

Chapter 2

Technical Description

Introduction

This chapter provides the sampling design and the guidelines for the users of the *Census of India Housing Microdata Sample (CIHMS)* files. It also provides the formulae used for deriving the estimates based on sample data.

Sample Design

The sample design for selecting the CIHMS is based on the objectives of providing sample data to the users for generating reliable tailor made cross-tabulation at affordable cost. This sample would enable the data users to generate dependable estimates for different geographic domains down to the district level. To maintain the confidentiality of the Census Houselist data, the identification particulars below the district level have been excluded from CIHMS files.

The CIHMS comprised of houses which are used as “residence” and “residence-cum-other”, as detailed information on housing assets and amenities are available only for these two categories. The other types of buildings, i.e., shop, school, hotel, factory, etc. are not covered in the CIHMS. The ultimate sampling unit is the household, and the data users can analyze the characteristics at the household level.

There are two types of CIHMS files, one for state level sample and the other for national level sample. However, the CD contains only one of the data sets.

Sampling Design for State CIHMS

For State CIHMS, the smallest geographic domain is a district with different sampling proportions depending on the size of the district population. A 5 percent sample of households is selected for districts having population of 100,000 or more, whereas, for smaller districts with population less than 100,000 it is 10 percent. This sampling proportion will provide a minimum sample size of 5,000 households for each large district. As per Census of India, 2001, 571 out of the 593 districts have a population 100,000 or more, whereas, only 22 districts have population less than 100,000 which mostly fall in smaller states and union territories.

The sample design adopted is a uni-stage stratified systematic random sample. To improve the sampling efficiency, the household within each district were first stratified into homogeneous groups using following variables for the stratification:

- (1) Place of enumeration, 2 categories:
 - 1 - Urban
 - 2 - Rural

- (2) Tenancy, 3 categories:
 - 1 - Owned
 - 2 - Rented
 - 3 - Other

- (3) Type of House, 3 categories:
 - 1 - Pucca (permanent)
 - 2 - Kutcha (temporary)
 - 3 - Semi-pucca (semi-permanent)

- (4) Electricity, 2 categories:
 - 1 - Available
 - 2 - Not available

- (5) Improved drinking water, 2 categories:
 - 1 - Improved source of drinking water
 - 2 - Other

(The description of the stratification variables is presented in Annex-3.)

Using the above stratification variables, 72 strata are formed in each district. Within each of the 72 strata, the households were further sorted by the geographic codes: Tahsil/ Taluk/ P.S./ Development Block/ Circle/ Mandal, Town/ Village, Ward (for urban), Houselisting Block Number, and Household Number. To ensure a proportional and representative sample from each of the 72 strata within each district, random systematic sampling based on the sorted frame of households was used. This provides implicit stratification by place of enumeration, tenancy, type of house, electricity, improved drinking water and geography.

In the case of a systematic 5 percent sample within a district, a random number between 1 and 20 was selected to identify the first household record to be selected. Beginning with this random start, every 20th household record was selected systematically throughout the entire ordered frame. For the systematic sample of 10 percent in the districts with a population of less than 100,000, a random number between 1 and 10 was selected, and every 10th household was selected systematically.

The sample households within a district of a particular state are aggregated to form state level sample. Thus, in a state sample there may be some districts with a 5-percent sample and some with a 10-percent sample.

Sampling Design for National CIHMS

The National CIHMS is an aggregate of 20 percent or 10 percent sub samples of 5 percent sample or 10 percent sample respectively selected at district level for state sample using the same implicit stratification, which effectively give the 1 percent sample of total households at national level. For example, in the case of the districts with a 5 percent sample of households, a random systematic sub sample of 1 in 5 households was selected from the 5 percent sample, keeping the original order of selection based

on the stratification criteria. A random systematic sub sample of 1 in 10 households was selected from the 10 percent sample for the smaller districts. The national CIHMS will enable us to generate the reliable estimates at state level only. For this purpose, the identity of the districts has been concealed by replacing their location codes by 99 in the 1 percent national level CIHMS file.

Weighting the Sample Data

As the CIHMS is a sample data from the Census of India 2001 Houselist records, it is necessary to apply a weight or expansion factor to generate the estimates for making inferences for the entire population at districts/state/national levels. The selection of the weight would depend upon the level of aggregation. The weight is calculated as the inverse of the sampling fraction. Therefore, the data records for districts with a 5 percent sampling rate are assigned a weight of 20, and those in districts with a 10 percent sampling rate are assigned a weight of 10. In the case of the 1 percent sample for the National CIHMS file, the weight is 100. The weights are included in the data file for use in the Census and Survey Processing (CSPPro) application or with any other software for generation of estimates of population parameter.

The weighted estimates of the total number of households with a particular characteristic will be the sum of the estimates for the households with that characteristic. In the case of ratios and proportions, both the numerator and denominator would be estimated separately using corresponding weights. Software such as CSPPro and SPSS can automatically weight the survey data once the weight is specified in the application.

The CIHMS file contains individual weights for each household, which when applied to the individual records, expands the sample to the relevant total.

Estimation Procedure

Most of the estimates that users will make from the CIHMS will be the weighted total number of households with particular characteristics. Since the total number of households in the frame for the district or state is known, the weighted estimate of the total number of households with a particular characteristic would be equivalent to:

$$\hat{Y} = N \times \hat{p},$$

where:

\hat{Y} = weighted total number of households in the geographic domain (for example, district or state) with a particular characteristic as estimated from CIHMS

N = total number of households in the frame for the geographic domain, from the Census Houselist 100 percent data

\hat{p} = proportion of households in geographic domain with a particular characteristic as estimated from CIHMS

The weighted estimates produced from the CIHMS files are subject to two types of errors: sampling errors and non-sampling errors. The sampling errors are due to the fact that the estimates are based on a sample of the Census of India 2001 Houselist data, not on the 100 percent data used to produce the published results. Another sample would give slightly different results. The sampling error is a measure of the average variability among the estimates from all possible samples, so it is an indicator of the precision of the sample estimate. The non-sampling errors include all other types of error, which affect the Census Houselist data, including response error, coding and processing errors. The quality control procedures in the census operations were designed to reduce the non-sampling errors as much as possible.

The sampling error of an estimate is measured statistically by the standard error, or square root of the variance of the estimate. The standard error decreases according to the square root of the sample size, so it depends on the size of the population and the sampling rate.

For estimates of weighted totals, the formula for the standard error based on simple random sampling without replacement would be the following:

$$se(\hat{Y})_{SRS(WOR)} = \sqrt{N^2 \times (1-f) \times \frac{\hat{p} \times (1-\hat{p})}{n}},$$

which can be simplified as,

$$se(\hat{Y})_{SRS(WOR)} = \sqrt{(1-f) * \hat{Y} * \frac{(N - \hat{Y})}{Nf}},$$

$f = \frac{n}{N}$ = sampling fraction used for selecting the particular CIHMS (for example, 0.05 or 0.10 for district-level samples)

n = total number of sample households in the CIHMS file in the domain of estimation

N = total number of households in the strata

\hat{Y} = estimated total

The term $(1-f)$ is referred to as the finite population correction factor. It reduces the standard error when the sampling rate is increased. In the case of the 1 percent national sample, it will not make much difference in the calculation of the standard error.

