REPORT OF THE TECHNICAL GROUP
ON
URBAN HOUSING SHORTAGE (TG-12)
(2012-17)

GOVERNMENT OF INDIA
MINISTRY OF HOUSING AND URBAN POVERTY ALLEVIATION
NATIONAL BUILDINGS ORGANISATION
www.mhupa.gov.in

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To
Kumari Selja
Hon'ble Minister of Housing & Urban Poverty Alleviation
Government of India

Subject: Report of the Technical Group (TG-12) on Urban Housing Shortage.

Dear Madam,

We are pleased to submit the Report of The Technical Group on Urban Housing Shortage constituted vide Office Order dated 23rd September 2011 by NBO, Ministry of Housing & Urban Poverty Alleviation.
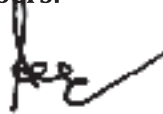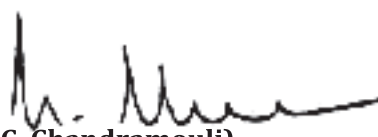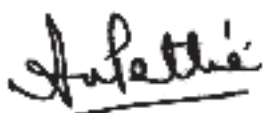
Yours faithfully

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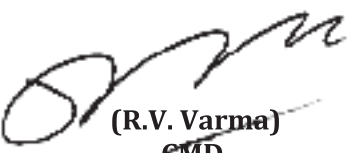
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Preface

The methodology for projecting housing shortage must be embedded in the policy framework within which the government wants to charter its future course of development in the country. In case the view is to adopt the business as usual scenario, with no major change in the interventions envisioned by public agencies, one can go by the trends in the growth in the number of households (HHs) and housing stock and consider the difference of the second from the first as the shortage. This approach was adopted partially by the Ministry of Housing and Urban Poverty Alleviation (HUPA) in the earlier plans. Interestingly, despite the rapid growth in the number of urban HHs due to a reasonably high rate of in-migration and emergence of new towns, there will be no housing shortage by the middle of the Twelfth Plan period, as per this approach. This is because the growth in the housing stock has been high in recent years, despite the speculation of the bubble bursting all the time.

Housing shortage would not be a major problem if there is no mismatch between the people for whom the houses are being built and those who need them. Indeed, if the newly built houses were available to the houseless, squatters, slum dwellers and those living in extremely congested conditions, the shortage would be small. It would, however, be unrealistic to assume that the houseless HHs and those living in unacceptable conditions - in other words, those who could be described as in *housing poverty* - would have the affordability and access to the burgeoning supply in the market. The rapid increase in the number of vacant houses, the fierce competition among the private builders and aggressive advertisements to woo the prospective buyers, clearly underline the mismatch. Almost all the buyers of the new housing stock already live in acceptable dwelling units and either plan shifting from rented to self owned houses or are only attempting to improve their living conditions by going to a bigger house. There will be a few among them who would be buying for owning a second house, for future/occasional occupancy, rental earning or for pure speculative reasons. On the other hand, those in 'housing poverty' mostly do not have the means to enter the housing market to claim ownership or acquire rental housing.

In the context of the strategy of inclusive development in the Twelfth Plan, addressing the problem of mismatch between suppliers of housing and those needing them and bringing down the housing shortage, if not completely eliminate it, would be the major challenge. In order to design appropriate strategies to address these and monitor progress at different levels, it would be extremely important to determine the quantum of housing shortage. It is only when the nature and magnitude of the shortages are known in various income and tenure categories and across states that an attempt can be made to create the right policy environment and direct agencies linked to housing sector to prepare the roadmaps for their action plan. In case housing is made a part of infrastructure sector or declared to be an industry, it should be possible to

incentivise the construction activities to deliver an appropriate mix of dwelling units to meet the needs of the people in housing poverty.

The present Technical Group for the Twelfth Plan (TG-12) noted that the Draft of the Twelfth Plan and other policy documents related to housing sector reflect the concerns of the government in general and the Ministry for Housing and Urban Poverty Alleviation in particular for improving the conditions of the slum and pavement dwellers and the economically underprivileged sections of population. This commitment has been reiterated through launching of the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) and Rajiv Awas Yojana (RAY) and announcement of other policies and programmes, focussing on affordable housing for the poor. In view of this perspective, the TG-12 decided to design the methodology for projecting housing shortage by incorporating certain norms regarding quality of life and quality of housing. It is envisaged that the programmes and policies of the concerned Ministries and government departments would be motivated and guided by the norms and targets set for this sector. The Ministry appears to stand firm on its commitment to design its missions and programmes to remove much of the housing deficit if not wipe it out completely by the end of the Plan period. The methodology and the figures of housing shortage presented in the Report reflects, in a way, these commitments of (a) providing houses to the houseless and those living in unserviceable houses, (b) supporting HHs for incremental housing and upgrading their conditions of living and (c) easing the demand supply imbalance in the housing market.

The TG-12 would place on record its appreciation for providing valuable inputs by Shri Arun Kumar Misra, Secretary (HUPA), Dr. P.K. Mohanty, AS & MD (JNNURM) and Shri Susheel Kumar, Joint Secretary (Housing). Thanks are due to Mr. D. S. Negi, Director (NBO) & OSD (JNNURM & RAY) and his team of dedicated officers, who provided complete logistic and research support without which the Report could not have been prepared and submitted in such a short time. Last but not the least, we wish to place on record our deep appreciation of the interest and commitment of the Hon'ble Minister of Housing & Urban Poverty Alleviation, who encouraged us at every step.

(Amitabh Kundu)
Chairperson of Technical Group

New Delhi

Dated: The 22nd September, 2012

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LIST OF ACRONYMS	
BPL	Below Poverty Line
BSUP	Basic Services to the Urban Poor
CDS	Community Development Society
CSO	Central Statistical Office
EIUS	Environmental Improvement of Urban Slums
EWS	Economically Weaker Sections
FAR	Floor Area Ratio
FHH	Female- headed Households
GIS	Geographic Information System
GDP	Gross Domestic Product
HCR	Head-count Ratio
HFI	Housing Finance Institution
HH	Household
HIG	Higher Income Group
HUDCO	Housing & Urban Development Corporation
IDSMT	Integrated Development of Small and Medium Towns
IHSDP	Integrated Housing & Slum Development Programme
ISHUP	Interest Subsidy Scheme for Housing the Urban Poor
ILCS	Integrated Low-cost Sanitation Scheme
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
LIG	Lower Income Group
MHH	Male-headed Households
MIG	Middle Income Group
MIS	Management Information System
MPCE	Monthly per -capita Consumption Expenditure
MRP	Mixed Recall Period
NBO	National Buildings Organisation
NCU	National Commission on Urbanization
NCUES	National Commission for Enterprises in the Unorganised Sector
NSC	National Statistical Commission
NSS(O)	National Sample Survey (Organization)
NHB	National Housing Bank

