

# Introduction

The House-numbering and Houselisting Operations were carried out between April – June 2000 in different states and union territories to map out all areas uniformly and list out all the structures, houses and households through out the country. The basic purpose of this elementary, yet so demanding and a crucial exercise, was to prepare a frame, unambiguous and without omission or duplication of any area for systematically conducting the population enumeration during February – March 2001. The Housing Census, thus in some way, was a prelude to the actual population count of the census. The exercise also entailed collection of a wide range of data on housing, amenities and the assets available to the household. The data generated from this operation will not only be of immense use to planners and policy makers in the Central and State Governments, but also be useful to the administrators and planners at local levels, such as district, sub-district and town level. The data sets on the wide range variables being provided for Census 2001 based on Houselisting Operations will also greatly benefit a large number of private companies engaged in various spheres of activity especially, in the secondary and tertiary sector.

## A Historical Background

Although, in India no separate Housing Census has ever been undertaken in strict sense of the term, a systematic way of House-numbering and Houselisting have been traditionally carried out a few months prior to the population enumeration with the basic purpose of preparation of frame for the latter. Till the 1951 Census, each state was free to adopt its own Houselist form. Although, there was certain amount of commonality in the items included in the Houselist forms canvassed, the lack of uniformity in concepts and definitions by the states made it impossible to attempt building up a national picture on the housing stock.

With the commencement of the Five Year Plans, the lack of data on the quality and quantity on housing stock was badly felt. In the 1961 Census, therefore, for the first time, a uniform Houselisting form was adopted all over the country at the time of the House-numbering. Based on the data collected in the Houselist, a few tables giving the purpose for which census houses are used, the material of the wall and roof number of rooms occupied by household, ownership status and were prepared. For the census houses used as industrial establishment, data on the nature of activity, type of power used and the number of persons employed in each establishment were also collected. In the 1971 Census a similar set of questions was canvassed, except that the data on establishment was collected through a separate schedule. The 1981 Census saw a major departure from the previous two censuses. Only two questions, one pertaining to the use the Census house is put to and the other on the physically handicapped, were included in the Houselist form. Information on the amenities available to the household was collected through a separate household schedule canvassed along with the population enumeration in 1981. This was mainly aimed at producing household level tables on amenities available, cross- classified by the characteristics of the household and/or the persons constituting the household. In 1981, at the behest of the Central Statistical Organisation, an Enterprise list was also canvassed along with the Houselist Schedule as part of the Economic Census.

In the 1991 Census, the questions on amenities available to households were transferred back to the Houselisting Schedule and data collected for as many as twenty-two items. A question on the type of fuel used for cooking by the households was canvassed for the first time in the 1991 houselist. Availability of toilet facilities to the household was also collected in respect of both rural and urban areas as against only urban areas in 1981. A question on whether the head of the household belongs to the Scheduled Castes or the Scheduled Tribes was asked. This information was used to tabulate various housing and amenities data items for the Scheduled Castes and the Scheduled Tribes households separately.

## **Housing Census 2001**

The Houselisting Operations of Census 2001 saw a major shift in approach in that the emphasis this time lay primarily on the quality of living of households rather than just housing. This shift is in line with the UN recommendations on the broad aspects to be covered during a census enquiry. The data on various aspects of quality of living thrown up by the "Housing Census 2001" assumes greater significance as it provides a benchmark being the first census of the twenty first century and the third millennium.

There are several new features in the Houselisting Schedule canvassed at the Census 2001. Besides improvements made in the format of the Houselist Schedule, the scope of enquiry at the Houselisting was considerably expanded with the inclusion of new questions. The number of items on which information was collected increased from twenty-two in 1991 to thirty-three in 2001. Houselist Schedule was not canvassed for houseless households. Similarly, particulars on amenities and assets available in the Institutional Households were also not collected while canvassing the Houselist. The responses for almost all the questions in the Houselist Schedule had pre-coded numeric options, which not only helped enumerators to record the response easily, but also facilitated quick data processing. A specimen copy of the Houselist Schedule is given as Appendix-I for ready reference. The concepts and definitions followed during Houselisting Operations are furnished in Chapter 2. The following new questions were added in the Houselist Schedule of the Census 2001:

- i) The condition of residential or partly residential houses was categorized as good, livable or dilapidated (Column 8). (This was mainly based on perception of the respondents).
- ii) A question on the number of married couple(s) living in the household was introduced (Column 18).
- iii) Information was sought on the number of married couple(s) having independent rooms for sleeping (Column 19).
- iv) Information on whether wastewater outlet was connected to closed drainage or open drainage or no drainage (Column 24).
- v) Availability of bathroom within the house (Column 25).
- vi) Availability of kitchen within the house (Column 26).
- vii) Availability of certain assets to the households, namely, radio/transistor, television, telephone, bicycle, scooter/ motorcycle/ moped, car/jeep/vans (Column 28-33).
- viii) Availability of banking services (Column 34).

Besides adding new questions, improvement was also made in the format of Houselist Schedule of Census 2001 by modifying certain questions as shown below:

- a. For the first time, different uses of census houses were standardized and grouped into ten main uses and assigned code numbers (Column 7).
- b. Plastic/Polythene was added in the list of materials of wall and roof of a census house (Columns 5 & 6).
- c. 'Outside premises' as a category of the location of drinking water source was further split up into two categories, namely, 'near the premises' and 'away from the premises' (Column 21).
- d. 'No lighting' was included as a response to the question on source of lighting along with other sources, namely, electricity, kerosene, solar, other oil and any other source (Column 22).
- e. Specific information on availability of type of latrine within the house by the type of latrine was collected for all areas (Column 23).

The preparatory work on Census of India 2001 commenced right from the beginning of 1998. The First Data Users Conference was held in April, 1998 at New Delhi. The First Conference of Directors of Census Operations was held at New Delhi in September, 1999. The Houselisting schedule of Census 2001 was designed on the basis of the discussions during these conferences and placed before the Technical Advisory Committee, which was set up by the Government of India for advising the Registrar General and Census Commissioner of India on technical issues connected with the holding of Census 2001. The questionnaire of various schedules and forms of Census 2001 including Houselist, thus developed were pre-tested in selected areas with the help of the staff of the Census Organisation and revised and later finalized based on the inputs from these tests. As mentioned earlier the Houselisting Operation was carried out during different periods in various States/Uts, the details of which are given below.

#### Houselisting Operations : Calendar

Serial Number	State/Union territory*	Period of Houselisting
1.	Jammu & Kashmir	16 <sup>th</sup> May to 5 <sup>th</sup> June 2000
2.	Himachal Pradesh	17 <sup>th</sup> April to 6 <sup>th</sup> May 2000 and 15 <sup>th</sup> June to 4 <sup>th</sup> July 2000
3.	Punjab	3 <sup>rd</sup> to 24 <sup>th</sup> May 2000
4.	Chandigarh*	1 <sup>st</sup> to 16 <sup>th</sup> April 2000
5.	Uttaranchal	15 <sup>th</sup> May to 14 <sup>th</sup> June 2000 and 11 <sup>th</sup> to 30 <sup>th</sup> September 2000
6.	Haryana	15 <sup>th</sup> to 31 <sup>st</sup> May 2000
7.	Delhi*	1 <sup>st</sup> to 30 <sup>th</sup> June 2000
8.	Rajasthan	16 <sup>th</sup> May to 15 <sup>th</sup> June 2000
9.	Uttar Pradesh	15 <sup>th</sup> May to 14 <sup>th</sup> June 2000
10.	Bihar	15 <sup>th</sup> May to 15 <sup>th</sup> June 2000