The sampling procedures used for selecting the sample household records for the CIHMS file is actually slightly more efficient than a simple random sample. The stratification in the sample design results in design effects, which are generally less than one. The design effect defined as the ratio of the variance of an estimate based on the actual sample design to by the corresponding variance from a simple random sample of the same size and is a measure of the relative efficiency of the design. Therefore, the standard errors calculated using the formula above can be considered to be slight overestimate of the actual standard errors, but it provides a good approximation for obtaining the standard error. The formulas above were used to produce a generalized table of standard errors, which can be used to obtain the approximate standard error for a particular estimate, given in Anenex-1, from the CIHMS.

While estimating ratios where both the numerator and denominator would be estimated separately using corresponding weights, then the calculation of standard error includes variance and covariance of both the variables. Such variance of the ratio can be calculated using Standard Statistical software packages, like CENVAR.

For the convenience of the users, three tables of generalized standard errors are presented in Annex 1 for estimates based on a 5 percent sample of the Census Houselist records. These standard errors were calculated using the formulas for a simple random sample without replacement.

Table 1 in Annex 1 shows the standard errors for CIHMS estimates of totals. In order to use this table, it is necessary to know the estimate of the total for a particular characteristic and the approximate total number of households in the Census Houselist frame for that domain.

Example 1: If the estimated number of households with a roof of grass/thatch/bamboo and having electricity in a district is 5000 and the number of electrified households in the district is 1,00,000, then the standard error of the estimated total will be calculated from Table 1. First look for the estimated total 5000 in the row and then look for stratum size, the total number of the electrified households, 1,00,000 in the column. The figure shown at the intersection of this row and the column is 300, which is the approximate standard error of this estimate. We can calculate the 95 percent confidence interval for this estimate as follows:

$$\hat{Y} \pm 1.96 \times se(\hat{Y})_{SRS(WOR)} = 5,000 \pm 1.96 \times 300 = 5,000 \pm 588$$

Therefore the lower limit of the 95 percent confidence interval is 4,412 and the upper limit is 5,588. This means that there is a 95 percent chance that the true number of households with a roof of grass/thatch/bamboo in this district is between 4,412 and 5,588.

Example 2: Suppose one wants to get the state level estimate for the population total, then the state estimate will be the sum of district estimates. The

standard error of such an estimate will be the sum of district level estimates is the sum of district estimates. The standard error will be given by the square root of the sum of the variances of the district estimates. If the y_1, y_2, \dots, y_n are the estimated totals at district level for 1st, 2nd, ..., and nth district respectively and y is the estimated total at state level, then the formula for the standard error of y will be

$$\text{S.E.}(y) = \text{SQRT}(V(y_1) + V(y_2) + \dots + V(y_n))$$

where $V(y_1), V(y_2), \dots, V(y_n)$ are estimated standard error of estimated totals y_1, y_2, \dots, y_n at district level.

Suppose there are '3' districts in a region for which we estimate the number of households living in household with grass/thatch/bamboo roof and having electricity we proceed as follows:

Using Table 1, create the following table:

Table

District number	Estimated number of thatched households with electricity		Total number of electrified households		Estimated Standard error	
	Rural	Urban	Rural	Urban	Rural	Urban
1	500	250	25,000	5,000	96	67
2	500	1,000	50,000	10,000	97	131
3	5,000	2,500	25,000	5,000	276	154
Total	6,000	3,750	1,00,000	20,000		

The estimated standard error of the total number of households with thatched roof and electricity is 9750. The standard error of the estimated total is

$$\text{S.E.}(9750) = \text{SQRT}(96^2 + 97^2 + 276^2 + 67^2 + 131^2 + 154^2) = 352$$

However, using the simple formula used in the technical note for preparing Table 1, the standard error will be

$$\text{SQRT}(9750 * (120000 - 9750) * (1 - 0.05) / (120000 * 0.05)) = 413$$

The difference is mainly due to the effect of the deep stratification adopted on the precision of the estimate. Thus, the standard errors calculated using the formula used in the Table 1 is slight overestimates of the actual standard errors, but it provides a good approximation for obtaining the standard error.

When an estimate or the total number of households in the population is in between the row and column categories in Table 1, the values in this table can be interpolated to obtain an approximate estimate of the standard error.

Example 3: Suppose the sample estimate of the total number of households with a roof of grass/thatch/bamboo for a particular state is 80,000, and the total number of households in the state is 2,000,000. In this case, first one has to interpolate the

standard error for estimated total of 80,000 (which lies between the estimated totals of 75,000 and 100,000) in the row categories corresponding to the total number of households in the state 1,000,000 and 5,000,000 (as the 2,000,000 lies in between 1,000,000 and 5,000,000) respectively. Thereafter, the one has to interpolate the standard error for estimated total of 80,000 corresponding to the total number of households in the state 2,000,000 in the column categories. This can be illustrated as follows:

For estimated total of 75,000 and size of population 1,000,000 the corresponding standard error is 1148, whereas, for estimated total of 100,000 and size of population 1,000,000 the corresponding standard error is 1308. Since for the difference of 25,000 in estimated total for the size of population 1,000,000 the corresponding difference in standard error is 160. Therefore, for the difference of 5,000 in estimated total for the size of population 1,000,000 the corresponding difference in standard error would be 32. Thus, the standard error for estimated total of 80,000 corresponding to the total number of households in the state 1,000,000 in the column categories would be 1180. Similarly, one can interpolate the standard error for estimated total of 80,000 corresponding to the total number of households in the state 5,000,000 in the column categories, which would be 1221.

Now, the user has to interpolate the standard error for estimated total of 80,000 corresponding to the total number of households in the state 2,000,000 (which lies in between 1,000,000 and 5,000,000) in the column categories. Since the estimated total of 80,000 and size of population 1,000,000 the corresponding interpolated standard error is 1180, whereas, for estimated total of 80,000 and size of population 5,000,000 the corresponding interpolated standard error is 1221. It means that for the difference of 4,000,000 in the size of population for the estimated total of 80,000 the corresponding difference in standard error is 41 (i.e., 1221-1180). Therefore, for the difference of 4,000,000 in the size of population for the estimated total of 80,000 the corresponding difference in standard error would be 10.25 (i.e., $41 \times 1,000,000 / 4,000,000$). Thus, the standard error for estimated total of 80,000 corresponding to the total number of households in the state 2,000,000 in the column categories would be 1190.25 (i.e., $1180 + 10.25$) which is approximately 1190. As the standard error does not vary linearly according to the sample size, this interpolation give only an approximated estimate.