NHC	Neighbourhood Committees
NHG	Neighbourhood Groups
NPV	Net Present Value
NRY	Nehru Rozgar Yojana
NSS	National Sample Survey
NSSO	National Sample Survey Office
NUHHP	National Urban Housing & Habitat Policy
OG	Urban Out-Growths
PMIUPEP	The Prime Minister's Integrated Urban Poverty Eradication Programme.
PPP	Public Private Partnership
RAY	Rajiv Awas Yojana
RGI	Registrar General Of India
SEZ	Special Economic Zones
SDP	State Domestic Product
SJSRY	Swarna Jayanti Sahari Rozgar Yojana
SPARC	Society for Promotion of Area Resource Centres
TDR	Transferable Development Right
TG-12	Technical Group-12th Plan
UA	Urban Agglomeration
UBS	Urban Basic Services
UBSP	Urban Basic Services for the Poor
UCD	Urban Community Development
UCDN	Urban Community Development Network
UIDSSMT	Urban Infrastructure Development Scheme for Small & Medium Towns
UIG	Urban Infrastructure & Governance
URP	Uniform Recall Period
USEP	Urban Self-Employment Programme
UTs	Union Territories
UWEP	Urban Wage Employment Programme
UWSP	Urban Women Self-help Programme
WPI	Wholesale Price Index

EXECUTIVE SUMMARY

In the context of the strategy of inclusive development in the Twelfth Plan, addressing the problem of mismatch between suppliers of housing and those needing them and bringing down the housing shortage, if not completely eliminate it, would be the major challenge. In order to design appropriate strategies to address these and monitor progress at different levels, it would be extremely important to determine the quantum of housing shortage. It is only when the nature and magnitude of the shortages are known in various income and rental categories and across states that an attempt can be made to create the right policy environment and direct agencies linked to housing sector to prepare the roadmaps for their action plan.

The terms of reference of the Technical Group (TG -12) are as follows

1. To review the methodology adopted for estimation of urban housing shortage and propose a sustainable and viable methodology.
2. Estimation of Housing Shortage and housing requirement at national and state level in urban areas during the 12th plan period.
3. To suggest a mechanism for strengthening the system of collecting housing statistics and developing a national data base for urban areas.

The present Technical Group (TG-12) has adopted an approach based largely on the information from the Population/Housing census and various rounds of National Sample Surveys (NSS) that collect data on housing and basic amenities covering both rural and urban areas of the country. The latter has certain advantages over the former as these pertain to a wider range of aspects, impossible to cover in the Census and are collected by professional enumerators, using a detailed questionnaire through in-depth interviews. The strength of the Census is that it covers the total population and therefore the estimates are free from sampling biases.

Methodology and Database for Computing Housing Shortage

The housing shortages in the country for successive Five Year Plans have been estimated by putting together (a) excess of households (that do not include homeless) over housing stock, (b) the number of households residing in unacceptable dwelling units - computed by considering the obsolescence factor, (c) those residing in unacceptable physical and social conditions -worked out using overcrowding/congestion factor, and (d) the houseless households. The first component that is excess of HHs over houses was high as single persons HHs lived together in one house but this has gone down over the years. Furthermore, this phenomenon may not be considered as housing shortage.

The methodology adopted by this TG -12 stipulates calculating housing shortage starting with identification of HHs residing in dilapidated and non-serviceable houses and adding the number to that of HHs living in congested conditions. The figure is then added to the houseless HHs.

The TG decided that it would be appropriate to estimate the housing shortage as the number households that would not have acceptable dwelling units or no dwelling unit to live at the beginning of the 12th Plan period that is March 2012. The number of households on March 1, 2012 works out as 81.35 million, as shown in the Table 3-1.

Estimation of Housing Shortage

The Obsolescence Factor

The methodology of determining obsolescence remains exactly the same as that used for the Eleventh Five Year Plan. The first component of the unacceptable housing is non-serviceable units. The second component would be obsolescent units comprising two parts (a) all bad houses, excluding those that are less than 40 years of age, and (b) all houses aged 80 years or more.

The Congestion Factor

Another major issue in estimating housing shortage would be to identify the households that are residing in unacceptably 'congested condition' from physical and socio-cultural viewpoint.

The TG further thought that congestion and obsolescence are two factors that need to be computed separately. There is, however, an overlap between these as obsolescent houses can have congestion problem and the other way round. This implies that after working out the ratio for the congestion factor, it must be applied it to all households, in the year of projection.

Homeless People

The TG has considered that half of the homeless are single migrants whereas the other half has an average household size of 3. By this, the housing need for the homeless should be 0.53 million.

Housing Shortage at National Level

The number of households in obsolescent or unacceptable dwelling units has been obtained by aggregating the number of HHs in non-serviceable dwelling units with those living in 'bad' houses (excluding those that are less than 40 years of age), and those in houses aged 80 years or more. The estimated figure works out to be 3.26 million as on 1.3.2012. The congestion factor has been computed by using the NSS data. Importantly, to get two different estimates of housing shortage for the Twelfth Five Year Plan, one pertaining to severe congestion and the other to congestion, we have applied the percentage figure of 18.30 per cent and 18.42 per cent on the estimated number of households in March 2012, obtained using the data from Population Census. The estimated number is 14,887,844 households that require dwelling units on account of severe congestion, implying that their dwelling unit size is less than or equal to 300 sq ft. The

households requiring a separate dwelling unit on account of congestion, which is roughly comparable with the estimate for the Eleventh Plan, comes to 14,986,312. The latter figure, added with the number of HHs in obsolescent houses and the homeless HHs give the total number of shortage as 18.78 million. If severe congestion estimate is added to the three other factors of shortage than the total shortage is 18.68 million.