11.	Sikkim	25 <sup>th</sup> April to 24 <sup>th</sup> May 2000
12.	Arunachal Pradesh	5 <sup>th</sup> April to 4 <sup>th</sup> May 2000
13.	Nagaland	16 <sup>th</sup> May to 15 <sup>th</sup> June 2000
14.	Manipur	5 <sup>th</sup> May to 4 <sup>th</sup> June 2000
15.	Mizoram	1 <sup>st</sup> to 31 <sup>st</sup> May 2000
16.	Tripura	1 <sup>st</sup> to 30 <sup>th</sup> June 2000
17.	Meghalaya	1 <sup>st</sup> to 30 <sup>th</sup> April 2000
18.	Assam	2 <sup>nd</sup> to 31 <sup>st</sup> May 2000
19.	West Bengal	17 <sup>th</sup> April to 16 <sup>th</sup> May 2000
20.	Jharkhand	15 <sup>th</sup> May to 15 <sup>th</sup> June 2000
21.	Orissa	1 <sup>st</sup> to 31 <sup>st</sup> May 2000
22.	Chhatisgarh	1 <sup>st</sup> to 31 <sup>st</sup> May 2000
23.	Madhya Pradesh	1 <sup>st</sup> to 31 <sup>st</sup> May 2000
24.	Gujarat	25 <sup>th</sup> April to 24 <sup>th</sup> May 2000
25.	Daman and Diu*	25 <sup>th</sup> April to 24 <sup>th</sup> May 2000
26.	Dadra & Nagar Haveli*	25 <sup>th</sup> April to 24 <sup>th</sup> May 2000
27.	Maharashtra	1 <sup>st</sup> to 31 <sup>st</sup> May 2000
28.	Andhra Pradesh	11 <sup>th</sup> May to 5 <sup>th</sup> June 2000
29.	Karnataka	8 <sup>th</sup> to 25 <sup>th</sup> May 2000
30.	Goa	1 <sup>st</sup> to 30 <sup>th</sup> April 2000
31.	Lakshadweep*	1 <sup>st</sup> to 30 <sup>th</sup> April 2000
32.	Kerala	28 <sup>th</sup> April to 27 <sup>th</sup> May 2000
33.	Tamil Nadu	1 <sup>st</sup> to 31 <sup>st</sup> May 2000
34.	Pondicherry*	1 <sup>st</sup> to 30 <sup>th</sup> June 2000
35.	Andaman and Nicobar Islands*	1 <sup>st</sup> to 30 <sup>th</sup> April 2000

Note 1: At the time of Houselisting Operations the states of Uttar Pradesh, Bihar and Madhya Pradesh were not bifurcated and the new states of Uttaranchal, Jharkhand and Chhatisgarh came into existence during November 2000. Thus the period of houselisting is common to the old and new states.

Note 2: In case of Himachal Pradesh and Uttaranchal, the second set of dates indicated against their names are for the Houselisting Operations in the snow-bound areas in these states. In Uttaranchal the Houselisting Operations was in snow-bound area was conducted along with the Population Enumeration.

The period of houselisting chosen was deliberately kept as close to the population census, as was possible. Taking into account various factors such as availability of the enumerators, finalisation of the questions and design of the Houselist schedule, weather conditions and agricultural activities, it was decided that about a month long duration for canvassing this schedule would be ideal during April and June, throughout the country. The only exception was in the snow bound areas of Himachal Pradesh and Uttaranchal, where the houselisting operations were conducted on different dates as will be seen in the Houselisting calendar above. It is important to note that though unlike the population enumeration, the period of houselisting is not fixed and uniform across the country, yet given the constraints, the data collected is fairly comparable over time. Unlike in the previous censuses, when the period of Houselisting Operations and its duration was a bit open ended for various states, in Census 2001 in majority of the states the period was fixed between April – June 2000 and the duration restricted to four weeks.

A huge army of about two million enumerators and supervisors carried out the house-numbering and houselisting operations covering about 250 million houses across the length and breadth of the country. It took a Herculean effort to locate, appoint and provide extensive and intensive training to such a large number of field workers, especially in terms of their logistic arrangements. Normally, the enumerators/ supervisors engaged in the Houselisting Operation are locally available government or semi-government officials, who are also called upon later to take up the work of Population Enumeration and therefore, in a way the Houselisting Operation did provide a good opportunity for the field functionaries to rehearse for the main enumeration. On an average for every five to six enumerators one supervisor was appointed.

The first step in the Houselisting Operations was to map out all areas systematically throughout the country. Each enumerator was required to prepare a layout map of the area of work allotted to her/him, which is popularly known as the Enumerator's Block (EB). The layout sketch not only depicted the boundaries and important landmark of the EB, but also showed each of the buildings and census houses within it. While listing of the houses and households, the enumerators were also required to place a census number on each and every census house within her/his block with the sole purpose of identification at a later date. These census house numbers were also displayed on the layout map. In urban areas in certain areas the already existing municipal house/flat numbers were used while listing but in many urban areas the census authorities did choose to put fresh census numbers. In rural India the census house number had to be necessarily painted by the enumerators as usually the houses/building in rural areas do not have any numbers. Specific instructions were issued regarding the visibility, size and methodology for placing the census number by enumerators.

