

**REPORT OF THE TECHNICAL GROUP**  
**[11TH FIVE YEAR PLAN: 2007-12]**  
**ON**  
**ESTIMATION OF URBAN HOUSING SHORTAGE**



**Government of India**  
**Ministry of Housing and Urban Poverty Alleviation**  
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# CHAPTER - 1

## INTRODUCTION

The Technical Group on Estimation of Housing Shortage has been constituted by the Ministry of Housing and Urban Poverty Alleviation vide Office Memorandum No. N-11013/1/2006-H.I dated 28<sup>th</sup> July, 2006 under the Chairmanship of Prof. Amitabh Kundu, Dean, School of Social Sciences, Jawaharlal Nehru University, New Delhi (Annex – I) with the terms of reference as:

1. To review the methodology adopted by the 9<sup>th</sup> Plan Working Group on Urban Housing for estimation of Housing Shortage and evolving more sustainable and viable methodology;
2. Estimation of Housing Shortage and housing requirement at national and state level in urban areas during the 11<sup>th</sup> plan period.

The Group was expected to submit its report within 7 days from the date of first meeting. The first meeting of the group was held on 7<sup>th</sup> Aug., 2006. Subsequently, two more meetings of the group were held on 29<sup>th</sup> Aug., 2006 and 8<sup>th</sup> Sept., 2006. During the course of the meetings the group discussed two background papers. After the discussions in the first meeting, the group was of unanimous view that the methodology utilizing the exponential regression line of the type  $\text{Log } Y = a + rT$  adopted by the 9<sup>th</sup> plan group to estimate the housing shortage suffers from the serious flaws such as

- (a) A uniform rate is applied for all regions/states of the country. Thus, the regional and size class variation in the level of housing activity is not taken into consideration.

- (b) In computing the growth rate, the regression model gives equal weight to the data of the distant past as to the recent past. The growth rates of the sixties or seventies may not be of great significance in projecting construction of dwelling units during the first seven years of the twenty first century. The growth experience of the recent past, say of the nineties, may be much more relevant in this context. Ideally one should adopt a method which assigns higher weightage to the data of recent years compared to that of earlier years in a time series analysis.

The working group also noted with concern that the estimates of housing shortages worked out for 2007 by adopting the methodology adopted by 9<sup>th</sup> plan working group works out to be negative meaning thereby that in 2007, instead of housing shortage, there will be surplus housing. There is adequate empirical evidence to discard this proposition and consequently the methodology adopted by the 9<sup>th</sup> plan working group.

The present working group was of the view that the methodology which may be evolved should not be very complex so that the underlying assumptions can be understood and appreciated by planners and policy makers. At the same time it was decided to utilize the data on households, *pucca*, semi *pucca* and *kutcha* houses by Monthly Per Capita Expenditure (MPCE) classes from NSSO so that the availability of housing to the weaker section of the society could be assessed. On the issue of the definitions of congestion and obsolescence, it was observed that the detailed data by various parameters was not available to the of 9<sup>th</sup> plan working group. It was therefore resolved to look into matter afresh, particularly the definitions of these two factors, in the light of the data with various parameters.

On the basis of the discussions of the first meeting, a detailed working background paper was prepared detailing

therein the various methods for estimation of households, housing stock by category, congestion and obsolescence factors. In the paper, it has been tried to work out all the possible ways and means to arrive at the various estimates and then compare with the plus and minuses of each method. The paper was discussed at length in the second meeting of the group which was held on 29<sup>th</sup> Aug., 2006 and was decided to give the final shape to the proposed methodology in the next and final meeting which was held on 8<sup>th</sup> Sept., 2006. The final outcome of the discussions is presented in Chapter – 3.

## CHAPTER – 2

### Background note on housing data

The Housing and Building statistics are necessary for the formulation, execution and evaluation of housing policies and building programmes which constitute an integral part of the overall social and economic plans of the country. At the central level, the National Buildings Organisation (NBO), which is an attached office under Ministry of Housing and Urban Poverty Alleviation, is the only Organisation which collects, maintains and disseminate the authentic data on housing and related infrastructure statistics. It also caters to the need of the planners, policy makers and researchers in the field of housing statistics. The housing and building statistics are also necessary for national accounts purposes. In the context of National Housing Policy, the availability of varied details has become all the more important.

The data on urban households and housing stock from various Population Censuses are presented in the table given below. It may be noted that the decadal growth rate in the number of households has been modest 38 per cent only during eighties and nineties. This is significantly below the figure of 54 per cent recorded during seventies. The decline in the growth during the past two decades can be attributed to deceleration in the rate of urbanization which was phenomenally high during seventies, the corresponding rate being 48 per cent.