Now, we can calculate the 95 percent confidence interval for this estimate as follows:

$$\hat{Y} \pm 1.96 \times se(\hat{Y})_{SRS(WOR)} = 85,000 \pm 1.96 \times 1,180 = 80,000 \pm 2,312.8$$

Therefore the lower limit of the 95 percent confidence interval is 77,687 and the upper limit is 82,313. This means that there is a 95 percent chance that the true number of households with a roof of grass/thatch/bamboo in this state is between 77,687 and 82,313.

Some users may prefer to calculate the coefficient of variation (CV) or relative standard error of the estimate of a total, which is defined as the standard error divided by the value of the estimate. Table 2 in Annex 1 shows the CVs for estimates of totals from the 5 percent sample data. This generalized table of CVs would be used in a similar way as Table 1, with the value of the sample estimate appearing in the row categories and the total number of households in the geographic domain indicated in the column categories.

The percentage relative standard error (PRSE) of estimated totals has been calculated using the formula:

$$PRSE(\hat{Y})_{SRS(WOR)} = \sqrt{(1-f) \times \frac{(N-\hat{Y})}{\hat{Y} * Nf}}$$

Data users may also be interested in obtaining sample estimates of the proportion of households with a particular characteristic. In the case of the sample estimate of a proportion, the standard error based on simple random sampling without replacement would be the following:

$$se(\hat{p})_{SRS(WOR)} = \sqrt{(1-f) \times \frac{\hat{p} \times (1-\hat{p})}{Nf}}$$

Table 3 in Annex 1 presents the approximate standard errors for estimates of percentages based on a 5 percent sample of Census Houselist records, calculated using the formula above. In the row categories the percentage and its complement are grouped together since they have the same standard error. The column categories refer to the total number of households in the geographic domain, similar to Tables 1 and 2.

The standard error for proportion, \hat{p} , is the same as its counter part $(1-\hat{p})$. The difference is, however, in the relative standard error.

The relative standard error (RSE) for \hat{p} is given by the formula

$$RSE(\hat{p})_{SRS(WOR)} = \sqrt{(1-f) \times \frac{(1-\hat{p})}{Nf\hat{p}}}$$

The relative standard error for $(1-\hat{p})$ is given by the formula

$$RSE(1 - \hat{p})_{SRS(WOR)} = \sqrt{(1 - f) \times \frac{\hat{p}}{Nf(1 - \hat{p})}}$$

Data Format

The 2001 Census of India Housing Microdata Sample (CIHMS) data files are available in ASCII format (text files). Users of the CD-ROM may access the CIHMS data with any standard statistical software packages. The CD-ROM with software is designed to perform basic cross tabulations of any desired set of variables on the CIHMS file. The CIHMS files are accompanied by a CSpPro data dictionary (see Annex-2) in a format that will allow the user to tabulate data using CSpPro Software. The dictionary for India is named "HLINDIA00.dcf", whereas, for the respective states these are named as "HLINDIA01.dcf" (for Jammu & Kashmir), "HLINDIA02.dcf" (for Himachal Pradesh) etc. Separately an additional file, 'INDIA.ANM' giving area names of all States/Union territories and Districts with corresponding codes, as per Census of India 2001, is also made available. Also, these files can be used in getting the desired results for the State and districts with name while doing tabulations through CSpPro. In case the user wants to use some other software for data processing, the CSpPro data dictionaries are to be transformed accordingly and the corresponding descriptions and values to the categories of each variable required by the software package of choice has to be prepared by the users. For this purpose, the details of every data item are given below:

Data Item provided CIHMS	Valid Field Value / Range	Starting position in CIHMS	Field Length
State	01:35 (refer Annex-4)	1	2
District	01: 70 (refer Annex-4) 99 (in national CIHMS)	3	2
Place of enumeration (Rural/ Urban)	2 Rural; 4 Urban	5	1
Ownership	1 Owned; 2 Rented; 3:9 Any Other	6	1
House Type	1 Permanent; 2 Temporary; 3,0 Semi Permanent	7	1
Electricity	1 Light Available; 2 Light Not Available	8	1
Improved Source of Drinking Water	1 Improved Source of Drinking Water; 2,0 Other Source of Drinking Water	9	1
Floor	1 Mud; 2 Wood/Bamboo; 3 Brick; 4 Stone; 5 Cement; 6 Mosaic/Floor Tiles; 7 Any Other	10	1
Wall	1 Grass/Thatch/Bamboo, etc.; 2 Plastic/Polythene; 3 Mud/Unburnt Brick; 4 Wood; 5 G.I./Metal/Asbestos/Sheets; 6 Burnt Brick; 7 Stone; 8 Concrete; 9 Any Other	11	1

Data Item provided CIHMS (continued)	Valid Field Value / Range	Starting position in CIHMS	Field Length
Roof	1 Grass/Thatch/ Bamboo/ Wood/ Mud,etc.; 2 Plastic/Polythene; 3 Tiles; 4 Slate; 5 G.I./Metal/Asbestos/Sheets; 6 Brick; 7 Stone; 8 Concrete; 9 Any Other	12	1
Purposes	1 Residence; 2 Residence cum Other Use	13	1
Condition	1 Good; 2 Livable; 3 Dilapidated	14	1
SC/ST	1 SC; 2 ST; 3 Others	15	1
Rooms	0, 1, 2, 3, 4, 5, 6:99	16	2
Couples	0, 1, 2, 3, 4, 5:99	18	2
Independent Rooms	0, 1, 2, 3, 4, 5, 6, 7, 8:10, 11:50, 51:99	20	2
Water Source	1 Tap; 2 Handpump; 3 Tubewell; 4 Well; 5:8 Any Other	22	1
Water Premises	1 Within the Premises; 2 Near the Premises; 3 Away	23	1
Light Source	1 Electricity; 2 Kerosene; 3 Solar; 4 Other Oil; 5 Any Other; 6 No Lighting	24	1
Latrine	0 No Latrine; 1 Service Latrine; 2 Pit Latrine; 3 Water Closet	25	1
Waste Water	1 Closed Drainage; 2 Open Drainage; 3 No Drainage	26	1
Bathroom	1 Yes; 2 No	27	1
Kitchen	1 Yes; 2 No; 3 Cooking in Open; 4 No Cooking	28	1
Fuel	1 Firewood; 2 Crop Residue; 3 Cow Dung Cake; 4 Coal/Lignite/Charcoal; 5 Kerosene; 6 LPG; 7 Electricity; 8 Bio Gas; 9 Any Other; 0 No Cooking		
Radio/Transistor	1 Yes; 2 No	30	1
Television	1 Yes; 2 No	31	1
Telephone	1 Yes; 2 No	32	1
Bicycle	1 Yes; 2 No	33	1
Scooter	1 Yes; 2 No	34	1
Car/Jeep	1 Yes; 2 No	35	1
Banking	1 Yes; 2 No	36	1
Weight		37	3
Sampling Rate		40	3

Data type for all the variables are numeric.

