,
Government of Maharashtra,
Mumbai**

PREFACE

The Directorate of Economics and Statistics has prepared a report on 'Morbidity and Health Care' based on the data of state, central & pooled (central & state) samples collected in the 60th round (January – June, 2004) of National Sample Survey.

2. The report contains important findings of the survey in 'Executive Summary' while detailed results are given in 'Survey Findings'.

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: June, 2010

(Smt. S.R.Mehta)
Additional Director
Director of Economics and Statistics,
Planning Department,
Government of Maharashtra

P.H.Bhagoorkar
Deputy Director

Team associated with report:
S.R. Shingade, Statistical Officer

CONTENTS

Sr. No.	Description	Page No.
(1)	(2)	(3)
1	Executive Summary	1
2	Survey Findings	2
3	Annexure I : Procedure of pooling	19
4	Annexure II : List of tables	21

Chapter – One

EXECUTIVE SUMMARY

The pooled estimates based on the central and state samples taken together for the survey on 'Morbidity and Health Care' done under the 60th round of National Sample Survey (January – June, 2004) show that the percentage of ailing persons is 6.3 for the rural areas of the state, being 5.7 percent for men and 6.9 percent for females. The same is 7.9 percent for urban areas of the state, being 7.5 and 8.5 percent respectively for men and women.

Survey findings

1. The average household size is found to be 4.8 and 4.3 persons respectively for the rural and urban areas of the state. Aurangabad division has the highest (5.1) household size in rural while Nashik and Amravati have the highest (5.0) household size in the urban areas.
2. The sex ratio is observed to be 967 and 904 for rural and urban areas of the state respectively. Konkan division ranks first with sex ratio of 1026 in rural areas while Amravati division ranks first with sex ratio of 969 in urban areas of the state. In all the divisions, the rural areas fair better than the urban areas as far as the sex ratios are concerned.
3. The percentage of ailing persons (PAP) is in general higher for females than men. In Konkan division, the PAP for females is found to be very high at 13.4 in rural and 11.9 in urban areas.
4. The proportion of persons reporting commencement (PPC) of ailment during last 15 days is lower in rural areas (2.9) compared to urban areas (3.6) of the state. However, the same is not true for sub-state level estimates.
5. The average medical expenditure per hospitalization case in the state is found to be Rs. 6538 for rural and Rs. 9477 for urban areas. This particular expenditure is highest in Pune division for rural and in Konkan division for urban areas.
6. The average total expenditure per treated person during last 15 days in the state is Rs. 270 for rural and Rs. 332 for urban areas. This particular expenditure is found to be highest in Aurangabad division (Rs. 375) for rural areas and Amravati division (Rs. 461) for urban areas.

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Chapter – Two

SURVEY FINDINGS

Introduction

2.1 An enquiry on morbidity and health care was conducted in the 60th round (January – June, 2004) of National Sample Survey. It covered the curative aspects of the general health care system and also the utilization of health care services provided by the public and private sector together with the expenditure incurred by the households for availing these services. The present report is based on the survey results of central, state and the pooled (central + state together) samples.

2.2 Detailed tables on which the report is based are separately presented in Volume II and are listed in Annexure II. The procedure of pooling is presented in Appendix I which is a standard procedure. A detailed report based on the state sample data is separately prepared and published on the website of the Directorate of Economics and Statistics, Maharashtra.

Sample Size

2.3 The sample sizes are presented for the first stage units (FSU viz. villages/urban frame survey blocks) as well as ultimate stage units (USU viz. households) in table 1 and table 2 respectively, separately for revenue divisions and districts. The sample size in terms of FSUs at the revenue division level is found to be fairly sufficient. However, at the district level, it is seen that even after pooling of both the samples, the districts Sindhudurg, Nandurbar, Hingoli, Parbhani, Akola, Washim, Wardha, Bhandara, Gondiya and Gadchiroli have less number of FSUs (less than 15 villages) in the rural areas while Raigad, Ratnagiri, Sindhudurg, Satara, Ahmadnagar, Nandurbar, Hingoli, Parbhani, Jalna, Bid, Latur, Osmanabad, Buldhana, Akola, Washim, Yavatmal, Wardha, Bhandara, Gondiya, Gadchiroli and Chandrapur districts have less number of FSUs (less than 15 UFS blocks) in the urban areas. This may be due to the sampling design used for selection of units for this round. In the rural areas, apart from two special strata, each district of the state has been treated as a separate stratum. But for the urban areas, strata were formed within each NSS region (which are based on agro-climatic conditions and are slightly different from the revenue divisions) on the basis of size class of towns as per Population Census 2001. The details may be seen in the Volume II of the state sample report on the same subject separately published on Directorate's website. Although there is not much gain in sample size at district level for these districts, the region level sample size after pooling of the state and central sample data may be treated as sufficient for generating region level estimates. Similar is the situation in the case of USUs i.e. sample number of households in both the rural and urban areas. Therefore, districtwise estimates for above mentioned districts are not provided in the report.

Table 1A
Divisionwise Sample size: Number of first stage units
(Villages/urban frame survey blocks)

Division	Rural			Urban		
	State	Central	Pooled	State	Central	Pooled
Konkan	28	28	56	180	115	295
Pune	62	61	123	79	50	129
Nashik	57	58	115	45	30	75
Aurangabad	55	56	111	36	24	60
Amravati	34	32	66	27	21	48
Nagpur	32	30	62	41	27	68
State	268	265	533	408	267	675

Table 1B
Districtwise Sample size: Number of first stage units
(Villages/urban frame survey blocks)

District	Rural			Urban		
	State	Central	Pooled	State	Central	Pooled
Thane	8	8	16	56	36	92
Mumbai	Not applicable			116	75	191
Raigad	8	8	16	5	2	7
Ratnagiri	8	8	16	2	2	4
Sindhudurg	4	4	8	1	-	1
Pune	17	16	33	41	27	68
Solapur	13	12	25	18	6	24
Satara	12	12	24	3	3	6
Kolhapur	12	13	25	7	9	16
Sangli	8	8	16	10	5	15
Ahmadnagar	16	17	33	5	6	11
Nandurbar	4	4	8	4	-	4
Dhule	8	8	16	11	4	15
Jalgaon	13	12	25	8	8	16
Nashik	16	17	33	18	14	32
Nanded	8	8	16	11	4	15
Hingoli	6	6	12	2	-	2
Parbhani	2	2	4	3	2	5
Jalna	8	8	16	3	3	6
Aurangabad	8	8	16	9	7	16
Bid	8	8	16	2	5	7
Latur	8	8	16	5	2	7
Osmanabad	7	8	15	1	1	2
Buldhana	8	8	16	5	1	6
Akola	7	3	10	10	2	12
Washim	1	5	6	-	1	1
Amravati	8	8	16	9	14	23
Yavatmal	10	8	18	3	3	6
Wardha	4	4	8	6	1	7
Nagpur	8	7	15	23	14	37
Bhandara	3	5	8	2	3	5
Gondiya	5	3	8	2	1	3
Gadchiroli	4	4	8	1	1	2
Chandrapur	8	7	15	7	7	14
State total	268	265	533	408	267	675