Census Years	HOUSEHOLDS (million)	Total Housing Stock (Mn)	Pucca (Mn)	Semi Pucca (Mn)	Kutch a Service Able (Mn)
1961	14.9	13.30	6.44	4.90	1.96
1971	19.1	18.50	11.80	4.35	2.35
1981	29.3	28.00	18.09	6.80	3.11
1991	40.7	39.30	29.79	6.21	3.30
2001	55.8	50.95	41.17	8.08	1.70

The decadal growth rate in pucca housing has come down from 53.30 per cent and 64.68 per cent during seventies and eighties to 38.20 per cent only during nineties. As far as semi pucca and kutcha houses are concerned, the growth rates were very high during seventies, similar to that of the pucca houses, the rates being 56 per cent and 32 per cent respectively. The absolute number of semi pucca houses came down by 0.59 million units during 1981-1991 while it registered a jump of 1.87 million i.e. 30.11% in the following decade. Interestingly the growth in kutcha dwelling units was as low as 6 per cent during eighties while the number came down to fifty per cent during 1991-01. In case we decide to combine semi pucca and kutcha houses, the growth rate has gone down from 48 per cent during 1971-81 to (-) 4.0 per cent during 1981-91 and then to 2.8 per cent during 1991-01. It is possible to argue that a large number of kutcha houses have been converted into (or reported as) semi pucca houses during 1991-2001 which would explain the spurt in the growth of semi pucca houses compared to the previous decade. The decline in the number of kutcha houses is also attributed to that.

It has also been noted that as per the Census of India, 2001, 9.01% of census houses are lying vacant. These vacant houses are not available for residential purposes and may not be accessible for the EWS and LIG category of households.

Taking all these factors into consideration, it is evident that the growth in the total housing stock during the 1991-2001 decade is much less than the preceding two decades. This could be due to limited withdrawal of public agencies like Housing Boards, and Development Authorities from house construction activities. The fiscal benefits provided in the housing sector during the last 5 to 10 years do not seem to have led to a boost in housing activities. The drastic reduction in the number of kutchra houses may be due to the impact of various housing schemes such as VAMBAY etc. being implemented by the Central Govt.

## CHAPTER – 3

### Analysis and calculation of housing shortage

The housing shortage in the country is calculated on the basis of the number of households, available housing stock, acceptable housing stock, overcrowding/congestion in the existing dwelling units, and obsolescence. The successive population censuses have provided the background information on households, housing stock and quality of the units. The overcrowding/congestion can be assessed on the basis of the number of room in the dwelling unit and number of married couples in the households. Obsolescence factor can be determined based on the year of construction of the units in the housing stock. Importantly, The Census of India, 2001 and the Fifty Eighth round of the National Sample Survey for the first time have provided detailed information on condition of housing stock i.e. good, livable and dilapidated, and overcrowding/congestion.

The housing shortage for All India, (Urban) on the basis of Census of India, 2001 has been calculated as follows

1. Households (Mn)	55.83
2. Acceptable Housing Stock	50.95
2.1 Pucca	41.17
2.2 Semi Pucca	8.08
2.3 Serviceable Kutch	1.70
3. Excess of HHs over Housing Stock (1 – 2)	4.88
4. Congestion factor (%) of hhs.	3.52
4.1 Congestion in hhs.(Mn)	1.97
5. Obsolescence factor (%) of hhs.	3.60
5.1 Obsolescence (Mn)	2.01
6. Upgradation of Kutch (Mn) (2.3)	1.70
7. Total Housing Shortage (3+4.1+5.1+6)	10.56

The housing gap at the beginning of the ninth plan and tenth plan periods were arrived at by projecting the households and housing stock (pucca, semi pucca and kutcha separately) using exponential regression growth rate based on 1961, 1971, 1981, 1991 and 2001 census data. While arriving at the projections, the semi log function of the type  $\log Y = a + rT$ , has been used. This assumes that stock of houses under different categories increase at an exponential rate as observed during the past three decades.

The above methodology for estimation of housing shortage using the exponential regression line suffers from serious flaws as noted below:

- (a) A uniform rate is applied for all regions/states of the country. Thus, the regional and size class variation in the level of housing activity is not taken into consideration.
- (b) In computing the growth rate, the regression model gives equal weight to the data of the distant past as to the recent past. The growth rates of the sixties or seventies may not be of great significance in projecting construction of dwelling units during the first seven years of the twenty first century. The growth experience of the recent past, say of the nineties, may be much more relevant in this context. Ideally one should adopt a method which assigns higher weightage to the data of recent years compared to that of earlier years in a time series analysis.

Estimates of housing shortage at the beginning of the 11<sup>th</sup> plan i.e. in 2007 have been worked out, employing the methodology adopted by the 9<sup>th</sup> and 10<sup>th</sup> plan working groups. We see a rather paradoxical situation since the methodology suggests that the housing shortage will be wiped out completely in the early years of the present decade and by 2007, there will be surplus in housing. It is, thus, clear that the regression

methodology is highly inappropriate in estimating the future housing stock or housing deficit as it assumes the old rates of growth to continue in the future years. The model is invalid because it does not incorporate any of the socio-economic indicators that are undergoing transformation and that are likely to change the dynamics of development in urban housing market.