File and Record Description

The CIHMS files are of two types. One for the state level and the other for the national level sample. Both the state and national CIHMS contains houselisting records of 42 character length. In the State CIHMS, each record can be identified uniquely down to district level, while, in the national CIHMS, records can be identified down to state level only and the household are the ultimate units at this level.

In the State CIHMS, the identification particulars of households below district level are not provided in the data file. This is a sorted file with selected variables from the actual houselisting data file in each district. The sorting has been done by place of enumeration, tenancy, type of house, electricity, improved drinking water source and geography. The sorting has been done to get an implicit frame for sampling. Each line of record represents the basic information on selected variables of household characteristics of each household selected within the sample. Only residential and residential-cum-other houses are covered. Vacant and institutional houses etc. are excluded from the data file. Each record has been assigned housing unit weight depending on the size of the district.

The national CIHMS will enable us to generate the reliable estimates at state level only. For this purpose, the identity of the districts has been concealed by replacing their location codes by 99 in the 1 percent national level CIHMS file. The same implicit stratification as used for State CIHMS has been maintained for obtaining the national CIHMS.

ANNEXURES

Annex 1: Table 1. Standard Errors for Estimated Totals from CIHMS File for India Census Houselist Based on 5% Sample

Estimated Total	Size of Population (Total Number of Households in Domain)												
	500	1,000	2,500	5,000	10,000	25,000	50,000	100,000	250,000	500,000	1,000,000	5,000,000	10,000,000
50	29	30	31	31	31	31	31	31	31	31	31	31	31
100	39	41	43	43	43	44	44	44	44	44	44	44	44
250	49	60	65	67	68	69	69	69	69	69	69	69	69
500	-	69	87	92	95	96	97	97	97	97	97	97	97
1,000	-	-	107	123	131	135	136	137	138	138	138	138	138
2,500	-	-	-	154	189	207	212	215	217	217	218	218	218
5,000	-	-	-	-	218	276	292	300	305	307	307	308	308
10,000	-	-	-	-	-	338	390	414	427	432	434	435	436
15,000	-	-	-	-	-	338	447	492	518	526	530	533	533
25,000	-	-	-	-	-	-	487	597	654	672	681	687	688
75,000	-	-	-	-	-	-	-	597	999	1101	1148	1185	1189
100,000	-	-	-	-	-	-	-	-	1068	1233	1308	1365	1371
250,000	-	-	-	-	-	-	-	-	-	1541	1887	2124	2152
500,000	-	-	-	-	-	-	-	-	-	-	2179	2924	3004
1,000,000	-	-	-	-	-	-	-	-	-	-	-	3899	4135
2,000,000	-	-	-	-	-	-	-	-	-	-	-	-	5514
5,000,000	-	-	-	-	-	-	-	-	-	-	-	-	-

Formula used for estimating standard error for estimated totals:

$$se(\hat{Y})_{SRS(WOR)} = \sqrt{N^2 \times (1-f) \times \frac{\hat{p} \times (1-\hat{p})}{n}}$$

Annex 1: Table 2. Coefficients of Variation (Relative Standard Errors) for Estimated Totals from CIHMS File for India Census Houselist Based on 5% Sample

Estimated Total	Size of Population (Total Number of Households in Domain)												
	500	1,000	2,500	5,000	10,000	25,000	50,000	100,000	250,000	500,000	1,000,000	5,000,000	10,000,000
50	58.5%	60.1%	61.0%	61.3%	61.5%	61.6%	61.6%	61.6%	61.6%	61.6%	61.6%	61.6%	61.6%
100	39.0%	41.4%	42.7%	43.2%	43.4%	43.5%	43.5%	43.6%	43.6%	43.6%	43.6%	43.6%	43.6%
250	19.5%	23.9%	26.2%	26.9%	27.2%	27.4%	27.5%	27.5%	27.6%	27.6%	27.6%	27.6%	27.6%
500	-	13.8%	17.4%	18.5%	19.0%	19.3%	19.4%	19.4%	19.5%	19.5%	19.5%	19.5%	19.5%
1,000	-	-	10.7%	12.3%	13.1%	13.5%	13.6%	13.7%	13.8%	13.8%	13.8%	13.8%	13.8%
2,500	-	-	-	6.2%	7.5%	8.3%	8.5%	8.6%	8.7%	8.7%	8.7%	8.7%	8.7%
5,000	-	-	-	-	4.4%	5.5%	5.8%	6.0%	6.1%	6.1%	6.1%	6.2%	6.2%
10,000	-	-	-	-	-	3.4%	3.9%	4.1%	4.3%	4.3%	4.3%	4.4%	4.4%
15,000	-	-	-	-	-	2.3%	3.0%	3.3%	3.5%	3.5%	3.5%	3.6%	3.6%
25,000	-	-	-	-	-	-	1.9%	2.4%	2.6%	2.7%	2.7%	2.7%	2.8%
75,000	-	-	-	-	-	-	-	0.8%	1.3%	1.5%	1.5%	1.6%	1.6%
100,000	-	-	-	-	-	-	-	-	1.1%	1.2%	1.3%	1.4%	1.4%
250,000	-	-	-	-	-	-	-	-	-	0.6%	0.8%	0.8%	0.9%
500,000	-	-	-	-	-	-	-	-	-	-	0.4%	0.6%	0.6%
1,000,000	-	-	-	-	-	-	-	-	-	-	-	0.4%	0.4%
2,000,000	-	-	-	-	-	-	-	-	-	-	-	-	0.3%

Formula used for estimating coefficient of variation (CV) or relative standard error (RSE) of the estimate of a total:

$$CV = SE(\text{Estimate of total}) / (\text{Estimate of total})$$

Annex 1: Table 3. Standard Errors for Estimated Percentages from CIHMS File for India Census Houselist Based on 5% Sample