Table 2A
Divisionwise Sample size: Number of ultimate stage units (households)

Division	Rural			Urban		
	State	Central	Pooled	State	Central	Pooled
Konkan	280	280	560	1,798	1,146	2,944
Pune	612	610	1,222	789	500	1,289
Nashik	570	580	1,150	448	300	748
Aurangabad	550	560	1,110	360	240	600
Amravati	334	320	654	270	210	480
Nagpur	320	300	620	408	268	676
State	2,666	2,650	5,316	4,073	2,664	6,737

Table 2B
Districtwise Sample size: Number of ultimate stage units (households)

District	Rural			Urban		
	State	Central	Pooled	State	Central	Pooled
Thane	80	80	160	560	358	918
Mumbai	Not applicable			1,158	748	1,906
Raigad	80	80	160	50	20	70
Ratnagiri	80	80	160	20	20	40
Sindhudurg	40	40	80	10	-	10
Pune	162	160	322	409	270	679
Solapur	130	120	250	160	60	240
Satara	120	120	240	30	30	60
Kolhapur	120	130	250	70	90	160
Sangli	80	80	160	100	50	150
Ahmadnagar	160	170	330	50	60	110
Nandurbar	40	40	80	40	-	40
Dhule	80	80	160	98	20	118
Jalgaon	130	120	250	80	80	160
Nashik	160	170	330	180	140	320
Nanded	80	80	160	110	40	150
Hingoli	60	60	120	20	-	20
Parbhani	20	20	40	30	20	50
Jalna	80	80	160	30	30	60
Aurangabad	80	80	160	30	30	60
Bid	80	80	160	20	50	70
Latur	80	80	160	50	20	70
Osmanabad	70	80	150	10	10	20
Buldhana	80	80	160	50	10	60
Akola	70	30	100	100	20	120
Washim	10	50	60	-	10	10
Amravati	80	80	160	90	140	230
Yavatmal	94	80	174	30	30	160
Wardha	40	40	80	60	10	70
Nagpur	80	70	150	228	140	368
Bhandara	30	50	80	20	29	49
Gondiya	50	30	80	20	9	29
Gadchiroli	40	40	80	10	10	20
Chandrapur	80	70	150	70	70	140
State total	2,666	2,650	5,316	4,073	2,664	6,737

Household Size

2.4 In the survey of morbidity and health care, age and sex particulars of each of the member of the sample household were recorded. On the basis of these particulars, several estimates are generated such as average household size, sex ratio, etc. The average household size is one of the most important demographic characteristics, for which division/districtwise estimates using the state sample, central sample and the pooled sample for the rural and urban areas of Maharashtra have been derived (table 3). The average household size at the state level for the rural and urban areas based on the state and central sample are consistent with each other. Even for the division level estimates both the samples are giving comparable estimates of average household size. As seen from the district level table, 13 districts for rural areas and 21 districts for urban areas do not have adequate sample size to estimate the characteristics. For the remaining districts the estimates generated through the pooled sample may be treated as fairly accurate. Due to non-availability of districtwise estimates for all districts, comparison among different districts is restricted and may not be further stretched to give a general comment. It may be observed from table 3A, that the average household size is estimated to be 4.8 and 4.3 for rural and urban areas of the state respectively. In rural areas, Aurangabad division has the highest (5.1) while Nagpur division has the lowest (4.3) household size. In urban areas, Amravati and Nashik both have recorded highest (5.0) and Konkan the lowest (4.0) household size.

Table 3A
Divisionwise Average household size

Division	Rural			Urban		
	State	Central	Pooled	State	Central	Pooled
Konkan	4.4	4.4	4.4	4.2	3.8	4.0
Pune	5.0	4.9	4.9	4.6	4.2	4.4
Nashik	4.8	4.8	4.8	4.9	5.0	5.0
Aurangabad	5.2	5.1	5.1	4.9	4.5	4.7
Amravati	4.9	4.6	4.8	5.0	5.0	5.0
Nagpur	4.3	4.4	4.3	4.6	4.4	4.5
State	4.8	4.7	4.8	4.5	4.2	4.3

Table 3B
Districtwise Average household size

District	Rural			Urban		
	State	Central	Pooled	State	Central	Pooled
Thane	5.1	4.7	4.9	4.3	4.0	4.2
Mumbai	Not applicable			4.1	3.6	3.9
Raigad*	4.2	4.3	4.2	-	-	-
Ratnagiri*	3.6	4.1	3.9	-	-	-
Sindhudurg*	-	-	-	-	-	-
Pune	5.0	5.2	5.1	4.5	3.9	4.2
Solapur	4.5	4.6	4.6	4.7	4.9	4.8
Satara*	5.1	4.6	4.9	-	-	-
Kolhapur	4.9	4.8	4.8	5.4	3.9	4.7
Sangli	5.4	5.4	5.4	4.7	5.6	5.0
Ahmadnagar*	5.1	4.9	5.0	-	-	-
Nandurbar*	-	-	-	-	-	-
Dhule	5.0	4.0	4.8	5.4	5.1	5.3
Jalgaon	4.6	4.5	4.6	5.0	5.1	5.0
Nashik	4.6	5.2	4.9	4.4	4.9	4.6
Nanded	5.3	5.5	5.4	5.3	3.8	5.0
Hingoli*	-	-	-	-	-	-
Parbhani*	-	-	-	-	-	-
Jalna*	4.2	5.0	4.6	-	-	-
Aurangabad	5.2	4.7	5.0	4.3	4.4	4.3
Bid*	5.4	4.7	5.1	-	-	-
Latur*	5.5	5.0	5.2	-	-	-
Osmanabad*	-	-	-	-	-	-
Buldhana*	4.8	4.9	4.9	-	-	-
Akola*	-	-	-	-	-	-
Washim*	-	-	-	-	-	-
Amravati	4.9	4.4	4.7	5.0	5.0	5.1
Yavatmal*	4.5	4.9	4.7	-	-	-
Wardha*	-	-	-	-	-	-
Nagpur*	-	-	-	4.6	4.4	4.5
Bhandara*	-	-	-	-	-	-
Gondiya*	-	-	-	-	-	-
Gadchiroli*	-	-	-	-	-	-
Chandrapur*	-	-	-	-	-	-
State	4.8	4.7	4.8	4.5	4.2	4.3

* Inadequate sample size for district level estimates

Sex Ratio

2.5 Another important demographic characteristic is the sex ratio i.e. number of females per thousand males. The estimates of sex ratio as obtained from the state, central and pooled samples are presented in table 4. A wide variation is observed among all the estimates of sex ratio for all the districts as well as divisions. As per the divisional level pooled estimates, Konkan division ranks first while Nashik and Aurangabad division rank last in rural area and Amravati division ranks first while Konkan division ranks last in urban area as far as sex ratio is concerned. An important fact visible from the results is that the sex ratio in the urban areas is much lower than that in the rural areas for all the divisions. The district level estimates show wide variation and prompt for increase in the sample size.