It is, therefore, considered important to work out an appropriate methodology reflecting the dynamics of change in urban land market, enabling us to estimate the housing shortage in the country at a certain period of time in a more realistic manner identifying the most important changes in the socio economic characteristics of the households over the last few years, based on data that are easily available. To study the trends in the household formation, housing stock growth etc. the following sets of information is required.

1. The distribution of households and housing stock by Monthly Per Capita Expenditure Classes (MPCE)
2. The congestion factor preferably by MPCE;
3. The obsolescence factor again by MPCE break up will be preferred

### **Estimation of Households:**

Based on the data from previous censuses of India it is observed that the percentage growth in the number of households for the period 1971-1981, 1981-1991 and 1991-2001 is 53.43%, 38.91% and 37.10% respectively. Thus, for estimation of the number of households, if the period relating to 1971-81 or earlier is taken into account, the projection of households is likely to be erroneous. We may consider the data relating to recent past say nineties rather than the period of last 30 or 40 years.

The number of **households** at the beginning of the 11<sup>th</sup> plan period i.e. **2007** works out to be **67.4 million** utilizing the exponential growth function based on the Population Census data of 1991-2001. The implicit assumption here is that the number of households will grow exponentially (as is generally assumed in case of population) at the same rate as observed during the nineties. There is an alternate method of estimating the number of households in 2007. The Registrar General and Census Commissioner, India (RGI) has projected the urban population for the year 2002-2026. As per this projection, the total urban population in country will be 328.49 million in 2007. Assuming that the household size will remain constant at **5.1** over the period of time from 2001 to 2007, the estimated number of urban households will be **64.41 millions**. It may be noted that the implicit growth rate behind the computations is a growth rate of 2.34 per cent per annum which is on the lower side as per the assessments made by various research agencies and researchers. It would be more appropriate to take the rate to be 2.50 per cent as opposed to that of 2.73 per cent noted during nineties. This would give urban population figure of 331.5 million by 2007. Assuming the size of urban households to come down from 5.1 to 5.0, their number can be computed as 66.3 million. The decline in the size of household in urban areas can be justified in view of the fact that the household size has come down from 5.35 in 1991 to 5.1 in 2001. *The figure of 66.3 million has therefore been taken as the basis for the calculations here.*

To have a basic idea of the division of households among the various categories i.e. EWS, LIG, MIG and HIG, the data on percentage of households by MPCE classes on the basis of NSS 60<sup>th</sup> round (Jan.-Jun 2004) (NSS report No. 505) may be used. The distribution of households estimated i.e. 66.3 million at the beginning of 2007 among the various categories will be as follows

MPCE Class (Rs.)	Household Size	% of households	Estimated No. of Households (Mn.) as on 2007
0-300	6.1	1.3	0.86
300-350	6.5	1.5	0.99
350-425	6.0	4.0	2.65
425-500	5.7	5.2	3.45
500-575	5.6	6.1	4.04
575-665	5.4	7.3	4.84
665-775	5.3	9.7	6.43
775-915	4.7	10.3	6.83
915-1120	4.3	12.5	8.29
1120-1500	3.9	15.7	10.41
1500-1925	3.4	9.4	6.23
1925 +	2.9	16.9	11.20
Total No. of Hhs.	<b><u>4.40</u></b>		66.30

The household expenditure on durable goods incurred by the households in a MPCE class may be considered as appropriate proxy variable for its saving rate. The ratio of expenditure incurred on durable goods by the households in the lowest expenditure class i.e. 0 – 300 to the expenditure incurred on durable goods by the households in the highest class i.e. 1925+ is 0.011:1. The saving in the EWS category can therefore be taken as zero which is corroborated by a large number of studies based on secondary and primary data. The savings ratio for EWS & LIG thus work out to be 0%, & 17.54% respectively. By taking the expected savings of the households, income levels for different expenditure classes can be worked out. Based on the income criteria, it is now possible to work out a new classification system for the households to place these under EWS, LIG, MIG and HIG categories. One would note that the households with income less than Rs. 3300/- per month are classified as EWS, between Rs. 3301/- and Rs. 7300/- as LIG;

between Rs. 7301 and Rs. 14500/- as MIG and above Rs. 14501/- as HIG, and the distribution of households will be as shown in the Table below:

Monthly household income (Rs.)	Estimated no. of households (Mn).
0 –3300 (EWS)	21.81
3301 - 7300 (LIG)	27.57
7301 – 14500 (MIG)	16.92
14501 and above (HIG)	
Total No. of Households (Mn)	66.30

### **Estimation of Housing Stock:**

For estimation of housing stock in the year 2007, simple exponential growth rate in housing stock has been computed for the nineties using the data from Population Census. The growth rate of 3.2 per cent per annum for pucca houses, thus computed, has been taken as valid for the next six years for projection purposes. The estimated number of pucca housing stock thus works out to be 49.99 million in 2007. The growth rate for this combined category (semi pucca and serviceable kutchha) is noted to be 0.28 per annum during the nineties. Using this, it is estimated that the total number of semi pucca and serviceable kutchha houses would be 9.94 in 2007, giving the total housing stock to the tune of 59.93 million.