Estimated Percentage	Size of Population (Total Number of Households in Domain)													
	500	750	1,000	1,500	2,500	5,000	7,500	10,000	25,000	50,000	100,000	250,000	500,000	
2 or 98%	2.7	2.2	1.9	1.6	1.2	0.9	0.7	0.6	0.4	0.3	0.2	0.1	0.1	
5 or 95%	4.2	3.5	3.0	2.5	1.9	1.3	1.1	1.0	0.6	0.4	0.3	0.2	0.1	
10 or 90%	5.8	4.8	4.1	3.4	2.6	1.8	1.5	1.3	0.8	0.6	0.4	0.3	0.2	
15 or 85%	7.0	5.7	4.9	4.0	3.1	2.2	1.8	1.6	1.0	0.7	0.5	0.3	0.2	
20 or 80%	7.8	6.4	5.5	4.5	3.5	2.5	2.0	1.7	1.1	0.8	0.6	0.3	0.2	
25 or 75%	8.4	6.9	6.0	4.9	3.8	2.7	2.2	1.9	1.2	0.8	0.6	0.4	0.3	
30 or 70%	8.9	7.3	6.3	5.2	4.0	2.8	2.3	2.0	1.3	0.9	0.6	0.4	0.3	
35 or 65%	9.3	7.6	6.6	5.4	4.2	2.9	2.4	2.1	1.3	0.9	0.7	0.4	0.3	
40 or 60%	9.5	7.8	6.8	5.5	4.3	3.0	2.5	2.1	1.4	1.0	0.7	0.4	0.3	
50%	9.7	8.0	6.9	5.6	4.4	3.1	2.5	2.2	1.4	1.0	0.7	0.4	0.3	

Formula used for estimating standard error for estimated proportions :

$$se(\hat{p})_{SRS(WOR)} = \sqrt{(1-f) \times \frac{\hat{p} \times (1-\hat{p})}{n}}$$

Annex 2: Details of CIHMS Data Dictionary used for CSPro Application:

File Name : HLINDIA00.dcf (For India sample); and
 HLINDIAnn.dcf (for State samples – 'nn' representing the state code)
 Path : C:\CIHMS\Dictionary\India\HLINDIA00.dcf (For India sample) and
 C:\CIHMS\State\CIHMS\Dictionary\HLINDIA0?.dcf (for State samples)
 Record Length : 42

Code	Item Label	Item Name	Start	Len	Data Type	Item Type	Occ	Dec	Decimal Char.	Zero Fill
	(record type)		0	0	AN	I	1	0	No	No
	H3STATE	(id)H3STATE	1	2	N	I	1	0	No	Yes
01	Jammu & Kashmir									
02	Himachal Pradesh									
03	Punjab									
04	Chandigarh									
05	Uttaranchal									
06	Haryana									
07	Delhi									
08	Rajasthan									
09	Uttar Pradesh									
10	Bihar									
11	Sikkim									
12	Arunachal Pradesh									
13	Nagaland									
14	Manipur									
15	Mizoram									
16	Tripura									

Code	Item Label	Item Name	Start	Len	Data Type	Item Type	Occ	Dec	Decimal Char.	Zero Fill
17	Meghalaya									
18	Assam									
19	West Bengal									
20	Jharkhand									
21	Orissa									
22	Chhatisgarh									
23	Madhya Pradesh									
24	Gujarat									
25	Daman & Diu									
26	D&N Haveli									
27	Maharashtra									
28	Andhra Pradesh									
29	Karnataka									
30	Goa									
31	Lakshadweep									
32	Kerala									
33	Tamil Nadu									
34	Pondicherry									
35	A&N Islands									

	H4DISTRICT	(id)H4DISTRICT	3	2	N	I	1	0	No	Yes
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01	District Name A									
02	District Name B									

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-	-----	-----								
-	-----	-----								

99 District code for India CIHMS file

Note: The District Name A, District Name B, are only symbols. The actual district names will appear in the dictionary once the state is selected. For example, if Goa is selected, North Goa and South Goa will appear in the table. For details of districts and their codes see Annex-4.

Code	Item Label	Item Name	Start	Len	Data Type	Item Type	Occ	Dec	Decimal Char.	Zero Fill
2 4	RURAL_URBAN Rural Urban	(id)RURAL_URBAN	5	1	N	I	1	0	No	Yes
1 2 3:9	H16_OWNERSHIP Owned Rented Any Other	(id)H16_OWNERSHIP	6	1	N	I	1	0	No	Yes
1 2 3,0	HOUSE_TYPE Permanent Temporary Semi-permanent	(id)TYPE_HOUSE	7	1	N	I	1	0	No	Yes
1 2	ELECTRICITY Light Available Light Not Available	(id)ELECTRICITY	8	1	N	I	1	0	No	Yes
1 2, 0	SAFE_DRINKING_WATER Improved Source of Drinking Water Other Source of Drinking Water	(id)SAFE_DRINKING_WATER	9	1	N	I	1	0	No	Yes
1 2 3 4 5 6 7	H04_FLOOR Mud Wood/Bamboo Brick Stone Cement Mosaic/Floor Tiles Any Other	H04_FLOOR	10	1	N	I	1	0	No	Yes

Code	Item Label	Item Name	Start	Len	Data Type	Item Type	Occ	Dec	Decimal Char.	Zero Fill
	H05_WALL	H05_WALL	11	1	N	I	1	0	No	Yes
1	Grass/Thatch/Bamboo, etc.									
2	Plastic/Polythene									
3	Mud/Unburnt Brick									
4	Wood									
5	G.I./Metal/Asbestos Sheets									
6	Burnt Brick									
7	Stone									
8	Concrete									
9	Any other									
	H06_ROOF	H06_ROOF	12	1	N	I	1	0	No	Yes
1	Grass/Thatch/Bamboo/Wood/Mud, etc.									
2	Plastic/Polythene									
3	Tiles									
4	Slate									
5	G.I./Metal/Asbestos Sheets									
6	Brick									
7	Stone									
8	Concrete									
9	Any other									
	H07_PURPOSES	H07_PURPOSES	13	1	N	I	1	0	No	Yes
1	Residence									
2	Residence_cum_ Other Use									
	H08_CONDITION	H08_CONDITION	14	1	N	I	1	0	No	Yes
1	Good									
2	Livable									
3	Dilapidated									

Code	Item Label	Item Name	Start	Len	Data Type	Item Type	Occ	Dec	Decimal Char.	Zero Fill
	H15_SC_ST	H15_SC_ST	15	1	N	I	1	0	No	Yes
1	SC									
2	ST									
3	Others									
	H17_ROOMS	H17_ROOMS	16	2	N	I	1	0	No	Yes
0	0									
1	1									
2	2									
3	3									
4	4									
5	5									
6:99	6+									
	H18_COUPLES	H18_COUPLES	18	2	N	I	1	0	No	Yes
0	0									
1	1									
2	2									
3	3									
4	4									
5:99	5+									
	H19_INDEPENDENT_ROOMS	H19_INDEPENDENT_ROOMS	20	2	N	I	1	0	No	Yes
0	0									
1	1									
2	2									
3	3									
4	4									
5	5									
6	6									