Table 4A
Divisionwise Sex ratio

Division	Rural			Urban		
	State	Central	Pooled	State	Central	Pooled
Konkan	958	1,097	1,026	883	865	877
Pune	928	1,013	968	941	918	931
Nashik	957	941	949	848	988	902
Aurangabad	944	954	949	901	1,036	916
Amravati	1,032	912	972	904	894	969
Nagpur	850	1,078	962	928	912	913
<i>State</i>	<i>944</i>	<i>990</i>	<i>967</i>	<i>900</i>	<i>912</i>	<i>904</i>

Table 4B
Districtwise Sex ratio

District	Rural			Urban		
	State	Central	Pooled	State	Central	Pooled
Thane	839	1,094	957	936	860	908
Mumbai	Not applicable			850	868	857
Raigad*	954	888	922	-	-	-
Ratnagiri*	1,163	1,426	1,301	-	-	-
Sindhudurg*	-	-	-	-	-	-
Pune	875	1,025	951	918	868	898
Solapur	920	1,042	972	994	824	938
Satara*	969	970	970	-	-	-
Kolhapur	984	966	976	1,087	1,047	1,068
Sangli	901	1,074	977	914	948	927
Ahmadnagar*	889	972	929	-	-	-
Nandurbar*	-	-	-	-	-	-
Dhule	1,026	975	1,001	810	1,035	847
Jalgaon	928	868	900	833	895	858
Nashik	1,035	955	993	907	1,023	952
Nanded	883	913	900	948	934	947
Hingoli*	-	-	-	-	-	-
Parbhani*	-	-	-	-	-	-
Jalna*	1,133	908	1,004	-	-	-
Aurangabad	883	1,008	936	935	940	936
Bid*	963	932	949	-	-	-
Latur*	883	943	913	-	-	-
Osmanabad*	-	-	-	-	-	-
Buldhana*	1,019	816	904	-	-	-
Akola*	-	-	-	-	-	-
Washim*	-	-	-	-	-	-
Amravati	1,077	1,024	1,053	1,034	1,102	1,078
Yavatmal*	1,100	949	1,021	-	-	-
Wardha*	-	-	-	-	-	-
Nagpur*	-	-	-	925	847	885
Bhandara*	-	-	-	-	-	-
Gondiya*	-	-	-	-	-	-
Gadchiroli*	-	-	-	-	-	-
Chandrapur*	935	810	874	-	-	-
State	944	990	967	900	912	904

* Inadequate sample size for district level estimates

Proportion of ailing persons

2.6 The Proportion of Ailing Persons (PAP) gives an indication of the status of health of population. This was measured as the number of persons reporting ailments during the period of 15 days preceding the date of survey. Table 5A and 5B give the estimates of PAP at divisional and district levels respectively, which are further classified into rural and urban areas.

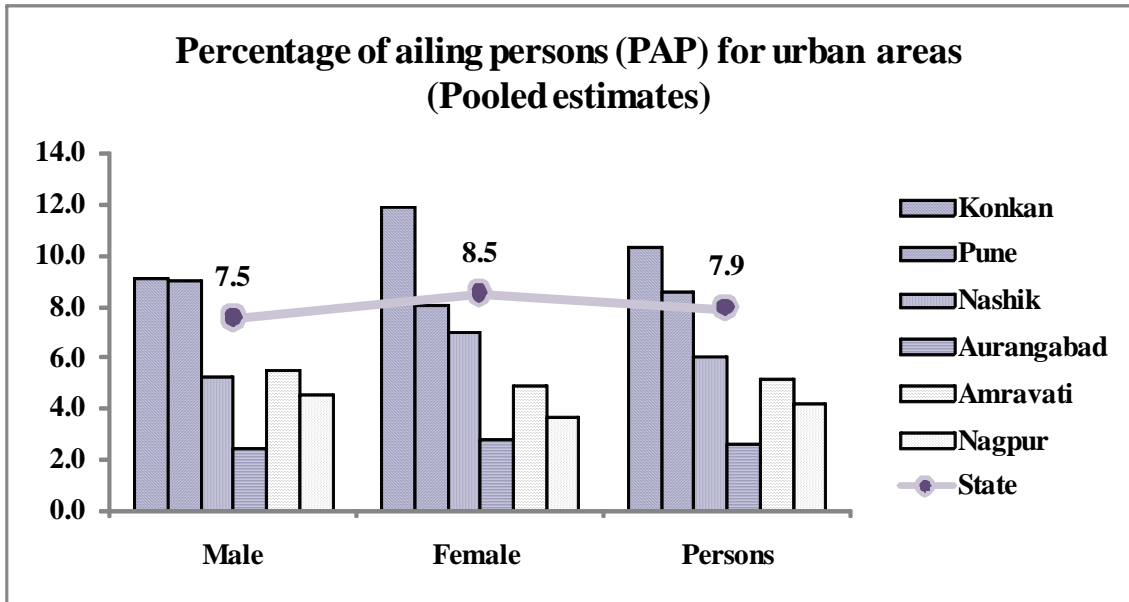
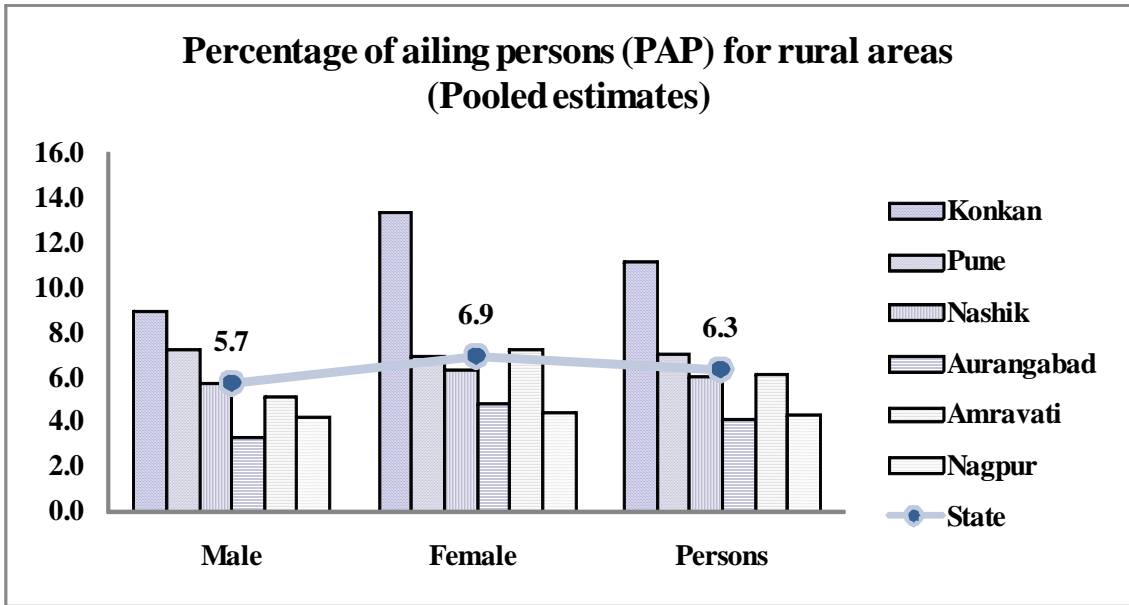
2.7 Both the State and Central sample indicate that the overall PAP is higher for urban areas compared to the rural areas though the sub State level estimates may not indicate the same for some divisions/districts. In general, the Central sample estimates are found to be higher than the State sample estimates. In both rural and urban areas, Konkan division has the highest PAP followed by Pune division. Also, the PAP for females is higher than that of males in both urban and rural areas. In Konkan division, the PAP for females is found to be very high at 13.4 in rural and 11.9 in urban areas.