Housing Shortage in Urban India in 2012 (Millions)

	Congestion
Households living in non-serviceable katcha	0.99
Households living in obsolescent houses	2.27
Households living in congested houses requiring new houses	14.99
Households in homeless condition	0.53
Total	**18.78**
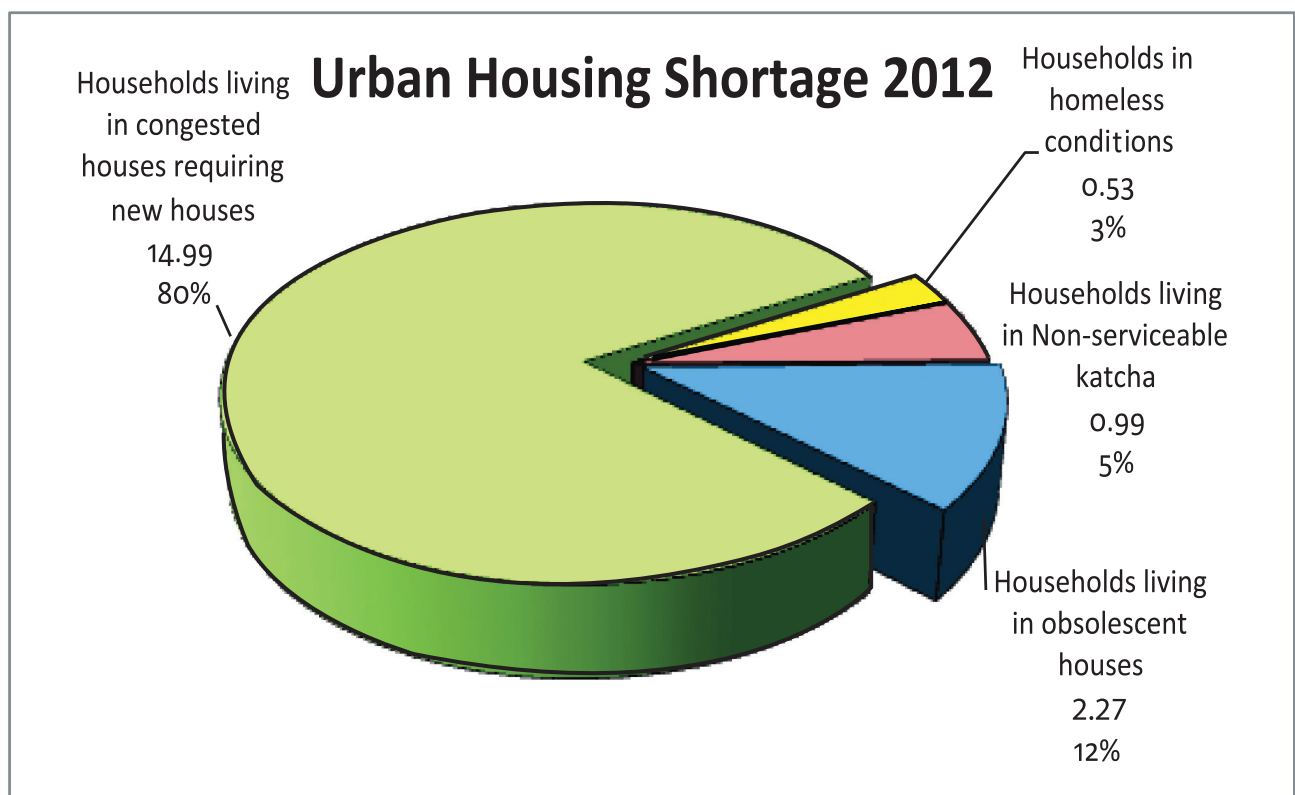
System for Collecting Housing Statistics

The Housing Census, conducted since 1961 as a part of decennial Population Census, provides the benchmark information on the quality and quantity of the housing stock in the country on a uniform basis, gathered through a standardized schedule. The latest figures available on housing are from the 2011 Census for which 2010 is the reference year for house listing operations.

The second major source of data is the special rounds of the NSS. The latest available NSS data are from the Reports of the 65th round for the year 2008-09. The survey based estimates arrived at using the NSS data have limitations. The population figure and that of the number of households obtained from the NSS, for example, are usually found to be underestimates when placed against the Census numbers. As a result, the general practice is to pick up the rates and ratios derived from the NSS and apply these on the Census numbers, to determine the total figures for disaggregated categories that are not available in the Census. The TG-12 has gone with this common practice.

A careful review of the classification system adopted by the two organizations suggests that there would be certain anomalies if pucca, semi-pucca and katcha are considered to be synonymous with permanent, semi- permanent and temporary. The difference between NSS and Census data across these categories appears to be large due to the distinction between pucca and semi-pucca houses being different from that of permanent and semi-permanent units. However, since both the categories are taken as parts of acceptable housing stock, this would not affect the computation of housing shortage for urban India significantly. For the purposes of the present Report, the classification of Population Census and the figures obtained from it have been used.

The overall growth in housing stock considering all types of dwelling units, excluding non-serviceable houses, is 51 per cent during the last Census decade. This gives an average growth rate of over 5 per cent per year. The

satisfying thing is, however, that the number of households during the decade 2001-2011 has grown by 47 per cent or 3.9 per cent per annum which is marginally below that of the housing stock. This to an extent has eased the housing situation.

Distribution of Housing Shortage across Expenditure Groups, Tenure Categories and Major States

It would be important to assess and distribute the shortage across expenditure groups, tenure categories (self-occupied and rented) and across the major states. Firstly, the exercise of estimating the shortage by deciles is taken up. To be able to do so, unit level data of the NSS's 65th Round has been used.

Decile	Distribution of Housing Shortage by Tenure Categories (million)		
	Self-occupied	Rented	Total
1	2.8	1.0	3.8
2	2.3	1.0	3.3
3	1.4	0.8	2.2
4	2.1	1.7	3.7
5	0.4	0.4	0.9
6	0.8	0.8	1.7
7	0.8	0.6	1.4
8	0.6	0.4	1.0
9	0.4	0.2	0.7
10	0.1	0.1	0.2
Total	11.7	7.0	18.7