The NSSO in its report No. 488 has also estimated that 7.17 million constructions have been completed during the last 5 years (1997-2002). This implies that about 1.45 million constructions have been completed and added to the existing housing stock every year, based on the assumption of constant addition in housing stock in each year. The annual exponential growth rate in the housing stock thus comes to about 2.63 per cent in the acceptable housing stock during nineties. This is much on the higher side since the figure for katchha does not

exclude the unserviceable katcha. Once that figure is taken out in the calculations, the growth rate will be less than even what is noted from the Census data for the nineties.

One may note that the growth rate in housing stock used in our calculations is much less than the regression growth rate estimated based on the Census data during 1971-1991. It has been noted above that the experience of the seventies and eighties may not be of much help in making projections for the present decade in this century. The rate is slightly below the rate noted for pucca or even total houses during nineties. The CSO data on income from housing sector may be cited to support this perspective and the implicit assumption.

As per the CSO estimates, housing sector's contribution to GDP for the period 2003-04 is 4.5% (for urban areas 3.13%) at current prices. It may also be observed that this proportion has remained more or less constant at 4.5% over the period of time. This indicates that the investment in housing sector has not been made to the extent it can eradicate housing shortage in the country. It is well recognized that much of the investment in housing sector has been restricted to residential pucca units which has been made mostly by the affluent section of society except a small portion attributable to Government run schemes.

### **CONTRIBUTION OF HOUSING TO NATIONAL INCOME**

(Rs.Crore)

<b>Year</b>	<b>GDP of Dwellings (At current prices)</b>			<b>GDP at Factor Cost</b>	<b>% of Total GDP to GDP at Factor Cost</b>
	<b>Rural</b>	<b>Urban</b>	<b>Total</b>		
<b>1993-94</b>	18917	24590	43507	781345	5.6
<b>1994-95</b>	19896	27310	47206	917058	5.1

<b>1995-96</b>	20620	30279	50899	1073271	4.7
<b>1996-97</b>	21759	33621	55380	1243546	4.5
<b>1997-98</b>	22853	36863	59716	1390148	4.3
<b>1998-99</b>	24770	42798	67568	1598127	4.2
<b>1999-00</b>	27287	50277	77564	1761838	4.4
<b>2000-01</b>	29731	57528	87259	1902999	4.6
<b>2001-02</b>	31907	65076	96983	2081474	4.7
<b>2002-03</b>	33659	71860	105519	2254888	4.7
<b>2003-04</b>	35300	78770	114070	2519785	4.5
<b>At 1993-94 prices</b>					
<b>1993-94</b>	18917	24590	43507	781345	5.6
<b>1994-95</b>	19270	25436	44706	838031	5.3
<b>1995-96</b>	19647	26311	45958	899563	5.1
<b>1996-97</b>	20033	27219	47252	970083	4.9
<b>1997-98</b>	20430	28155	48585	1016595	4.8
<b>1998-99</b>	20717	29123	49840	1082747	4.6
<b>1999-00</b>	21099	30127	51226	1148367	4.5
<b>2000-01</b>	21486	31164	52650	1198592	4.4
<b>2001-02</b>	21874	32238	54112	1267945	4.3
<b>2002-03</b>	22269	33344	55613	1318362	4.2
<b>2003-04</b>	22669	34489	57158	1430548	4.0

To have the estimates of housing stock for EWS, LIG, MIG and HIG respectively, the data provided by NSS in its 58<sup>th</sup> Round (July-Dec., 2002) (Report No. 488) may be used. As per the NSS estimates the percentage of pucca and kutcha dwellings by MPCE is

MPCE Class (Rs.)	Percentage of Dwelling Units		
	Pucca	Semi Pucca	Kutcha
0-300	48	41	11
300-350	48	38	14
350-425	54	39	7
425-500	59	32	9

500-575	65	29	6
575-665	69	28	3
665-775	75	23	2
775-915	81	17	2
915-1120	87	12	1
1120-1500	91	9	0
1500-1925	93	7	0
1925 +	98	2	0
All	77	20	3

The above data shows that households in category EWS, LIG, MIG and HIG have approximately 50%, 80%, 92% and 98% pucca dwelling units respectively while approximately 10%, 2% households in EWS and LIG category respectively will have kutcha houses. Thus it is evident that all the households in the MIG and HIG category have either pucca or semi pucca houses. Thus it can easily be said that the housing shortage or the requirements of housing is for EWS and LIG sections of the society only need addition housing units and rest of the sections of society will be taken care of by the market forces.