Table 5A (R)
Divisionwise percentage of persons reporting ailment (PAP) during last 15 days

Division	Rural								
	State			Central			Pooled		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Konkan	5.1	5.6	5.3	13.2	20.6	17.1	9.0	13.4	11.2
Pune	3.8	3.7	3.8	11.1	10.5	10.8	7.3	7.0	7.1
Nashik	1.9	2.6	2.2	9.7	10.4	10.1	5.8	6.4	6.1
Aurangabad	1.5	1.4	1.4	5.1	8.2	6.6	3.3	4.8	4.1
Amravati	4.4	5.5	4.9	6.0	9.2	7.5	5.2	7.3	6.2
Nagpur	3.4	4.3	4.8	5.0	4.6	4.8	4.2	4.4	4.3
State	3.1	3.5	3.3	8.3	10.3	9.3	5.7	6.9	6.3

Table 5A (U)
Divisionwise percentage of persons reporting ailment (PAP) during last 15 days

Division	Urban								
	State			Central			Pooled		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Konkan	6.2	9.2	7.6	13.8	16.3	15.0	9.1	11.9	10.4
Pune	4.3	3.7	4.0	16.7	15.2	16.0	9.0	8.1	8.6
Nashik	3.7	5.1	4.3	7.6	9.2	8.4	5.3	7.0	6.1
Aurangabad	0.4	0.7	0.6	5.7	5.6	5.7	2.5	2.8	2.6
Amravati	4.4	4.0	4.2	6.8	6.0	6.9	5.5	4.9	5.2
Nagpur	4.2	3.0	3.6	4.9	4.8	4.8	4.6	3.7	4.2
State	4.7	5.9	5.3	11.5	12.2	11.9	7.5	8.5	7.9



Among the districts with adequate sample size for districtwise estimation, the PAP is found to be highest (22.2 percent) in the rural areas of Ratnagiri district and urban areas of Thane district (11.1 percent).

Table 5B (R)

Districtwise percentage of persons reporting ailment (PAP) during last 15 days

District	Rural								
	State			Central			Pooled		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Thane	2.1	1.9	2.0	9.7	18.7	14.4	5.6	10.8	8.2
Mumbai	Not applicable								
Raigad	8.9	5.6	7.3	6.6	14.1	10.1	7.8	9.5	8.6
Ratnagiri	4.0	7.4	5.9	36.5	34.7	35.4	21.0	23.1	22.2
Sindhudurg*	-	-	-	-	-	-	-	-	-
Pune	6.9	6.8	6.9	16.6	15.7	16.2	11.8	11.7	11.7
Solapur	2.5	4.5	3.5	8.9	8.8	8.9	5.2	6.5	5.9
Satara	5.3	4.2	4.8	5.9	6.5	6.2	5.6	5.3	5.5
Kolhapur	1.2	0.0	0.6	8.3	8.7	8.5	4.5	4.1	4.3
Sangli	2.5	2.5	2.5	14.6	9.9	12.2	7.8	6.1	6.9
Ahmadnagar	2.2	3.2	2.7	14.5	15.9	15.2	8.1	9.6	8.9
Nandurbar*	-	-	-	-	-	-	-	-	-
Dhule	0.4	0.2	0.3	4.4	5.0	4.7	2.4	2.5	2.5
Jalgaon	1.3	1.8	1.5	8.8	8.2	6.1	4.8	3.8	4.3
Nashik	3.4	4.6	4.0	9.2	11.1	10.1	6.4	7.8	7.1
Nanded	1.0	1.2	1.1	1.9	2.1	2.0	1.5	1.7	1.6
Hingoli*	-	-	-	-	-	-	-	-	-
Parbhani*	-	-	-	-	-	-	-	-	-
Jalna	1.5	1.6	1.6	2.7	7.7	5.1	2.2	4.9	3.5
Aurangabad	2.3	1.7	2.0	6.2	10.8	8.5	4.0	5.9	4.9
Bid	1.2	0.9	1.1	4.8	9.2	6.9	2.8	4.4	3.6
Latur	0.9	1.7	1.3	3.0	3.4	3.2	2.0	2.6	2.3
Osmanabad*	-	-	-	-	-	-	-	-	-
Buldhana	4.4	9.8	7.1	11.0	10.1	10.6	8.1	9.9	9.0
Akola*	-	-	-	-	-	-	-	-	-
Washim*	-	-	-	-	-	-	-	-	-
Amravati	5.4	1.7	3.5	1.4	4.1	2.8	3.5	2.8	3.2
Yavatmal	4.4	6.0	5.2	3.0	9.0	5.9	3.7	7.4	5.6
Wardha*	-	-	-	-	-	-	-	-	-
Nagpur*	-	-	-	-	-	-	-	-	-
Bhandara*	-	-	-	-	-	-	-	-	-
Gondiya*	-	-	-	-	-	-	-	-	-
Gadchiroli*	-	-	-	-	-	-	-	-	-
Chandrapur	1.8	5.4	3.5	2.8	3.5	3.1	2.3	4.5	3.3
State	3.1	3.5	3.3	8.3	10.3	9.3	5.7	6.9	6.3