Note: The figures are using severe congestion data.
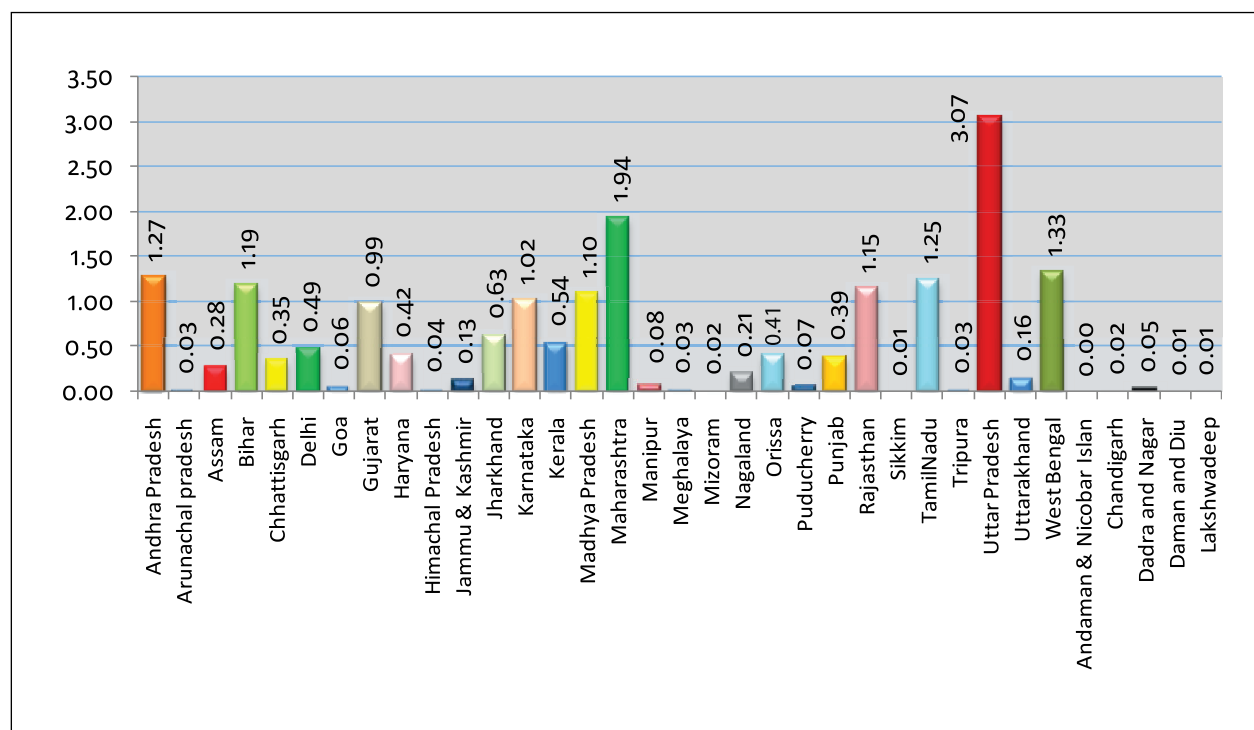
Distribution of Housing Shortage among the Socio-economic category:
The classification of EWS and LIG households are based on household income. EWS households are those with income up to Rs. 5000/- p.m. and LIG households are those with income between Rs. 5001/- and Rs. 10,000/- per month. Three-fourths of the shortage is in the EWS category and another quarter of the shortage is among the LIG category. In the latter, a significant proportion of shortage is on account of congestion in living conditions.

Category	Distribution of Housing Shortage among different Economic categories as on 2012	
	No. (in Millions)	In Percentage
EWS	10.55	56.18
LIG	7.41	39.44
MIG and above	0.82	4.38
Total	18.78	100.00

Housing requirement during the 12th Plan Period (2012-2017):

The Housing Shortage in the beginning of 12th Five Year Plan (2012) is estimated 18.78 million. The Housing Shortage during the period 2012-17 may not increase if the rate of growth in housing stock continues to be higher than the growth in number of Household in the 12th Five Year Plan, as observed in the last decade. Assuming the business as usual scenario and also continuation of the strategic interventions both at State & Central level, housing shortage may actually go down.

Macro Issues in Determining Urban Housing Shortage and their Implications

The paradox of Indian economic growth manifests itself in several ways. The paradox important in the context of the present Report is in that urban India has both a high housing shortage and a massive and rapidly growing stock of vacant houses. The policies and programs for dealing with housing shortage, therefore, cannot focus on promoting construction of new units and facilitating the households already residing in decent units to acquire new houses through fiscal and financial support. They must ensure that the design, costing and institutional arrangements for producing the dwelling units are such that the people in housing poverty get to access the existing and new housing stock.

The TG is of the view that there is nothing sacrosanct about the exact figure of shortage or their distribution across the states and expenditure categories or their breakup by and self-occupied and rental housing. They can be a bit on the lower or higher side. The basic idea in putting forward these numbers is to sensitise the policy makers, administrators, civil society organizations and create a sense of urgency regarding the dimensions of the problems and directions of solution among them. Also, the objective is to put forward a methodology for working out housing shortage in a simple and transparent manner, detailing out the steps and assumptions involved, as is done, to an extent, by the Committees set up to propose a methodology for counting the poor.

The TG strongly recommends the state and city level agencies must undertake detailed survey of the slum and low income areas as also other high density colonies in the cities to determine how many of the HHs identified as suffering from housing poverty as per the methodology adopted in this Report, can get their problem addressed in-situ.

Few strategies:

a) Housing to be made a part of infrastructure sector or declared to be an industry, so that it is possible to incentivise the construction activities to deliver an appropriate mix of dwelling units to meet the needs of the people in housing poverty

b) Bring in the vacant houses into the housing market through taxation and incentive policies

c) Households that have the problem of congestion must be enabled to create extra space or build extra rooms through support from public agencies

d) Shifting the households living in houses built before 80 years to new units.

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CHAPTER - 1
INTRODUCTION

The Technical Group on Estimation of Urban Housing Shortage for the Twelfth Plan (TG-12) was constituted by the Ministry of Housing and Urban Poverty Alleviation vide Office Memorandum No. N-11013/1/2006-H.I dated 23rd September, 2011 under the Chairmanship of Dr. Amitabh Kundu, Professor of Economics at Jawaharlal Nehru University, New Delhi with Terms of Reference as below:

The terms of reference of the TG-12 are as follows

1. To review the methodology adopted for estimation of urban housing shortage and propose a sustainable and viable methodology.

2. Estimation of Housing Shortage and housing requirement at national and state level in urban areas during the 12th plan period.

3. To suggest a mechanism for strengthening the system of collection housing statistics and developing a national data base for urban areas.

Estimating the magnitude of any human want or need, which has inherent individual choice embedded in it, is fraught with conceptual as well as data related difficulties. This applies more to estimating housing requirements than determining the basket of goods and services in exercises of counting the poor, as the latter can be linked, at least partly, to biological requirements and necessities for human survival. Despite the need to incorporate qualitative aspects that have problems of inherent subjectivity, policies launched to address the deprivations in these areas require quantitative information. A policy framework designed to alleviate housing shortage in cities and towns and make urban India slum free must begin with quantitative estimates of housing requirements, especially targeting the economically weaker sections of the society. One must work out the methods to assess the deficit in housing stock in relation to the requirements of the population in a simple and transparent manner so that this can become input into the policy.

The present Technical Group (TG-12) has adopted an approach that is amenable to quantitative procedures, using largely the information from the Population/Housing census and various rounds of National Sample Surveys (NSS) that collect data on housing and basic amenities covering both rural and urban areas of the country. The latter has certain advantages over the former as these pertain to a wider range of aspects, impossible to cover in the Census and are collected by professional enumerators, using a detailed questionnaire through in-depth interviews. The strength of the Census is that it covers the total population and therefore the estimates are free from sampling biases.