Code	Item Label	Item Name	Start	Len	Data Type	Item Type	Occ	Dec	Decimal Char.	Zero Fill
	H19_INDEPENDENT_ROOMS (continued)	H19_INDEPENDENT_ROOMS	20	2	N	I	1	0	No	Yes
7	7									
8:10	8_10									
11:50	11_50									
51:99	51_99									
	H20_WATER_SOURCE	H20_WATER_SOURCE	22	1	N	I	1	0	No	Yes
1	Tap									
2	Handpump									
3	Tubewell									
4	Well									
5:8	Any other									
	H21_WATER_PREMISES	H21_WATER_PREMISES	23	1	N	I	1	0	No	Yes
1	Within the Premises									
2	Near the Premises									
3	Away									
	H22_LIGHT_SOURCE	H22_LIGHT_SOURCE	24	1	N	I	1	0	No	Yes
1	Electricity									
2	Kerosene									
3	Solar									
4	Other Oil									
5	Any Other									
6	No Lighting									

Code	Item Label	Item Name	Start	Len	Data Type	Item Type	Occ	Dec	Decimal Char.	Zero Fill
0	H23_LATRINE No Latrine	H23_LATRINE	25	1	N	I	1	0	No	Yes
1	Service Latrine									
2	Pit Latrine									
3	Water Closet									
1	H24_WASTE_WATER Closed Drainage	H24_WASTE_WATER	26	1	N	I	1	0	No	Yes
2	Open Drainage									
3	No Drainage									
1	H25_BATHROOM Yes	H25_BATHROOM	27	1	N	I	1	0	No	Yes
2	No									
1	H26_KITCHEN Yes	H26_KITCHEN	28	1	N	I	1	0	No	Yes
2	No									
3	Cooking in Open									
4	No Cooking									
1	H27_FUEL Firewood	H27_FUEL	29	1	N	I	1	0	No	Yes
2	Crop Residue									
3	Cow Dung Cake									
4	Coal/Lignite/Charcoal									
5	Kerosene									
6	LPG									
7	Electricity									
8	Bio gas									

Code	Item Label	Item Name	Start	Len	Data Type	Item Type	Occ	Dec	Decimal Char.	Zero Fill
	H27_FUEL (continued)									
9	Any other									
0	No Cooking									
	H28_RADIO_TRANSISTOR	H28_RADIO_TRANSISTOR	30	1	N	I	1	0	No	Yes
1	Yes									
2	No									
	H29_TELEVISION	H29_TELEVISION	31	1	N	I	1	0	No	Yes
1	Yes									
2	No									
	H30_TELEPHONE	H30_TELEPHONE	32	1	N	I	1	0	No	Yes
1	Yes									
2	No									
	H31_BICYCLE	H31_BICYCLE	33	1	N	I	1	0	No	Yes
1	Yes									
2	No									
	H32_SCOOTER	H32_SCOOTER	34	1	N	I	1	0	No	Yes
1	Yes									
2	No									
	H33_CAR_JEEP	H33_CAR_JEEP	35	1	N	I	1	0	No	Yes
1	Yes									
2	No									

Code	Item Label	Item Name	Start	Len	Data Type	Item Type	Occ	Dec	Decimal Char.	Zero Fill
	H34_BANKING	H34_BANKING	36	1	N	I	1	0	No	Yes
1	Yes									
2	No									
	WEIGHT	WEIGHT	37	3	N	I	1	0	No	Yes
	SAMPLING_RATE	SAMPLING_RATE	40	3	N	I	1	0	No	Yes

Description of Stratification Variables:

- (1) Place of enumeration, 2 categories:
 1 - Urban
 2 – Rural
- (2) Tenancy, 3 categories:
 1 - Owned
 2 - Rented
 3 - Other

In the case of the stratification by tenancy, the *other category* have been treated as a separate category. Although the other category may be infrequent in some districts, it may be important in some large cities with slum areas. Given the proposed sampling procedures based on implicit stratification, it will not matter if a particular district has few sample households in this category; it just means that this category is not important in that district.

- (3) Type of House, 3 categories:
 1 - Pucca (permanent)
 2 - Kutcha (temporary)
 3 - Semi-pucca (semi-permanent)

Each type of house classification is defined as a combination of the categories for material of wall and material of roof in the Houselist schedule. This classification is defined in Table 1. For each classification (pucca and kutcha), the household has to meet the criteria specified for both the wall and roof materials.

Table 1. Definition of Type of House Classification used for Stratification of Houselist Records, by Categories of Materials of Wall and Roof

Type of House Classification	Condition imposed
1-Pucca (permanent)	<p>First condition: <i>Material of wall:</i> (G.I./metal/asbestos sheets or Burnt brick or Stone or Concrete) and <i>Material of roof:</i> (Tiles or Slate or G.I./ metal/ asbestos sheets or Brick or Stone or Concrete)</p> <p>Second condition: <i>Material of wall:</i> (G.I./metal/asbestos sheets or Burnt brick or Stone or Concrete) and <i>Material of roof:</i> (Any other)</p> <p>Third condition: <i>Material of wall:</i> (Any other) and <i>Material of roof:</i> (Tiles or Slate or G.I./ metal/ asbestos sheets or Brick or Stone or Concrete)</p>
2-Kutcha (temporary)	<p><i>Material of wall:</i> (Grass/ thatch/ bamboo/ etc. or Plastic/ polythene or Mud/ unburnt brick or Wood) and <i>Material of roof:</i> (Grass/ thatch/ bamboo/ wood/ mud/ etc. or Plastic/ polythene)</p>

3-Semi-pucca (semi-permanent)	<p>First condition: <i>Material of wall:</i> (G.I./metal/asbestos sheets or Burnt brick or Stone or Concrete) and <i>Material of roof:</i> (Grass/ thatch/ bamboo/ wood/ mud/ etc. or Plastic/ polythene)</p> <p>Second condition: <i>Material of wall:</i> (Grass/ thatch/ bamboo/ etc. or Plastic/ polythene or Mud/ unburnt brick or Wood) and <i>Material of roof:</i> (Tiles or Slate or G.I./ metal/ asbestos sheets or Brick or Stone or Concrete)</p>
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Besides this, if the material of wall is “Any other” and material of roof is also “Any other”, the type of house is termed as “Unclassifiable” in the published report on Housing Amenities. However, for the CIHMS, only three categories of Type of House, namely, permanent, semi-permanent and temporary, has been taken. The “Unclassifiable” has been distributed proportionately in the three above-mentioned categories.

- (4) Electricity, 2 categories:
 1 - Available
 2 - Not available

In the case of the electricity stratification variable, the categories are defined as follows: If the Source of lighting is “Electricity” then the category is defined as “Electricity available”, for all other source of lighting, it is defined as “Electricity not available”.