* Inadequate sample size for district level estimates

Table 5B (U)

Districtwise percentage of persons reporting ailment (PAP) during last 15 days

District	Urban								
	State			Central			Pooled		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Thane	6.5	10.4	8.4	14.5	17.0	15.7	9.6	12.7	11.1
Mumbai	5.8	8.8	7.2	13.3	16.0	14.6	8.7	11.6	10.1
Raigad*	-	-	-	-	-	-	-	-	-
Ratnagiri*	-	-	-	-	-	-	-	-	-
Sindhudurg*	-	-	-	-	-	-	-	-	-
Pune	6.2	4.7	5.5	15.2	14.5	14.8	9.7	8.5	9.1
Solapur	0.8	2.2	1.5	18.9	15.8	17.5	6.8	6.2	6.5
Satara*	-	-	-	-	-	-	-	-	-
Kolhapur	2.5	0.5	1.5	6.7	11.7	9.2	4.2	5.1	4.6
Sangli	1.9	2.4	2.1	16.4	11.5	14.0	6.5	5.3	5.9
Ahmadnagar*	-	-	-	-	-	-	-	-	-
Nandurbar*	-	-	-	-	-	-	-	-	-
Dhule	1.3	2.8	2.0	0.8	0.0	0.4	1.2	2.2	1.7
Jalgaon	0.0	0.1	0.1	3.5	9.0	7.7	2.2	6.3	4.1
Nashik	6.6	7.3	6.9	12.5	13.0	12.7	9.1	9.96	9.5
Nanded	0.3	0.9	0.6	4.4	4.1	4.2	0.9	1.3	1.1
Hingoli*	-	-	-	-	-	-	-	-	-
Parbhani*	-	-	-	-	-	-	-	-	-
Jalna*	-	-	-	-	-	-	-	-	-
Aurangabad	0.4	1.5	0.9	4.6	5.2	4.9	2.1	3.0	2.5
Bid*	-	-	-	-	-	-	-	-	-
Latur*	-	-	-	-	-	-	-	-	-
Osmanabad*	-	-	-	-	-	-	-	-	-
Buldhana*	-	-	-	-	-	-	-	-	-
Akola*	-	-	-	-	-	-	-	-	-
Washim*	-	-	-	-	-	-	-	-	-
Amravati	1.2	2.0	1.6	5.4	6.6	6.0	3.9	4.9	4.4
Yavatmal*	-	-	-	-	-	-	-	-	-
Wardha*	-	-	-	-	-	-	-	-	-
Nagpur	6.1	4.2	5.2	4.5	6.2	5.3	5.4	5.1	5.2
Bhandara*	-	-	-	-	-	-	-	-	-
Gondiya*	-	-	-	-	-	-	-	-	-
Gadchiroli*	-	-	-	-	-	-	-	-	-
Chandrapur*	-	-	-	-	-	-	-	-	-
State	4.7	5.9	5.3	11.5	12.2	11.9	7.5	8.5	7.9

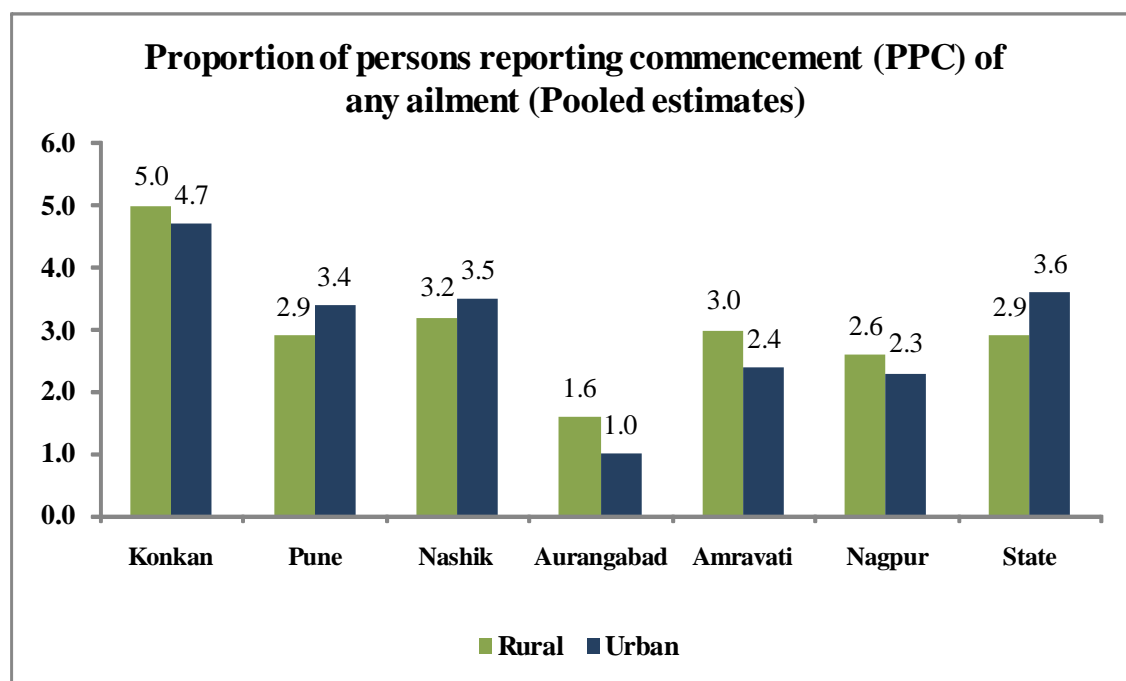
* Inadequate sample size for district level estimates

Commencement of any ailment

2.8 Information on commencement of any ailment during the 15 days preceding the date of survey was sought from the respondents. The Proportion of Persons reporting Commencement of any ailment (PPC) during last 15 days as estimated from the survey results is given in Table 6. In the case of estimates of PPC, the Central sample estimates are found to be higher than that of the State sample. The PPC for rural areas is slightly less than that for urban areas at the state level. However, the same is not true for sub-state level estimates for some divisions/districts. Also, though in the rural and urban areas of the Konkan division the PPC and PAP both are found to be highest, the same pattern is not observed elsewhere, indicating that there may not be any direct co-relation between the PPC and PAP.