Indeed, the percentage of pucca houses is 80.8 only as per Census of 2001, the semi pucca and serviceable kutcha accounting for the remaining 19.2 per cent. However, as per NSSO, semi pucca and kutcha account for 24.7 per cent of the incremental housing during the five years of the present decade. In case we take serviceable kutcha to constitute only 3.33 per cent of acceptable housing stock, the number of serviceable kutcha constructed during 2001-07 would be 0.30 million only. The total housing stock in 2007 would then be 58.83 million giving a growth rate of 2.39 only which is realistic. This is less than what has been observed from the Census data viz. 2.59 per cent. This appears reasonable if one accepts the proposition that the declining trend in house construction as noted during nineties would continue in the subsequent years.

The NSSO Report further reveals that of the total constructions, 73.64% were pucca, 12.41 were semi pucca and the rest were kutchra (includes non serviceable) structures. The growth rate in pucca houses then would work out to be 2.41 which is less than what was noted during nineties (3.29 per cent) per cent. Thus, it is estimated that total number of housing units by 2007 will be **58.83 million out of which 47.49 million will be pucca dwelling units, 9.16 million will be semi pucca and 2.18 million will be katcha units.**

### **Estimation of Congestion Factor:**

The 9<sup>th</sup> Plan Working Group and the 10<sup>th</sup> Plan Working Group observed the congestion factor as the percentage of households in which each married couple does not have a separate room to live. With this definition, the congestion factor on the basis of Census of India, 2001 comes out to be **3.52%**. This definition of congestion does not consider a situation wherein a couple is sharing a room with a person of age 10+ as undesirable or a reflective of congestion. When a household living in a house with only one living room has one couple, it would not be considered to be a “congested” situation. In fact, no question regarding couples sharing rooms with adult members is asked from the respondents while conducting the population census. The question asked from the respondents during the house listing operations of census pertain to the number of couples in the households and number of rooms available in the dwelling unit. Thus this definition fails in capturing real congestion by ignoring the privacy factor. The working group thought of exploring the other methods and sources of data for an appropriate estimation of the congestion factor.

Indeed, the congestion factor can be worked out by utilizing the data on household size and the average number of room available to every household by MPCE. Larger the household size in comparison to the availability of room, larger

will be the congestion factor. The data on household size by MPCE is available from NSS 60<sup>th</sup> Round (Jan – Jun 2004) (Report No. 505) and Average number of room available by MPCE is available from NSS 58<sup>th</sup> Round (July – Dec 2002) (Report No. 488). The data shows as follows:

MPCE Class (Rs.)	Average Household Size	Average No. of Rooms Available
0-300	6.1	3.07
300-350	6.5	2.40
350-425	6.0	2.48
425-500	5.7	2.70
500-575	5.6	2.64
575-665	5.4	2.90
665-775	5.3	2.96
775-915	4.7	3.06
915-1120	4.3	3.25
1120-1500	3.9	3.80
1500-1925	3.4	4.00
1925+	2.9	4.72

The data reveals that the higher is the expenditure class, lower is the household size and larger is the number of rooms available. This is understandable as the households in higher expenditure classes tend to have only the nuclei families while the EWS and LIG families have joint family system. One can note in the table that the households in high expenditure class have larger number of rooms than the couples or even the family members. They have surplus housing at their disposal. Congestion factor, however, is severe at the lower expenditure classes. In the EWS and LIG groups a high congestion factor can be inferred from the fact that the number of family members is much larger than the number of rooms. On the other hand, the congestion factor is non-existent for average households in MIG and HIG categories, since the number of rooms available, after

catering to the married couples within the household, is larger than the number of other family members.

Importantly, in the 58<sup>th</sup> round survey a specific question was asked if each married couple had a separate room in the house, disregarding if children under the age of 10 shared the room with the couple. The results<sup>1</sup> show that even in homes with only one married couple, as many as a quarter of the households did not have a separate room. In the slums as many as 44 per cent of the homes, with at least one married couple, did not have separate room for the married couple.

Based on the data from the 58<sup>th</sup> round NSS survey, the total number of couples not having a separate room was computed for households with different numbers of couples, living in houses with varying room numbers. It was estimated that 22.94% of all couples do not have a separate room to live in. As the average number of couples per households is 1.20, one can convert the couples into households by assuming the figure to be constant across expenditure classes. This would give us the figure of **19.11%** of the households having congestion problem. The distribution of households having congestion by expenditure category is given at Annex – II.