Given the complex socio-economic and geographical parameters affecting housing demand and supply, the TG-12 has followed a step by step iterative approach rather than adopting a straight forward econometric model. Such an approach has the advantage of being easily understood and the assumptions becoming transparent to the policy makers, administrators and common citizens. The definitions and classifications followed by the Population/Housing Census and the data generated by it constitute the basis for the projections. Additional information pertaining to the nature and quality of housing stock, occupancy, congestion, etc. have, however, been obtained from the NSS which follows broadly a similar classification and tabulation system with certain variations. In determining the scope and coverage of different components of housing shortage, it is decided to follow the approach employed by the Technical Group for the Eleventh Plan (TG-11) to keep the estimates largely comparable. A few modifications in the methodology have, nonetheless, been proposed to refine the projections and accommodate and reflect the changing context in housing.

SECTION I: REVIEW OF THE METHODOLOGY ADOPTED FOR ESTIMATION OF URBAN HOUSING SHORTAGE AND PROPOSITION OF A SUSTAINABLE AND VIABLE METHODOLOGY

CHAPTER – II

Data Related Issues for Housing and Households in the Context of Methodology for Estimating Shortages

The Housing Census conducted since 1961 as a part of decennial Population Census, provides the benchmark estimates on the quality and quantity of the housing stock in the country on a uniform basis, gathered through a standardized schedule. The information base built through the house listing operations has become more elaborate over the years. In the Census of 1991, the scope was expanded to include different types of building material used in construction of the houses and access of the households (HHs) to select amenities. In 2001, there was a major shift in the approach to house listing and an attempt was made to determine the quality of living for the HHs, by including a number of additional queries. Besides ascertaining the quality of housing from the respondents, information was gathered whether the HHs had bathroom and kitchen facility, had access to banking facility and if the married couples had independent rooms for their use. In 2011 Census, there were minor changes in the queries and additional questions regarding possession of computer/laptop were introduced while dropping the query regarding the availability of independent rooms to married couples. The latest figures available on housing are from the 2011 Census.

The second major source of data is the special rounds of the NSS. There have been significant changes in the scope and coverage of the surveys over the years, attempting to capture the changing scenario with regard to housing and access to amenities and assets. The latest available NSS data are from the Reports of the 65th round for the year 2008-09. Besides, the unit level data from NSS have been used for detailed cross tabulation of various characteristics of housing, which is not possible in the case of Census data as the latter are available at certain level of aggregation. The

analysis in the present Report has been undertaken by employing both the aggregative as well as unit level data.

The survey based estimates arrived at using the NSS data have certain limitations. The population figure and that of the number of households obtained from the NSS are usually found to be underestimates when placed against the Census numbers. As a result, general practice is to pick up the rates and ratios derived from the NSS and apply these on the Census numbers, to obtain the figures for disaggregated categories that are not available in the Census. The TG-12 has gone with this common practice.

The Census provides information of 'census houses' by their usages. Two of its categories, important for the present analysis, are the '*houses used for residence'* and those for *'residence-cum-other use'*. Many of the houses for 'residence-cum-other use' are shops, factories, hotels etc. but are simultaneously being used for residential purposes. The housing stock for the Report is, therefore, taken as the total of the units used for residence and residence-cum-other purposes. It is noted that information on the materials used for construction of houses occupied by the HHs that are institutional in nature, are not collected by the Census. Their number, however, is included in the total figures.

As per the Census 2011, the total number of Census houses in urban areas is 110.14 million of which 11.09 million are vacant and another 0.73 million are occupied but kept as locked. Further, a total of 19.84 million units are used as (a) shop/office, (b) school, college etc., (c) hotel, lodge, guest house etc., (d) hospital, dispensary etc., (e) factory, workshop, work shed etc. and (f) place of worship. The remaining units are used for residential purposes. As per the Census, there are 76.13 million houses used for only residential purposes and 2.35 million houses used for residential-cum-other uses, the two together giving the housing stock of 78.48 million.

The category of 'vacant houses', mentioned above, needs to be considered in the context of determining housing shortage. A large number of houses

are lying vacant for want of tenants or due to constraints in housing market, such as lack of affordability to buy such houses. Some of these vacant houses have been purchased for investment purposes only and are therefore not occupied. It is not possible to say how many of these are meant for residential occupancy and whether these have been purchased by the buyers and kept locked or are yet to be sold by the builders. As per the Census figures of 2011, the vacant and locked houses account for 10.73 per cent of the total stock. Of the total vacant houses, 6.6 per cent are found locked at the time of enumeration. At all India level, 79.82 per cent of all houses in urban areas, excluding the vacant and locked houses, are used for residential purposes. Applying this proportion, one would infer that nearly 9.43 million residential units are lying physically unutilized that could meet a large part of the housing need in the country. Unfortunately, no information is available separately on their physical conditions, size, and reasons for the non occupancy, as mentioned above. Also, there is no information on the reasons for the houses being locked. A few of these could be temporarily locked but their number is likely to be small.

In the NSS surveys on *Housing Conditions and Amenities,* information is collected from sample *households* about their dwelling units. As per NSS in 2008-09 survey, 91.1 per cent of the HHs reported that their dwelling units as being used only for *residential* purposes. The remaining are being used for *residential-cum-commercial* and *residential-cum-other* purposes. Information on HHs and their dwelling units are available for all HHs and not separately for those, using their houses for residential purposes only, in the Reports.

The Surveys of NSS are based on households as units of observation and in that sense are different from a Housing Census. The former classify the households as residing in houses with 'Good', 'Satisfactory' and 'Bad' structures, based on the reporting by the respondent. The Census, on the other hand, classifies the Census houses as 'Good', 'Livable' and 'Dilapidated' based, once again, on the perception of the respondent. From the instructions followed in Census and NSS operations, one can argue that the above mentioned categorizations of the HHs are based on apparently

similar principles. However, the actual characterizations of housing stock in terms of physical structure by NSS and Census have certain differences, although both are based on types of materials used for the construction of the wall and roof, as discussed below.

The other important classification of houses is by the quality of the building material used in construction. Usually the houses are classified as '*pucca*', *semi-pucca*, and '*katcha*', in the research studies and policy documents in India, as adopted by the NSS. The Census 2001, however, had adopted the nomenclature as 'permanent', semi-permanent' and 'temporary'. The 2011 Census, on the other hand, has avoided using this nomenclature, possibly because the state governments wanting to classify them differently from what was adopted in 2001. Instead, it has added a few more categories in their basic classification system based on the building material, to meet certain administrative or programme requirements of the states. Notwithstanding these changes, it is possible to put the data for 2011 into the same categories as of the 2001 Census. The detailed classifications of the roof and walls used in Census and NSS are given in Annex I. It must be noted that the Census classifies both the houses and households based on these categories while the NSS does that only for the households, as the latter's data collection system is household based.