Table 6A
Divisionwise proportion of persons reporting commencement (PPC) of any ailment during last 15 days

Division	Rural			Urban		
	State	Central	Pooled	State	Central	Pooled
Konkan	1.8	8.1	5.0	3.9	5.8	4.7
Pune	1.5	4.3	2.9	1.6	6.5	3.4
Nashik	1.3	5.2	3.2	2.4	4.9	3.5
Aurangabad	0.8	2.5	1.6	0.3	1.9	1.0
Amravati	2.3	3.8	3.0	2.1	2.6	2.4
Nagpur	2.3	2.9	2.6	1.8	2.8	2.3
<i>State</i>	<i>1.6</i>	<i>4.3</i>	<i>2.9</i>	<i>2.6</i>	<i>5.0</i>	<i>3.6</i>



Among the districts with adequate sample size for deriving estimates, Ratnagiri has the highest (8.0 percent) PPC in rural and Thane in the urban areas (4.7 percent).

Table 6B
Districtwise proportion of persons reporting commencement (PPC) of any ailment during the last 15 days

District	Rural			Urban		
	State	Central	Pooled	State	Central	Pooled
Thane	1.2	9.6	5.3	3.8	6.0	4.7
Mumbai	Not applicable			4.0	5.6	4.6
Raigad*	2.5	4.6	3.5	-	-	-
Ratnagiri*	2.6	12.4	8.0	-	-	-
Sindhudurg*	-	-	-	-	-	-
Pune	3.2	6.0	4.6	2.3	4.9	3.3
Solapur	1.2	3.5	2.2	1.0	8.2	3.3
Satara*	1.5	2.1	1.8	-	-	-
Kolhapur	0.4	4.5	2.3	0.3	2.4	1.2
Sangli	1.0	5.0	2.9	0.4	5.8	2.1
Ahmadnagar*	1.1	7.9	4.4	-	-	-
Nandurbar*	-	-	-	-	-	-
Dhule	0.3	3.1	1.7	1.4	0.0	1.1
Jalgaon	1.5	3.5	2.4	0.0	4.3	2.9
Nashik	2.1	5.1	3.6	2.9	8.2	5.2
Nanded	1.1	0.3	0.6	0.0	0.8	0.1
Hingoli*	-	-	-	-	-	-
Parbhani*	-	-	-	-	-	-
Jalna*	0.5	2.5	1.8	-	-	-
Aurangabad	0.7	5.5	2.8	0.7	0.6	0.6
Bid*	0.1	2.0	0.9	-	-	-
Latur*	1.1	0.3	0.7	-	-	-
Osmanabad*	-	-	-	-	-	-
Buldhana*	3.3	3.9	3.6	-	-	-
Akola*	-	-	-	-	-	-
Washim*	-	-	-	-	-	-
Amravati	0.2	2.4	1.2	0.6	2.7	2.0
Yavatmal*	2.5	4.1	3.3	-	-	-
Wardha*	-	-	-	-	-	-
Nagpur*	-	-	-	2.5	2.9	2.7
Bhandara*	-	-	-	-	-	-
Gondiya*	-	-	-	-	-	-
Gadchiroli*	-	-	-	-	-	-
Chandrapur*	1.0	2.3	1.6	-	-	-
State	1.6	4.3	2.9	2.6	5.0	3.6

* Inadequate sample size for district level estimates

Cost of treatment

2.9 During the survey, information on expenses incurred for medical treatment was collected for each case of hospitalization for hospitalized treatment. In the case of non-hospitalized treatment, expenses for the ailing person as a whole, irrespective of the number of spells and type of ailment were sought. The information on average medical expenditure per hospitalization case is given in table 7 while average total expenditure per treated person for persons reporting ailment during last 15 days prior to the date of survey is given in table 8. The average expenditure per hospitalization case is found to be Rs. 6358 in rural and Rs. 9477 in urban areas at the state level.

2.10 Pune division in the rural areas and Konkan division in the urban areas show highest level of average medical expenditure per hospitalization case (Ref. table 7A). The medical expenditure for hospitalization is higher in the urban areas compared to the rural areas in all districts. Information on institutional as well as non-institutional medical expenditure is also collected in the consumer expenditure surveys, but the main focus of those surveys is different, being collection of data on all types of consumption expenditures. Therefore the expenditure levels available from those surveys cannot be directly compared with the expenditure levels obtained from the present type of targeted survey.

2.11 Among the districts with adequate sample size for district level estimates, Dhule in rural areas and Pune in urban areas have highest average medical expenditure per hospitalization case. Amravati district has the lowest such expenditure in both rural and urban areas.

Table 7A
Divisionwise average medical expenditure (Rs.) per hospitalization case

Division	Rural			Urban		
	State	Central	Pooled	State	Central	Pooled
Konkan	6,821	5,611	6,102	12,689	10,690	11,477
Pune	10,550	6,867	8,727	8,830	8,764	8,797
Nashik	6,369	7,091	6,723	7,096	9,192	8,258
Aurangabad	5,213	8,061	6,716	4,661	8,962	7,242
Amravati	4,658	4,563	4,597	6,711	4,591	5,164
Nagpur	4,291	3,664	3,864	6,267	7,168	6,825
<i>State</i>	<i>7,011</i>	<i>6,155</i>	<i>6,538</i>	<i>9,749</i>	<i>9,251</i>	<i>9,477</i>