In Mumbai, Chennai, Delhi and certain other important cities the numbering of houses was done as an advance operation in close collaborations with the Municipal authorities in these areas. This was found to be very useful operation as it provided some advance knowledge for proper delineation of Enumeration Block. The Government of Tamil Nadu took special interest for census numbering of all the houses throughout the state.

Although, a publicity campaign was launched for seeking the co-operation of the public to come forward and provide correct information during houselisting, the campaign was kept a low-key affair on purpose. In addition to the lack of funds, the idea was to bring the publicity effort to the highest pitch only at the time of Population Enumeration rather than for the earlier operation. Just prior to and during the operations advertisements were inserted in leading newspapers across the country in local language to inform the public about the questions that are to be canvassed at the houselisting (Appendix II). It was also emphasized in these advertisements that as provided in the Census Act, the information will be kept confidential and that it cannot be used as evidence in the court. It would be important to recall here that in 1999-2000, the Income Tax Department made it mandatory for an individual to file income tax return by 31<sup>st</sup> March 2000, if she/he possesses among other things i.e. a telephone or car or a house. Some of the assets on which direct questions were posed to the households on the possession were common to those in the Income Tax list. To remove doubts and put considerable confidence in the minds and hearts of the public at large, particularly the urban population, it was extremely important for the Census Organisation to give an emphatic assurance about the confidentiality and non-evidentiary value of the information collected in the Census. There are reasons to believe that by and large the response to these set of questions has been satisfactory, exceptions notwithstanding.

Publicity campaign through radio spots and jingles in different languages from almost all radio stations in the country were undertaken. However, television as a media for publicity was sparingly used and these efforts were very localized.

### **Processing of Data**

A quantum leap was made in the technology front for processing of the Census 2001 data including the Houselisting data. The Houselist Schedules were scanned through high speed scanners in fifteen data centres across the country and hand-written data from the schedules were converted into digitized form through Intelligent Character Reading (ICR) software for creation of ASCII records for further processing. The Houselisting Schedules design and formatting had to be done very carefully using specialized software so as to ensure uniformity, which was an essential pre-requisite for scanning. The tremendous increase in data processing speeds and computing power has made it possible to produce all the Houselisting tables on full count basis. In 1991, the Houselisting data for State/Uts with population less than 10 million were prepared on cent percent basis but for States exceeding the population of 10 million, tables were produced on the basis of 20 percent sample of census houses for the country as a whole. For Census 2001, over nine million Houselisting schedules, consisting of about 250 million records (number of residential and non-residential census houses) were scanned and processed within a span seven months to churn out the houselisting data.

### **Task Force on Quality Assurance**

After the data is processed, it is expedient on the part of the data producing agency to satisfy itself about its quality before putting the same in public domain. This has to be mainly done through the process of comparison with similar data in the past and also through validation with similar data available from external sources. Quite often the local knowledge and perception has to be brought into play. The other very important aspect of the data quality is to ensure complete coverage of all geographical area.

A very comprehensive mechanism was put in place to objectively study the Census 2001 Houselisting data and finally clear them for release. The responsibility of final clearance of Houselisting data was with the Task Force on Quality Assurance (TFQA), headed by the Registrar General and Census Commissioner, India. The other members of the TFQA were the Divisional Heads of the Census Division, Data Processing Division, Map Division, Demography Division and Social Studies Division. The Directors of Census Operations were co-opted as members whenever the TFQA discussed the data for their states/union territories. The Directors were required to make detailed presentations of Houselisting data for his/her own state and only after the full satisfaction of the TFQA, the data was cleared.

### **The Houselisting Data**

The Houselisting data for Census 2001 is the most comprehensive data set on the living conditions of the households in terms of their housing conditions, amenities available to them, and the specified assets they own. The availability of these data set at the district, sub-district and town level makes it most exhaustive and unique. This comprehensive and exclusive data set on household will not only be useful to the administrators, planners and policy makers within the government but is expected to be immensely beneficial even to the companies in the private sector as well. With the processing of cent percent records it has been possible to produce the houselisting table of amenities at town level for the first time. The data on housing and amenities at the town level is going to be extremely useful to the municipal administrators and town authorities at the local level for reconsidering the allocation of scarce resources at their command and the housing and urban development authorities at the central and state level for redefining their priorities at the macro level.