### **Estimation of Obsolescence factor:**

The Obsolescence factor has been defined by the 9<sup>th</sup> Plan Working Group as the percentage of households living in the dwelling units aged 80 years or more. These units are deemed to be unfit for habitation. The value of the obsolescence factor has been calculated on the basis of NSSO data. The Census of India, 2001, for the first time, has provided the estimates of the households living in dilapidated dwelling units. The percentage figure of the households living such units is 3.60%. The NSSO in its 58<sup>th</sup> round (July – Dec 2002) (Report No. 488) has also

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<sup>1</sup> NSS Report No. 489, Household amenities and other Characteristics, May 2005

provided the estimates of number of households living in the house by age and condition of house, as mentioned below:

### **Percentage of Households by age and condition of house**

Age of the House	Condition of House		
	Good	Satisfactory	Bad
< 1	1.2	0.5	0.3 (15)
1 – 5	4.8	2.0	0.9(11.7)
5 – 10	12.5	7.4	1.6(7.4)
10-20	16.1	13.2	2.8(8.7)
20 –40	9.3	11.9	3.0(12.4)
40 – 60	2.4	4.3	1.3(16.25)
60 – 80	0.6	1.4	0.4(16.7)
80+	0.5	1.0	0.4(21.0)
All Ages	47.4	41.7	10.7(10.7)

Note: The figures in the brackets show the percentage of dwelling units perceived to be in bad conditions to the total units in a given age category.

From the above data, if only the households living in dwelling units that are older than 80 years are taken to be having obsolescence problem, one would believe that only 1.9 % of the households suffer due to it. The data, however, clearly reveals that a substantial percentage of households in each age specific category report living in bad conditions, the figures range from 7 to 21 per cent. Indeed the percentages of bad housing reported by households living in dwelling units aged between 40 and 60 years or even less than one year category are only marginally less than the 80 + category.

The dwelling units which are acknowledged to be bad but are of less than 40 years of age would mainly be in slums and belonging to serviceable or non serviceable kutchra category. This category of dwelling units does not form a part of the acceptable housing stock in urban areas and thus are excluded

from the purview of calculation of housing shortage. Therefore, the percentage of households living in bad houses aged between 40 and 80 years along with percentage of households living in dwelling units aged 80 years or more have been added to compute the obsolescence factor. This percentage comes out to be **3.60%**.

### **Estimation of Housing Shortage as on 2007:**

Utilizing the alternate estimates of the congestion and obsolescence factors as mentioned above, housing shortage has been estimated as on 2007 as follows:

	As on 2007
1. Households (Mn)	66.30
2. Housing Stock (Mn)	58.83
2.1 Pucca	47.49
2.2 Semi Pucca	09.16
2.3 Kutchha	02.18
3. Excess of HHs over Housing Stock (Mn) (1 – 2)	07.47
4. Congestion factor (%)	19.11
4.1 Congestion in Hhs. (Mn)	12.67
5. Obsolescence factor (%)	3.60
5.1 Obsolescence in Hhs. (Mn)	02.39
6. Upgradation of Kutchha (Mn) (2.3)	02.18
7. Total Housing Shortage (3+4.1+5.1+6)	24.71

### **Distribution of Housing Shortage among the Socio-economic category:**

The National Sample Survey Organisation in its Report No. 488 (58<sup>th</sup> Round, July – Dec. 2002) has estimated that out of the total urban households, 3.24% of the households are living in kutchha houses. The data on percentage of households by type

of structure and area type for each MPCE as per NSS 58<sup>th</sup> Round, 2002 (Report No. 488) is as follows:

#### Slum+Squatter Settlement Areas

MPCE (Rs.)	Slum Area			Estd. No. of HHs.(000)
	Pucca	Semi Pucca	Katcha	
1	2	3	4	5
0-300	28.9	50.4	20.6	282
300-350	43.7	38.5	17.8	407
350-425	49.8	40.9	9.3	733
425-500	55.9	29.7	14.4	412
500-575	64.7	25.7	9.6	968
575-665	69.7	26.5	3.8	633
665-775	77.6	17.8	4.6	830
775-915	77.8	19.9	2.3	592
915-1120	79.3	17.7	3.0	624
1120-1500	91.8	6.2	2.0	389
1500-1925	82.2	17.2	0.6	190
1925+	90.9	8.6	0.5	55
N.R.	52.9	8.1	38.9	4
All Classes	66.8	25.7	7.5	6119

#### Non Slum Areas

MPCE (Rs.)	Non Slum Area			Estd. No. of HHs.(000)
	Pucca	Semi Pucca	Katcha	
1	2	3	4	5
0-300	52.3	38.8	8.9	1145
300-350	49.1	37.7	13.2	1665
350-425	54.9	38.1	6.9	3487
425-500	59.4	33.2	7.5	1978
500-575	65.1	29.7	5.3	5876
575-665	68.3	28.3	3.4	4633
665-775	75.0	23.3	1.6	5573
775-915	81.2	16.6	2.1	5250
915-1120	87.5	12.1	0.4	6847
1120-1500	90.5	9.1	0.2	6273

1500-1925	93.4	6.2	0.4	4588
1925+	98.3	1.7	0.0	4927
N.R.	84.6	9.2	6.2	98
All Classes	78.0	19.2	2.8	52340