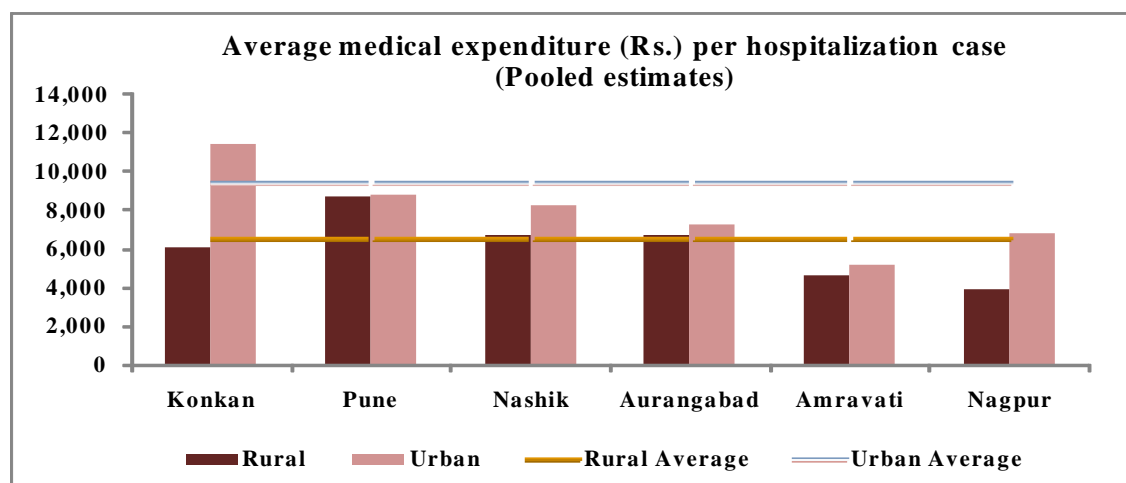


Table 7B
Districtwise average medical expenditure (Rs.) per hospitalization case

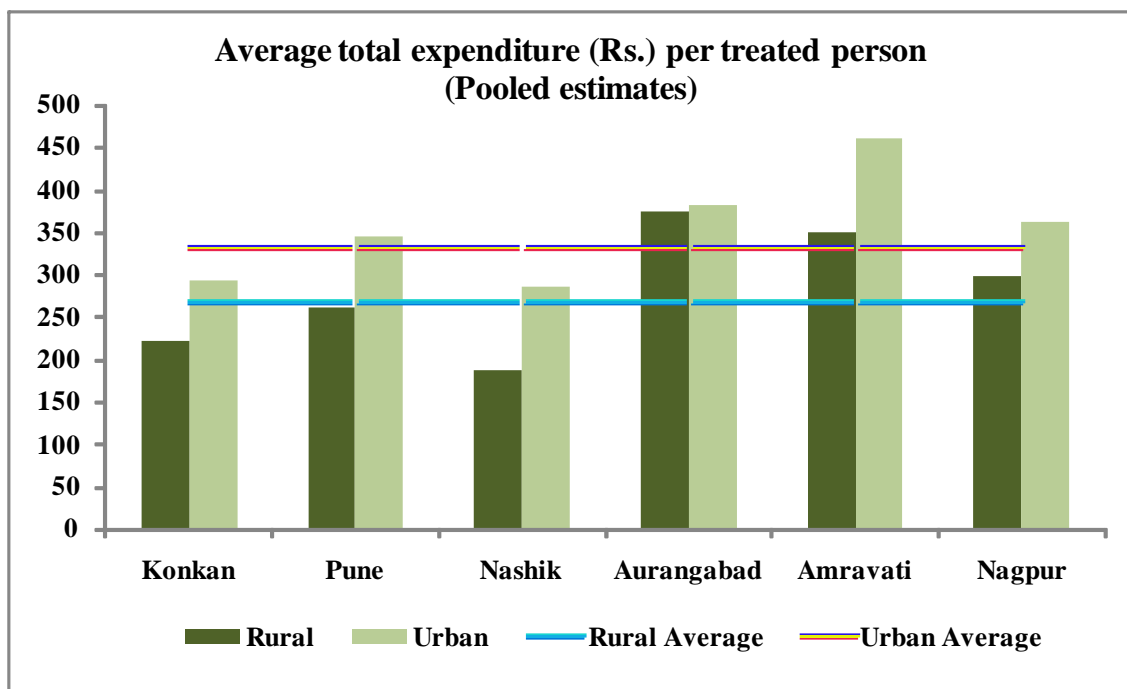
District	Rural			Urban		
	State	Central	Pooled	State	Central	Pooled
Thane	7,725	5,092	5,846	12,333	9,168	10,606
Mumbai	Not Applicable			13,008	12,193	12,615
Raigad*	6,860	7,185	7,030	-	-	-
Ratnagiri*	5,591	5,204	5,344	-	-	-
Sindhudurg*	-	-	-	-	-	-
Pune	9,521	6,529	8,109	9,404	11,663	10,256
Solapur	10,269	6,173	8,228	6,986	3,709	5,648
Satara*	8,357	9,597	8,884	-	-	-
Kolhapur	11,740	8,732	10,041	7,270	4,054	5,027
Sangli	15,096	4,645	9,378	5,249	6,702	5,743
Ahmadnagar*	6,051	8,854	7,299	-	-	-
Nandurbar*	-	-	-	-	-	-
Dhule	13,366	7,252	10,470	4,756	10,577	5,859
Jalgaon	3,324	3,664	3,545	4,029	7,760	6,362
Nashik	5,678	4,329	5,078	7,070	10,301	8,543
Nanded	3,873	7,079	5,712	4,525	7,096	4,952
Hingoli*	-	-	-	-	-	-
Parbhani*	-	-	-	-	-	-
Jalna*	5,900	7,303	6,623	-	-	-
Aurangabad	5,947	7,366	6,448	4,623	14,331	9,599
Bid*	3,249	5,027	3,859	-	-	-
Latur*	5,550	8,080	7,097	-	-	-
Osmanabad*	-	-	-	-	-	-
Buldhana*	5,671	5,306	5,412	-	-	-
Akola*	-	-	-	-	-	-
Washim*	-	-	-	-	-	-
Amravati	2,039	2,909	2,646	2,806	3,571	3,501
Yavatmal*	3,067	6,016	4,980	-	-	-
Wardha*	-	-	-	-	-	-
Nagpur*	-	-	-	4,986	8,103	6,445
Bhandara*	-	-	-	-	-	-
Gondiya*	-	-	-	-	-	-
Gadchiroli*	-	-	-	-	-	-
Chandrapur*	2,810	3,696	3,287	-	-	-
State	7,011	6,155	6,538	9,749	9,251	9,477

* Inadequate sample size for district level estimates

2.12 The average expenditure per treated person during last 15 days is found to be Rs. 270 in rural and Rs. 332 in urban areas. From the Divisionwise estimates it is observed that this expenditure is highest (Rs. 375) in Aurangabad division for rural areas and Amravati division (Rs. 461) for urban areas, while it is lowest in Nashik Division for both rural and urban areas.