It would be important for the data users to adopt a certain degree of caution while making analysis and drawing inferences in respect of a few variables included in the houselisting data sets. The concepts and definitions used have to be carefully studied and the issues related to the practical situations encountered during the canvassing of the Houselisting Schedule have to be recognized in order to appreciate the limitations of the data collected in such a mammoth exercise. Although, all humanly possible precautions were put in place, small processing errors cannot be totally ruled out. The lower the level of geographical presentation of data set, the greater would be the likelihood of these small irritants becoming a little more visible in a few cases. Therefore, although the data set has to be understood in a proper perspective one must hasten to add that in any case such small-unintended errors do not affect any policy planning exercise nor does it affect the analysis.

There are a few tables for which the data have been presented by the size of the household. Unlike the Population Enumeration, at the Houselisting, the persons in a household are not recorded one by one to finally arrive at the actual number of members living in the household at the time of canvassing the schedule. The number of members in the household at the houselisting was obtained through a single query with reference to a period of three months. In certain areas there may have been an over/under statement of this fact, resulting in marginal but negligible higher/lower average household size than normal.

Although, as per the instructions the enumerators were supposed to treat a household as Scheduled Caste (SC) or Scheduled Tribe (ST) based only on the state list of SC and ST supplied to them, in certain areas the enumerators may have exceeded their brief and categorized households as Scheduled Caste or Scheduled Tribe straightaway accepting the response of the household. The task of the enumerator became particularly difficult, as the

name of the Scheduled Caste or Tribe was not to be recorded at this point of time. Once a household was recorded as Scheduled Caste or Scheduled Tribe, there was no choice but to accept it as such as, and unlike the Population Enumeration, there was no edit tool on this item at the time of processing. Therefore, in some areas the possibility of the counts of the Scheduled Caste or the Scheduled Tribe households being slightly higher than finally expected cannot be ruled out.

Table H4 provides the distribution of census houses by their types, namely, permanent, semi-permanent, temporary serviceable and temporary non-serviceable. Table H4 Appendix distributes the households into similar categories of houses in which they live. This is a derived table based on combination of type of material used for roof and wall, which may be seen in Chapter 2 - Concepts and Definitions. There may be situations where a particular type of material is locally available and is used as wall or roof in a large majority of houses. Although, in these areas, the type of materials used under the given classification system categorizes the houses as temporary, there is a good reason to believe that these houses are almost permanent in nature because these structures are not required to be serviced frequently. For example, the manner in which wood is used as wall material in the northeastern states does give the houses in these areas certain amount of permanency and yet in the classification system adopted it may have resulted in more number of semi-permanent or temporary houses.

In H8 table data on source of drinking water and its location is provided. The availability of drinking water by different sources is categorized as within premises, near premises and away. In case of rivers and canal as a source of drinking water, for obvious reasons, the infrequent response 'within the premises' was edited to 'near the premises'. In case of spring as a source of drinking water, the distinction between within premises and near premises is at times too fine and unclear. It was, therefore, decided to edit the source of drinking water from spring as near premises rather than retaining as within premises to avoid any ambiguity in classification. Since data has been collected regarding the location for all these sources, it can be made available on request at the state/district level.

Although the questions on availability of assets was relatively the easiest to canvass, as stated earlier the new Income tax law that came into force just prior to the Houselisting Operations may have resulted in a somewhat guarded response from the respondent. However, the enumerators' perception about the standard of living of the households may have neutralized this to a certain extent.

This publication contains all tables at India and State level according to the declared tabulation plan for general population. The tables for the Scheduled Castes and the Scheduled Tribes households will be brought out in a separate volume. Similar set of tables at district levels is available in separate state-specific publications. Although, the presentations in publications are only up to district level, several of these tables are available at levels below the district i.e. sub-district (tahsil/taluka etc.), cities/towns in electronic formats. The complete series of tables to be released, including those in electronic format, is given in Appendix III.