#### All Areas

MPCE (Rs.)	Slum Area			Non Slum Area			Estd. No. of HHs.(000)
	Pucca	Semi Pucca	Katcha	Pucca	Semi Pucca	Katcha	
1	2	3	4	5	6	7	8
0-300	5.7	10.0	4.1	42.0	31.1	7.1	1428
300-350	8.6	7.6	3.5	39.4	30.3	10.7	2073
350-425	8.6	7.1	1.6	45.4	31.5	5.7	4221
425-500	9.6	5.1	2.5	49.1	27.4	6.2	2390
500-575	9.2	3.6	1.4	55.9	25.5	4.5	6844
575-665	8.4	3.2	0.4	60.1	24.9	3.0	5266
665-775	10.1	2.3	0.6	65.3	20.3	1.4	6403
775-915	7.9	2.0	0.3	73.0	15.0	1.9	5841
915-1120	6.6	1.5	0.2	80.2	11.1	0.4	7471
1120-1500	5.4	0.4	0.1	85.2	8.6	0.2	6663
1500-1925	3.3	0.7	0.0	89.7	5.9	0.3	4778
1925+	1.0	0.1	0.0	97.2	1.7	0.0	4984
N.R.	2.0	0.3	1.5	81.4	8.9	6.0	102
All Classes	7.0	2.7	0.7	69.8	17.2	2.5	58463

The share of households who are living in kutch houses belonging to EWS category to the total number of households living in kutch houses works out to be 88.13%. The corresponding figures for LIG is 11.69% and MIG and HIG taken together constitute 0.18%. The total housing shortage can now be distributed amongst the categories by taking **this to be collinear with the percentages of households living in kutch houses**, as mentioned above. Therefore the category wise housing shortage will be as follows:

Category	Housing shortage in Mn. as on 2007
EWS	21.78
LIG	2.89
MIG	0.04
HIG	
Total	24.71

**Housing requirement during the 11<sup>th</sup> Plan Period (2007-2012):**

The housing requirement during the 11<sup>th</sup> Plan period has been worked out by utilizing the rate of growths on various parameters as has been applied for arriving at the housing shortage as on 2007 assuming that the rates will not change drastically during the 5 year period of the plan. Therefore, the estimates of households, housing stock etc. as on 2012 will be:

	As on 2012
1.Housing Shortage as on 2007 (Mn)	24.71
2.Households (Mn)	75.01
3.Pucca Houses (Mn)	53.49
4. Semi Pucca Houses (Mn)	10.05
5. Katcha Houses (Mn.)	2.56
6. Addition to households (Mn.)	8.71
7. Addition to housing stock	7.27
8. Upgradation of Katcha Houses (Mn.)	0.38
10. Additional requirement (Mn.) (6-7+8)	1.82
11.Total requirement (Mn.)	26.53

Thus it is clear that, taking the business as usual scenario, the total shortage of dwelling unit at the beginning of the 11<sup>th</sup> Plan Period i.e. 2007 will be 24.71 million. The housing

shortage during the plan period (2007-2012) including the backlog can then be computed as **26.53 million**.

**Distribution of estimated Housing Shortage as on 2007 amongs the States:**

The estimated housing shortage has been divided amongst the States on the basis of the proportion of the number of households in the urban areas of State to the total number of households in the urban India as per the Census of India, 2001. The distribution of the housing shortage amongst the States as on 2007 is as follows:

State/UTs	(million) Housing Shortage
<b>Andhra Pradesh</b>	1.95
<b>Arunachal Pradesh</b>	0.02
<b>Assam</b>	0.31
<b>Bihar</b>	0.59
<b>Chhatisgarh</b>	0.36
<b>Goa</b>	0.07
<b>Gujarat</b>	1.66
<b>Haryana</b>	0.52
<b>Himachal Pradesh</b>	0.06
<b>Jammu &amp; Kashmir</b>	0.18
<b>Jharkhand</b>	0.47
<b>Karnataka</b>	1.63
<b>Kerala</b>	0.76
<b>Madhya Pradesh</b>	1.29
<b>Maharashtra</b>	3.72
<b>Manipur</b>	0.05
<b>Meghalaya</b>	0.04
<b>Mizoram</b>	0.04
<b>Nagaland</b>	0.03

<b>Orissa</b>	0.50
<b>Punjab</b>	0.69
<b>Rajasthan</b>	1.00
<b>Sikkim</b>	0.01
<b>Tamil Nadu</b>	2.82
<b>Tripura</b>	0.06
<b>Uttaranchal</b>	0.18
<b>Uttar Pradesh</b>	2.38
<b>West Bengal</b>	2.04
<b>A &amp; N Islands</b>	0.01
<b>Chandigarh</b>	0.08
<b>Dadra &amp; Nagar Haveli</b>	0.01
<b>Daman &amp; Diu</b>	0.01
<b>Delhi</b>	1.13
<b>Lakshadweep</b>	0.00
<b>Pondicherry</b>	0.06
<b>All India</b>	<b>24.71</b>

**Reasons for variation in estimates of housing shortages vis-à-vis the 10<sup>th</sup> plan Working Group:**

- The results of Census of India, 2001 relating to the housing and housing amenities were not available at the time the estimates of housing shortages were being worked out by the 10<sup>th</sup> Plan Working Group on Urban Housing. Understandably, therefore, the latter had arrived at the projections by utilizing the data from the Census of India for the period 1961-1991.
- The estimates for housing parameters for the period 2002-2007 i.e. 10<sup>th</sup> plan period arrived at by utilizing the data pertaining the earlier decades i.e. 1961-1991 are statistically not acceptable.