There is another category of Census houses described as '*unclassified*' in 2001 and '*any other*' in 2011 in terms of the material used for walls and ceilings that are of significance in the classification system, discussed above. Where would these fit within the three-fold classification system? These are the houses whose construction materials are different from those specified in the census instructions. The data indicate that the shares of '*unspecified*' and '*any other*' categories are high in certain states of the country especially in the Northeast (over 5 per cent in urban areas of Arunachal Pradesh and Meghalaya). One may, therefore, infer that these are the houses built with local materials, suiting the climatic conditions and cultural practices and consequently could not be captured in the classification system. It is, therefore, decided that these should not be counted as *un-serviceable* and be included in the category of *serviceable*

katcha houses. These, are, therefore, treated as a part of acceptable housing stock, as discussed below.

Table 2-1: Distribution of Households by Type of Houses Occupied by them as per Census 2011

Total/ Rural/ Urban	Permanent	Semi-permanent	Temporary	Serviceable	un serviceable	Any other
	1	3	4	5	6	7
Total	152,704,535	61,974,374	29,643,211	17,764,830	11,878,381	2,370,547
Rural	86,232,664	52,817,694	27,132,753	16,246,906	10,885,847	1,643,619
Urban	66,471,871	9,156,680	2,510,458	1,517,924	992,534	726,928

A careful review of the classification system adopted by the two organizations reflects certain differences in the descriptions and types of construction materials used (Annexure I). This is likely to create certain anomalies and result in some differences, if *pucca, semi-pucca* and *katcha* are considered to be synonymous with *permanent, semi- permanent and temporary*, as can be seen in the Table 2-2 below.

Table 2-2: Number of Residential Houses and Households by the Types of their Housing Structure based on the Building Materials used for Walls and Ceilings (in millions)

		Census 2001	Census 2011	NSS 1993	NSS 2008-09
Pucca/Permanent	Houses	41.17	66.17	NA	NA
	Households	42.60	66.47	30.07	60.90
Semi-pucca/ semi-permanent	Houses	8.08	9.10	NA	NA
	Households	8.26	9.16	7.28	4.12
Katcha/ Temporary serviceable	Houses	1.72	2.23	NA	NA
	Households	1.76	2.24	2.79	1.07
Katcha/ Temporary unserviceable	Houses	1.04	0.99	NA	NA
	Households	1.07	0.99	0.58	0.35
Total	Houses	52.06	78.48	NA	NA
	Households	53.69	78.87	40.79	66.45

Note: The houses depicted as '*unclassified*' in 2001 Census and '*any other*' in 2011 Census have been placed under *Serviceable Katcha* category for

reasons discussed in the text. In NSS figures, the 'total' includes non-recorded cases as well.

Table 2-3: Percentage Distribution of Houses and Households by the Types of their Housing Structure, based on the Building Materials used for Walls and Ceilings

		Census 2001	Census 2011	NSS 1993	NSS 2008-09
Pucca/ Permanent	Houses	79.12	84.31	NA	NA
	Households	79.34	84.29	73.84	91.7
Semi-pucca/ semi-permanent	Houses	15.52	11.60	NA	NA
	Households	15.38	11.62	17.89	6.23
Katcha/ Temporary serviceable	Houses	3.31	2.84	NA	NA
	Households	3.28	2.84	6.85	1.61
Katcha/ Temporary non-serviceable	Houses	2.00	1.26	NA	NA
	Households	1.99	1.26	1.43	0.52

It is important to note that the figure by the latest year for the percentage of HHs, residing in permanent houses as per the Census classification, is about 7 percentage points lower than those in *pucca* houses, as per the NSS. The figure for HHs in semi-*pucca* or semi-permanent houses, on the other hand, is higher by about 5 percentage points than that reported by the NSS. Furthermore, 1.26 per cent of the HHs are residing in *unserviceable temporary* dwelling units as per Census 2011 while only 0.52 per cent are classified as such by NSS in 2008-09. Similar discrepancies exist in case of the figures for HHs in *serviceable katcha/temporary* structures, as obtained from the Census and NSS respectively.

The difference between NSS and Census data across categories appears to be large due to the distinction between *pucca* and semi-*pucca* houses being different from that of permanent and semi-permanent units. However, since both the categories are taken as parts of acceptable housing stock, this would not affect the computation of housing shortage for urban India significantly. For the purposes of the present Report, the classification of Population Census and the figures obtained from it have been used. Further, the non-serviceable housing units that are generally kept out of the acceptable housing stock have been excluded here as well. The growth in the housing stock has, therefore, been computed from the revised figures of the housing stock.

The data on urban households and housing stock from various Population Censuses excluding the non-serviceable *katcha* units are presented in the Table 2-4, given below. It may be noted that the decadal growth rate in the number of households has been modest 39 per cent and 32 per cent respectively during eighties and nineties. During 2001-11, the first decade of the present century, the number of households has increased by 47 per cent. This increase is understandably due to the addition to the urban areas recorded in the latest Census. The total number of urban agglomerations and other cities and towns has gone up by only 2,541 in all the 10 decades of the last century. However, during 2001-11, the number has gone up by 2,774, majority of these being the "Census towns". This jump in the number of these towns from 1,362 to 3,894 is unprecedented in the history of the Indian Census. Besides the addition of new towns, the increase in the number of HHs must be explained in terms of natural growth of population, sub-division of HHs and migration into the urban areas.

Table 2-4: Census Data on Total Households and Housing in Different Categories excluding the Non- Serviceable Katcha Houses

Census Years	Households (Mn)	Total Housing stock excluding non-serviceable *katcha* (Mn)	*Permanent/ Pucca* (Mn)	*Semi permanent/ Semi-pucca* (Mn)	*Temporary serviceable/ Katcha – serviceable (Mn)*
1961	14.90	13.30	6.44	4.90	1.96
1971	19.10	18.50	11.80	4.35	2.35
1981	29.30	28.00	18.09	6.80	3.11
1991	40.70	39.30	29.79	6.21	3.30
2001	53.69	50.97	41.17	8.08	1.72
2011	78.87	77.50	66.17	9.10	2.23

The decadal growth rate for *pucca* houses had come down from 83 per cent, 53 per cent and 65 per cent during sixties, seventies and eighties to 38 per cent only during nineties. During the last decade, however, the rate has gone up again to 61 per cent, indicating a spurt in house construction activity in the formal sector. As far as semi-*pucca* and serviceable *katcha* houses are concerned, their growth rates fluctuate over the decades. This could be due to classification problem or because *katcha* houses being upgraded to semi-*pucca* category, affecting the growth rates in the two categories in opposite directions. In view of these difficulties, one may

decide to combine the semi *pucca* and serviceable *katcha* houses which will make the growth rates relatively stable, after 1981. The decadal growth rate then works out to be 48 per cent during 1971-81, (-) 4.0 per cent during 1981-91, 3.3 per cent during 1991-01 and 15.4 per cent during 2001-11. The overall growth in housing stock considering all types of dwelling units, excluding non-serviceable houses, is 51 per-cent during the last Census decade. This gives an average growth rate of over 5 per-cent per year. The satisfying thing is, however, that the number of households during the decade 2001-2011 has grown by 47 per-cent or 3.9 per-cent per annum which is marginally below that of the housing stock. This to an extent has eased the housing situation.