- (5) Improved drinking water, 2 categories:
 1 - Improved source of drinking water
 2 - Other

For improved drinking water, the categories are defined as follows:
 1 – Improved source of drinking water: if source of drinking water is either from “Tap” or “Handpump” or “Tubewell” **and** it is either “within premises” or “near the premises”.
 2 – Other: All other combinations

India and State/ Union territory*/District	Code No.
INDIA	
Jammu & Kashmir	01
Kupwara	01
Baramula	02
Srinagar	03
Badgam	04
Pulwama	05
Anantanag	06
Leh (Ladakh)	07
Kargil	08
Doda	09
Udhampur	10
Punch	11
Rajauri	12
Jammu	13
Kathua	14
Himachal Pradesh	02
Chamba	01
Kangra	02
Lahul & Spiti	03
Kullu	04
Mandi	05
Hamirpur	06
Una	07
Bilaspur	08
Solan	09
Sirmaur	10
Shimla	11
Kinnaur	12
Punjab	03
Gurdaspur	01
Amritsar	02
Kapurthala	03
Jalandhar	04
Hoshiarpur	05
Nawanshahr	06
Rupnagar	07
Fatehgarh Sahib	08
Ludhiana	09
Moga	10
Firozpur	11
Muktsar	12
Faridkot	13
Bathinda	14
Mansa	15
Sangrur	16
Patiala	17

India and State/ Union territory*/District (continued)	Code No.
Chandigarh	04
Chandigarh	01
Uttaranchal	05
Uttarkashi	01
Chamoli	02
Rudraprayag	03
Tehri Garhwal	04
Dehradun	05
Garhwal	06
Pithoragarh	07
Champawat	08
Almora	09
Bageshwar	10
Nainital	11
Udhamsingh Nagar	12
Hardwar	13
Haryana	06
Panchkula	01
Ambala	02
Yamunanagar	03
Kurukshetra	04
Kaithal	05
Karnal	06
Panipat	07
Sonipat	08
Jind	09
Fatehabad	10
Sirsa	11
Hisar	12
Bhiwani	13
Rohtak	14
Jhajjar	15
Mahendragarh	16
Rewari	17
Gurgaon	18
Faridabad	19
Delhi *	07
North West	01
North	02
North East	03
East	04
New Delhi	05
Central	06
West	07
South West	08
South	09

India and State/ Union territory*/District (continued)	Code No.
Rajasthan	08
Ganganagar	01
Hanumangarh	02
Bikaner	03
Churu	04
Jhunjhunun	05
Alwar	06
Bharatpur	07
Dhaulpur	08
Karauli	09
Sawai Madhopur	10
Dausa	11
Jaipur	12
Sikar	13
Nagaur	14
Jodhpur	15
Jaisalmer	16
Barmer	17
Jalor	18
Sirohi	19
Pali	20
Ajmer	21
Tonk	22
Bundi	23
Bhilwara	24
Rajsamand	25
Udaipur	26
Dungarpur	27
Banswara	28
Chittaurgarh	29
Kota	30
Baran	31
Jhalawar	32
Uttar Pradesh	09
Saharanpur	01
Muzaffarnagar	02
Bijnor	03
Moradabad	04
Rampur	05
Jyotiba Phule Nagar	06
Meerut	07
Baghpat	08
Ghaziabad	09
Gautam Buddha Nagar	10
Bulandshahar	11
Aligarh	12
Hathras	13
Mathura	14
Agra	15
Firozabad	16
Etah	17
India and State/ Union territory*/District	Code No.

(continued)	
Mainpuri	18
Budaun	19
Bareilly	20
Pilibhit	21
Shahjahanpur	22
Kheri	23
Sitapur	24
Hardoi	25
Unnao	26
Lucknow	27
Rae Bareli	28
Farrukhabad	29
Kannauj	30
Etawah	31
Auraiya	32
Kanpur Dehat	33
Kanpur Nagar	34
Jalaun	35
Jhansi	36
Lalitpur	37
Hamirpur	38
Mahoba	39
Banda	40
Chitrakoot	41
Fatehpur	42
Pratapgarh	43
Kaushambi	44
Allahabad	45
Barabanki	46
Faizabad	47
Ambedkar Nagar	48
Sultanpur	49
Bahraich	50
Shravasti	51
Balrampur	52
Gonda	53
Siddharthnagar	54
Basti	55
Sant Kabir Nagar	56
Maharajganj	57
Gorakhpur	58
Kushinagar	59
Deoria	60
Azamgarh	61
Mau	62
Ballia	63
Jaunpur	64
Ghazipur	65
Chandauli	66
Varanasi	67
Sant Ravidas Nagar	68
Mirzapur	69
India and State/ Union territory*/District	Code No.
(continued)	

Sonbhadra	70
Bihar	10
Pashchim Champaran	01
Purba Champaran	02
Sheohar	03
Sitamarhi	04
Madhubani	05
Supaul	06
Araria	07
Kishanganj	08
Purnia	09
Katihar	10
Madhepura	11
Saharsa	12
Darbhanga	13
Muzaffarpur	14
Gopalganj	15
Siwan	16
Saran	17
Vaishali	18
Samastipur	19
Begusarai	20
Khagaria	21
Bhagalpur	22
Banka	23
Munger	24
Lakhisarai	25
Sheikhpura	26
Nalanda	27
Patna	28
Bhojpur	29
Buxar	30
Kaimur (Bhabua)	31
Rohtas	32
Jehanabad	33
Aurangabad	34
Gaya	35
Nawada	36
Jamui	37
Sikkim	11
North	01
West	02
South	03
East	04
Arunachal Pradesh	12
Tawang	01
West Kameng	02
East Kameng	03
Papum Pare	04
India and State/ Union territory*/District	Code No.
(continued)	
Lower Subansiri	05

Upper Subansiri	06
West Siang	07
East Siang	08
Upper Siang	09
Dibang Valley	10
Lohit	11
Changlang	12
Tirap	13
Nagaland	13
Mon	01
Tuensang	02
Mokokchung	03
Zunheboto	04
Wokha	05
Dimapur	06
Kohima	07
Phek	08
Manipur	14
Senapati	01
Tamenglong	02
Churachandpur	03
Bishnupur	04
Thoubal	05
Imphal West	06
Imphal East	07
Ukhrul	08
Chandel	09
Mizoram	15
Mamit	01
Kolasib	02
Aizawl	03
Champhai	04
Serchhip	05
Lunglei	06
Lawngtlai	07
Saiha	08
Tripura	16
West Tripura	01
South Tripura	02
Dhalai	03
North Tripura	04
Meghalaya	17
West Garo Hills	01
East Garo Hills	02
South Garo Hills	03
West Khasi Hills	04
India and State/ Union territory*/District (continued)	Code No.
Ri Bhoi	05
East Khasi Hills	06