- In the present case, the more recent information available from Population Census as well as NSS has been used in projecting the housing scenario.
- Greater weightage has been given to the trend observed during 1991-2001 rather than to that of the earlier decades.
- Information on socio economic characteristics of households living in different types of houses available from NSS has been utilized in understanding the trends as also in projecting these into future.
- A different methodology and data set have been adopted to arrive at the estimation of congestions in the households.
- The 10<sup>th</sup> Plan Working Group had defined the concept of congestion and obsolescence in a limited manner which does not capture the reality on the ground.
- In the present case, an attempt has been made to define the concepts in a socially and empirically satisfactory manner by taking into consideration the housing situations as reflected through the latest publications of national level statistical agencies.
- While arriving at the total requirement of dwelling units at the beginning of the 10<sup>th</sup> plan period, a very important factor i.e. increase in the number of households was left outside the purview of the calculations.

- In the present exercise, this has been taken into account to project the total requirement of dwelling units at the end of the 11<sup>th</sup> plan period.

### **Conclusions:**

The following conclusions have been made by the Technical Group:

1. That the housing shortage as on 2007 is 24.71 million and the total requirement of housing during the 11<sup>th</sup> Five Year Plan period (2007-2012) will be 26.53 million.
2. The Group had a very short period at its disposal and was to submit its report within 7 days from the date of its first meeting. Due to time constraint, the Group could not delve upon the issues relating to the finances available to households and its repayment capacity of the housing loans which also affects the affordability of the better housing units by the households.
3. That a detailed study be given to NBO to study the requirements of housing, both in rural and urban India, which may take into account various other issues which may be identified crucial for the study.
4. That the NBO needs to be strengthened suitably, both by manpower and machines, for better coordination between the Central and State Govt. Organisations engaged in collection and dissemination of housing statistics. The technical manpower may be outsourced from open market as suggested by Deptt. Of Expenditure, Min. of Finance in its restructuring of NBO.

5. NBO also needs to be strengthened to discharge its duties as the nodal organization in the field of Housing Statistics to meet the requirements of planners and policy framers by means of creating a national resource and warehousing centre in housing statistics.

**The definitions adopted by the Technical Group:**

**Household:** A group of persons normally living together and taking food from a common kitchen constituted a household. The members of a household might or might not be related by blood to one another.

**Dwelling Unit:** A accommodation availed of by a household for its residential purposes. It might be entire structure or a part thereof or consist of more than one structure.

**Pucca:** A structure whose walls and roof were made of pucca material such as cement, concrete, oven burnt bricks, hollow cement/ash bricks, stone, stone blocks, metals, asbestos cement, wood, plywood etc.

**Katcha structure:** The structure whose wall and roof, both, are made of non pucca material.

**Unserviceable Katcha:** Unserviceable katcha structure is the structure with thatched walls and thatched roof.

**Serviceable Katcha:** A katcha structure other than the unserviceable katcha is serviceable katcha.

**Semi-pucca:** A structure which could not be classified as a pucca or a katcha structure as per definition is semi-pucca. Such structure had either the wall or the roof, but not both, made of pucca material.

**Living Room:** A room with floor area of at least 4 square metre, a height of at least 2 metres from the floor to the highest point in the ceiling and used for the living purpose. A bedroom, sitting room, prayer room, dinning room, servant room meeting the size criterion, are considered as living room. A room used in common for living purpose and as kitchen or store was also considered as living room.

**Obsolescence factor:** Percentage of households living in the dwelling units having age 40-80 years and are in bad condition and percentage of households living in all structures aged 80+ years, irrespective of condition of structure, taken together is taken as obsolescence factor for the purpose of the report.

The Ninth Plan Working Group on Urban Housing had adopted the obsolescence factor as “percentage of households living in 80+ years old dwelling units”

**Congestion factor:** Percentage of households in which atleast one couple is not having a separate room to live in. This includes the households in which couples are sharing the room with 10+ age member of the household.

The Ninth Plan Working Group on Urban Housing had adopted the factor as “percentage of married couples equire separate room/house”.

**Couple:** All married couples in a households irrespective of their ages. A man with two wives in a household constituted two married couples. But a woman with two husbands in a household formed a single couple.