Given that the growth rate in households is lower than that of acceptable housing stock, one would argue that the projection of housing shortage based on the past household data would result in a slight over estimation. If the projections are based on the ratios of obsolescence and congestion, computed from the data for 2009-10, applied on the number of households for 2012, the housing shortage would work out as marginally higher than the actual, since the growth in housing stock which is higher than that of HHs should bring down the ratios in 2012. However, since the time gap between the base year and the year of projection is just one year, the adjustment will be only be in decimal points in terms of shortages.

SECTION II: ESTIMATION OF HOUSING SHORTAGE AND HOUSING REQUIREMENT AT NATIONAL AND STATE LEVEL IN URBAN AREAS DURING THE 12TH PLAN PERIOD

CHAPTER – III
Computation of Housing Shortage:
Issues pertaining to Methodology, Database and Projections

Methods and Database Employed in Earlier and the Twelfth Plan

The housing shortages in the country for successive Five Year Plans have been estimated by putting together (a) excess of households (that do not include homeless) over housing stock, (b) the number of households residing in unacceptable dwelling units - computed by considering the obsolescence factor, (c) those residing in unacceptable physical and social conditions -worked out using overcrowding/congestion factor, and (d) the houseless households.

The methodology adopted by this TG -12 stipulates calculating housing shortage starting with identification of HHs residing in dilapidated and non-serviceable houses and adding the number to that of HHs living in congested conditions. The figure is then added to the houseless HHs. The Population Census is taken as the major source for providing the required information on households, housing stock and quality of the units etc, as discussed above. The overcrowding/congestion has been determined on the basis of the number of rooms in the dwelling unit and number of married couples in the households. This information is available in different rounds of NSS. Importantly, the Population Census, too, had collected the information regarding the married couples in 2001, but this was given up in 2011, as already mentioned. The obsolescence factor is computed based on the quality of materials used, year of construction of the units and the physical condition of the structures as perceived by the residents, information for which can be obtained from both Census and NSS, with some amount of overlap. It is important to note here that the ratios obtained from NSS surveys are extremely useful in obtaining the break-up of the Census households by various sub-categories that have

been used in the analysis. The TG decided to use the information available from the Census and the NSS for different years, besides policy linked information from government documents to develop the methodology for projecting housing shortage.

Regression model was used for estimating housing shortage for the 9th and 10th Five Year Plan by the Working Groups. This, however, has been found inappropriate as the housing activities and the parameters of land market have undergone significant changes in recent decades. Also, information on housing and HHs being limited to Census years, there were very few observations to estimate the parameters that affected the statistical reliability of the estimates. The Report on housing shortage prepared for the 11th plan had observed that application of this methodology gives a "paradoxical" result as it suggests that the housing shortage will be wiped out in the early years of the Eleventh Plan decade and by 2007, there will be surplus housing in urban India. The regression methodology is inappropriate as it assumes the old rates of growth to continue in the future years. It does not envisage or incorporate changes in the socio-economic context that are undergoing transformation, owing to the dynamics of development in urban housing market. In view of all this, the TG considered it important to design an appropriate methodology for determining housing shortage for the 12th Plan, by taking into consideration the crucial parameters of demand and supply and working out their values and build norms of acceptability, based on the most recent information.

Based on the data from the previous Censuses, it is observed that the growth rates in the number of households for the period 1971-1981, 1981-1991, 1991-2001 and 2001-2011 are 53.43 per cent, 38.91 per cent, 31.92 per cent and 46.88 per cent respectively. Owing to the lack of any consistency or pattern in these rates, the projection of the trend noted over a period of four or five decades may not be appropriate for estimating future requirement. The dynamics of the housing market and urban development has changed so much that the parameters observed or estimated based on information of the preceding decade or earlier years

are of little relevance in determining demand and supply of houses for the coming five years or a decade. In view of this, the changes noted in the decade just before the year of projection must be given high importance in estimating future housing shortage.

The Census provides information on the households and the number of Census houses used for residential purposes, as noted above. The NSS collects data regarding the quality of dwelling unit occupied by the households and their living conditions, including access to basic amenities, from the sample households. The approach adopted by the last TG was to project the physical stock of houses used for residential purpose and the number of households and treat the gap between them as the starting point of housing shortage. To this, the numbers of HHs residing in unacceptable housing units –obsolescent and congested houses were added, to arrive at the housing shortage. The first component - that is the excess of HHs over houses was high as single persons HHs lived together in one house but this has gone down over the years. Furthermore, this phenomenon may not be considered as housing shortage. An alternate approach within the same framework would be to start with the identification of HHs residing in dilapidated and non-serviceable houses and add its number to that of HHs living in congested conditions. The figure can then be added to the houseless HHs. This approach assumes that the growth in housing stock in different categories will take place in a manner to keep the ratios unaltered. Hence, there is no need to project the housing stock separately.

In the first approach, the absence of details of the 'vacant' houses and the nature of houses used as residential-cum-other purposes would pose a problem. Vacant homes are not surveyed in NSS and hence there is no information on these. Also, there is no information on houseless households in NSS. The advantage of the second approach, based on households in different categories is that it helps targeting interventions in housing sector by identifying the households that suffer from housing deprivation or housing poverty, as per their household characteristics. To this number, the HHs not having any housing can be added to obtain the total housing shortage. This has been considered appropriate for the

estimation of the total shortage and their disaggregation by socio-economic categories for the Twelfth Plan.

Organising the Basic Information for Projection as on March 2012

The TG decided that it would be appropriate to estimate the housing shortage as the number households that would not have acceptable dwelling units or no dwelling unit to live at the beginning of the 12th Plan period that is March 2012. This can be converted into shortage of dwelling units by using the existing houses to household ratio. For application of this procedure, the TG decided to organize the basic information for March 2011, for which the data from Population Census are available, and then proceed with the projection exercise.