Jaintia Hills	07
Assam	18
Kokrajhar	01
Dhubri	02
Goalpara	03
Bongaigaon	04
Barpeta	05
Kamrup	06
Nalbari	07
Darrang	08
Marigaon	09
Nagaon	10
Sonitpur	11
Lakhimpur	12
Dhemaji	13
Tinsukia	14
Dibrugarh	15
Sibsagar	16
Jorhat	17
Golaghat	18
Karbi Anglong	19
North Cachar Hills	20
Cachar	21
Karimganj	22
Hailakandi	23
West Bengal	19
Darjiling	01
Jalpaiguri	02
Koch Bihar	03
Uttar Dinajpur	04
Dakshin Dinajpur	05
Maldah	06
Murshidabad	07
Birbhum	08
Barddhaman	09
Nadia	10
North Twenty Four Parganas	11
Hugli	12
Bankura	13
Puruliya	14
Medinipur	15
Haora	16
Kolkata	17
South Twenty Four Parganas	18
Jharkhand	20
Garhwa	01
Palamu	02
India and State/ Union territory*/District	Code No.
(continued)	
Chatra	03
Hazaribagh	04
Kodarma	05

Giridih	06
Deoghar	07
Godda	08
Sahibganj	09
Pakaur	10
Dumka	11
Dhanbad	12
Bokaro	13
Ranchi	14
Lohardaga	15
Gumla	16
Pashchimi Singhbhum	17
Purbi Singhbhum	18
Orissa	21
Bargarh	01
Jharsuguda	02
Sambalpur	03
Debagarh	04
Sundargarh	05
Kendujhar	06
Mayurbhanj	07
Baleshwar	08
Bhadrak	09
Kendrapara	10
Jagatsinghapur	11
Cuttack	12
Jajapur	13
Dhenkanal	14
Anugul	15
Nayagarh	16
Khordha	17
Puri	18
Ganjam	19
Gajapati	20
Kandhamal	21
Baudh	22
Sonapur	23
Balangir	24
Nuapada	25
Kalahandi	26
Rayagada	27
Nabarangapur	28
Koraput	29
Malkangiri	30
Chhatisgarh	22
Koriya	01
Surguja	02
India and State/ Union territory*/District	Code No.
(continued)	
Jashpur	03
Raigarh	04
Korba	05
Janjgir-Champa	06

Bilaspur	07
Kawardha	08
Rajnandgaon	09
Durg	10
Raipur	11
Mahasamund	12
Dhamtari	13
Kanker	14
Bastar	15
Dantewada	16
Madhya Pradesh	23
Sheopur	01
Morena	02
Bhind	03
Gwalior	04
Datia	05
Shivpuri	06
Guna	07
Tikamgarh	08
Chhatarpur	09
Panna	10
Sagar	11
Damoh	12
Satna	13
Rewa	14
Umaria	15
Shahdol	16
Sidhi	17
Neemuch	18
Mandsaur	19
Ratlam	20
Ujjain	21
Shajapur	22
Dewas	23
Jhabua	24
Dhar	25
Indore	26
West Nimar	27
Barwani	28
East Nimar	29
Rajgarh	30
Vidisha	31
Bhopal	32
Sehore	33
Raisen	34
Betul	35
Harda	36
India and State/ Union territory*/District	Code No.
(continued)	
Hoshangabad	37
Katni	38
Jabalpur	39
Narsimhapur	40
Dindori	41

Mandla	42
Chhindwara	43
Seoni	44
Balaghat	45
Gujarat	24
Kachchh	01
Banas Kantha	02
Patan	03
Mahesana	04
Sabar Kantha	05
Gandhinagar	06
Ahmadabad	07
Surendranagar	08
Rajkot	09
Jamnagar	10
Porbandar	11
Junagadh	12
Amreli	13
Bhavnagar	14
Anand	15
Kheda	16
Panch Mahals	17
Dohad	18
Vadodara	19
Narmada	20
Bharuch	21
Surat	22
The Dangs	23
Navsari	24
Valsad	25
Daman & Diu *	25
Diu	01
Daman	02
Dadra & Nagar Haveli *	26
Dadra & Nagar Haveli	01
Maharashtra	27
Nandurbar	01
Dhule	02
Jalgaon	03
Buldana	04
Akola	05
Washim	06
Amravati	07
India and State/ Union territory*/District	Code No.
(continued)	
Wardha	08
Nagpur	09
Bhandara	10
Gondiya	11
Gadchiroli	12
Chandrapur	13

Yavatmal	14
Nanded	15
Hingoli	16
Parbhani	17
Jalna	18
Aurangabad	19
Nashik	20
Thane	21
Mumbai (Suburban)	22
Mumbai	23
Raigarh	24
Pune	25
Ahmadnagar	26
Bid	27
Latur	28
Osmanabad	29
Solapur	30
Satara	31
Ratnagiri	32
Sindhudurg	33
Kolhapur	34
Sangli	35
Andhra Pradesh	28
Adilabad	01
Nizamabad	02
Karimnagar	03
Medak	04
Hyderabad	05
Rangareddi	06
Mahbubnagar	07
Nalgonda	08
Warangal	09
Khammam	10
Srikakulam	11
Vizianagaram	12
Visakhapatnam	13
East Godavari	14
West Godavari	15
Krishna	16
Guntur	17
Prakasam	18
Nellore	19
Cuddapah	20
Kurnool	21
Anantapur	22
India and State/ Union territory*/District (continued)	Code No.
Chittoor	23
Karnataka	29
Belgaum	01
Bagalkot	02
Bijapur	03
Gulbarga	04

Bidar	05
Raichur	06
Koppal	07
Gadag	08
Dharwad	09
Uttara Kannada	10
Haveri	11
Bellary	12
Chitradurga	13
Davanagere	14
Shimoga	15
Udupi	16
Chikmagalur	17
Tumkur	18
Kolar	19
Bangalore	20
Bangalore Rural	21
Mandya	22
Hassan	23
Dakshina Kannada	24
Kodagu	25
Mysore	26
Chamarajanagar	27
Goa	30
North Goa	01
South Goa	02
Lakshadweep *	31
Lakshadweep	01
Kerala	32
Kasaragod	01
Kannur	02
Wayanad	03
Kozhikode	04
Malappuram	05
Palakkad	06
Thrissur	07
Ernakulam	08
Idukki	09
Kottayam	10
Alappuzha	11
Pathanamthitta	12
Kollam	13
India and State/ Union territory*/District	Code No.
(continued)	
Thiruvananthapuram	14
Tamil Nadu	33
Thiruvallur	01
Chennai	02
Kancheepuram	03
Vellore	04
Dharmapuri	05

Tiruvanamalai	06
Viluppuram	07
Salem	08
Namakkal	09
Erode	10
The Nilgiris	11
Coimbatore	12
Dindigul	13
Kapur	14
Tiruchirappalli	15
Perambalur	16
Ariyalur	17
Cuddalore	18
Nagapattinam	19
Thiruvavarur	20
Thanjavur	21
Pudukkottai	22
Sivaganga	23
Madurai	24
Theni	25
Virudhunagar	26
Ramanathapuram	27
Toothukudi	28
Tirunelveli	29
Kanniyakumari	30
Pondicherry *	34
Yanam	01
Pondicherry	02
Mahe	03
Karaikal	04
Andaman & Nicobar Islands *	35
Andamans	01
Nicobars	02