Table 8A
Divisionwise average total expenditure (Rs.) per treated person during last 15 days

Division	Rural			Urban		
	State	Central	Pooled	State	Central	Pooled
Konkan	270	206	221	375	253	293
Pune	313	242	260	411	331	346
Nashik	195	186	188	376	242	285
Aurangabad	440	361	375	515	366	381
Amravati	217	449	350	269	553	461
Nagpur	368	244	298	620	222	362
State	287	264	270	391	291	332



Among the districts with adequate sample size for district level estimation, Buldhana in rural and Amravati in urban areas have highest average expenditure per treated person

Table 8B
Districtwise average total expenditure (Rs.) per treated person during last 15 days

District	Rural			Urban		
	State	Central	Pooled	State	Central	Pooled
Thane	340	214	235	354	201	269
Mumbai	Not Applicable			386	288	329
Raigad*	296	269	280	-	-	-
Ratnagiri*	167	186	184	-	-	-
Sindhudurg*	-	-	-	-	-	-
Pune	468	285	332	385	377	380
Solapur	161	206	189	235	706	618
Satara*	252	336	296	-	-	-
Kolhapur	318	282	284	1737	217	480
Sangli	296	121	149	201	157	168
Ahmadnagar*	274	157	176	-	-	-
Nandurbar*	-	-	-	-	-	-
Dhule	61	320	300	799	100	772
Jalgaon	135	254	227	75	278	284
Nashik	153	163	160	243	207	227
Nanded	28	575	394	746	375	608
Hingoli*	-	-	-	-	-	-
Parbhani*	-	-	-	-	-	-
Jalna*	93	473	351	-	-	-
Aurangabad	918	192	385	353	591	533
Bid*	591	256	299	-	-	-
Latur*	275	863	648	-	-	-
Osmanabad*	-	-	-	-	-	-
Buldhana*	263	484	401	-	-	-
Akola*	186	360	268	-	-	-
Washim*	-	-	-	-	-	-
Amravati	205	295	239	190	833	851
Yavatmal*	206	527	374	-	-	-
Wardha*	-	-	-	-	-	-
Nagpur*	-	-	-	634	165	410
Bhandara*	-	-	-	-	-	-
Gondiya*	-	-	-	-	-	-
Gadchiroli*	-	-	-	-	-	-
Chandrapur*	184	85	138	-	-	-
State	287	264	270	391	291	332

* Inadequate sample size for district level estimates

--X--

Annexure I

Procedure of pooling

1. In pursuance of the recommendation of the then Governing Council of the NSSO, a technical group was set up by the Department of Statistics in November, 1981 under the Chairmanship of Shri S.C.Chaudhari, ex-Chief Executive Officer of NSSO, to look into the problem and to suggest measures for pooling of results based on the Central and State samples. The Group, in its report submitted in July, 1983, recommended that the estimates based on Central and State samples may be combined as a weighted average with the number of primary sampling units as weights at the stratum level.

2. Before calculating the multipliers for the pooled data (Central and State samples), the multipliers for Central and State samples were calculated separately by using the following formulae:

(a) **Multiplier for Central sample:**

Rural areas:

The multiplier for all the sample households of i^{th} village in the Central sample of k^{th} stratum is calculated by the formula:

$$M_{ki(c)} = P_k \times \frac{H_{ki} \times D_{ki}}{n_{kv(c)} \times p_{ki} \times C_{ki} \times h_{ki}}$$

where

- $M_{ki(c)}$ = Multiplier for i^{th} village of k^{th} stratum of the Central sample,
- P_k = Total population in the frame of k^{th} stratum in the rural stratum,
- H_{ki} = Total number of households listed in i^{th} village of k^{th} stratum,
- D_{ki} = Number of hamlet groups in the i^{th} village of k^{th} stratum,
- $n_{kv(c)}$ = Number of sample villages in k^{th} stratum in the Central sample,
- p_{ki} = sample population of i^{th} village of k^{th} stratum,
- C_{ki} = Number of census villages in i^{th} village of k^{th} stratum,
- h_{ki} = Number of sample households in i^{th} village of k^{th} stratum.

Urban areas: The multiplier for all the sample households of j^{th} block of Central sample of k^{th} stratum is calculated by the formula:

$$M_{kj(c)} = \frac{N_{ku} \times H_{kj} \times D_{kj}}{n_{ku(c)} \times h_{kj}}$$

where $M_{kj(c)}$, D_{kj} , H_{kj} , h_{kj} have the same meaning as earlier and

- N_{ku} = Total number of urban blocks in the frame of k^{th} stratum,
- $n_{ku(c)}$ = Number of sample urban blocks in k^{th} stratum.

(b) **Multiplier for State sample:**

Rural areas:

The multiplier for all the sample households of ith village of State sample in kth stratum was calculated by the formula:

$$M_{kl(s)} = \frac{P_k \times H_{kl} \times D_{kl}}{n_{kv(s)} \times P_{kl} \times C_{kl} \times h_{kl}}$$

Urban areas:

The multiplier for all the sample households of mth block of State sample in kth stratum was calculated by the formula:

$$M_{km(s)} = \frac{N_{ku} \times H_{km} \times D_{km}}{n_{ku(s)} \times h_{km}}$$

where these terms have the same meaning as earlier and 's' stands for State sample.

(c) **Multiplier for Pooled sample:**

The pooled multiplier is calculated using the following formulae:

Pooled multiplier for Central sample data

$$M'_{ki(c)} = M_{ki(c)} \times \frac{n_{kv(c)}}{n_{kv(c)} + n_{kv(s)}}$$

$$M'_{kj(c)} = M_{kj(c)} \times \frac{n_{ku(c)}}{n_{ku(c)} + n_{ku(s)}}$$

Pooled multiplier for State sample data

$$M'_{kl(s)} = M_{kl(s)} \times \frac{n_{kv(s)}}{n_{kv(c)} + n_{kv(s)}}$$

$$M'_{km(s)} = M_{km(s)} \times \frac{n_{ku(s)}}{n_{ku(c)} + n_{ku(s)}}$$

- X -

Annexure II

List of tables

Table No.	Title	Page No.
(1)	(2)	(3)
Pooled		
1A	Estimated number of households and persons by sex, average household size, sex ratio for each region	
1B	Estimated number of households and persons by sex, average household size, sex ratio for each district	
2A	Per 1000 distribution of households by type of structure for each MPCE class	
2B	Per 1000 distribution of households by type of structure for each MPCE class for each region	
2C	Per 1000 distribution of households by type of structure for each MPCE class for each district	
5A	No. per 1000 households treating water before drinking and per 1000 distribution of such household using type of water treatment for each mpce class	
5B	No. per 1000 households treating water before drinking and per 1000 distribution of such household using type of water treatment for each mpce class for each region	
5C	No. per 1000 households treating water before drinking and per 1000 distribution of such household using type of water treatment for each mpce class for each district	
35A	No. per 1000 of persons reporting ailment during the last 15 days by sex and age-group	
35B	No. per 1000 of persons reporting ailment during the last 15 days by sex and age-group for each region	
35C	No. per 1000 of persons reporting ailment during the last 15 days by sex and age-group for each district	

- X -