It is important to underline the difference in the approach when the shortage is estimated in terms of the number of households rather than number of dwelling units. Both Population Census and NSS, report the number of households in urban areas to be larger than the number of houses. The Census houses being put to residential and residential-cum-other uses in 2011 are 78.48 million in urban areas while the number of households is half a per cent higher than that, the figure being 78.87 million, as noted above. The gap was much higher in 2001, about 3 per cent, the number of houses and households being 52.06 million and 53.69 million respectively.

It has been mentioned above that the number of households in urban India is larger than that of houses in the current and preceding years. This, however, does not necessarily reflect congestion. A single house may accommodate several single person households who could be students or young workers. It would be erroneous to propose that every household must have a house to itself as it would amount to questioning the institution of collective living for a specific purpose and a specific period or a system of joint families socially acceptable in India. Thus, for computing housing shortage, it is proposed to do the calculations in terms of households, besides other data related problems discussed in the preceding

chapter, allowing the households to exceed the number of dwelling units by a small percentage, to reflect a social reality which not necessarily is a negative phenomenon. Further, after obtaining the total number of households not having housing, this can be converted into dwelling units by using the current ratio of households to housing, as mentioned above. Congestion is a real issue in housing in Urban India but this has to be determined through other sets of information, as discussed below.

Table 3-1 Select Demographic Figures Relevant in the Context of Projecting Housing Shortage

(All numbers are in millions while the growth figures are exponential growth rates)

Population-1991 (urban)	217.60
Population-2001 (urban)	286.12
Population-2011 (urban)	377.11
Growth Rate -1991-2001	2.73%
Growth Rate – 2001-2011	**2.76%**
Estimated population as on 1.3.2012 based on 2011 census and Exponential growth rate 2001-2011	387.67
Estimated HH size – 2011 census	4.78
Estimated no. of HH as on 1.3.2012 (Mn) based on the above	*81.10*
Growth rate of HHs during 2001-11 based on Census data on HHs	*3.46*
Estimated no. of HH as on 31.3.2012 (Mn) based on the above	*81.65*
Growth rate of household during NSS 2008-9 & 2009-10	*2.72*
Growth rate of household during NSS 2009-10 & 2010-11	*2.60*
Estimated households using NSS growth rate on NSS HHs	*71.77*
Estimated households using NSS growth rate on base year Census HHs	*81.04*
Growth rate of population after adjusting for new urban areas	*3.07*
Estimated population	*388.87*
Estimated number of HH used in the Report for 2012	*81.35*

The number of households in the 2011 Census is placed at 78.87 million for urban areas, as noted above. The NSS estimate of the same from the 66th round, corresponding to 2009-10, however, is much less, 68.28 million. The NSS estimates of population and households are generally lower than the Census figures, due to differences in coverage. This becomes clear from the fact that the exclusive residential units constituted 91 per cent of the total residential housing stock in 1993-94 which has gone up marginally to 91.5 per cent in 2002 and then to 92.3 in 2008-09. Census figure, being based on every housing unit being counted in house listing operation comes much higher, over 97 per cent. This lends support to the proposition that the Census data on households obtained through house listing have a more comprehensive coverage. Besides this, the settlements counted as urban in the NSS quoted above would not include the new towns added to the urban segment in the latest census.

A straightforward application of the population figure for 2012 (obtained by applying the growth rate during 2001-2011) and the average size of household in 2011 gives an estimated number of households as 81.10 million on 1.3.2012. Instead of using population figures, if the projection is made by applying the growth rate of households during 2001-11 to the number in 2011, the figure works out to be 81.65, which is the highest among all projections. The lowest figure comes from NSS data. Applying the growth rate of households during NSS 2008-09 & 2009-10 on the figure for 2008-09, we obtain the number of households as 71.77 million that is on much lower side. However, if this growth rate is applied on the Census figure for the number of households as that would be more robust as discussed above, the figure for 2012 would be 81.04 million.

It is important to note that the urban population (provisional) of 2011 Census is higher than projected by Registrar General of India (RGI) as that includes the population of the newly added towns. The number of such towns is extraordinarily high, as noted above, due to special circumstances[1]. While computing the urban households as on 31.3.2012, it would be important to discount the population increase on account of additional towns in 2011 Census since similar increase in the number of towns is unlikely during this one year period. Accordingly, the annual exponential growth rate has been reworked after deducting the 14 million people which is the difference between the provisional urban population and the projection by RGI that urban population will be 30 per cent of the total in 2011. The rate comes out as 3.07 which is exactly what was noted in the preceding Census. Using the average figure of persons per household, the number of households on March 1, 2012 works out as 81.35 million, as shown in the Table 3-1 above. It has been considered appropriate to adopt this figure as on 1.3.2012 for the projection exercise in the Report. It would be reasonable to assume that the population growth rate for one year after 2011 will be the same as the preceding decade, except that there will be no unusual spurt in the number of new towns.

Working Out the Obsolescence Factor

After projecting the number of urban households in March 2012, the next step is to estimate the number of households living in unacceptable housing conditions, for determining the housing shortage. For that, the important step would be to work out the number of households that reside in houses that are unserviceable and obsolescent. The TG for the 9th Plan had considered all houses that were more than 80 years old as unfit for habitation. The TG for the Eleventh Plan had made a departure from this. It had excluded all houses whose age is 80 years or more and also those aged between 40 and 80 years and reported to be in bad condition, from the housing stock.

The present TG discussed this issue whether all or certain percentage of the dwelling units recorded as 'bad' or 'dilapidated' by the NSS and Population Census should be considered as unacceptable housing stock. It was felt that the units that are serviceable *katcha*, semi-*pucca* and *pucca,* as classified by NSS*,* may not be taken out of the acceptable housing stock, just because the respondent has reported the conditions to be bad. On the other hand, it was also argued that a large number of houses have been reported as, semi-*pucca* (or *liveable* by Census) on the basis of the perception of the respondent which is subjective. The HHs may report that their house requires only minor or no repair for making it *good* or *liveable* simply because they do not have the resources to undertake the repair work. The reported number of bad houses could, therefore, be an under estimation. Taking into consideration all these factors, the TG resolved, after considerable deliberations, that the first component of the unacceptable housing would be the non-serviceable units. The second component would be obsolescent units comprising two parts (a) all bad houses, excluding those that are less than 40 years of age, and (b) all houses aged 80 years or more. The TG, thus, resolved not to exclude all houses that have reported the conditions to be bad from the acceptable housing stock and accepted the proposition that a large number of these units can become habitable through in-situ upgradation, change in some construction material or through repairs/ retrofitting. However, many of the *pucca*, semi-*pucca* and

katcha houses aged between 40 and 80 years that are in bad physical conditions, are those where housing investment tends to be low, as the HHs fall at the bottom end of the economic categories. These are to be excluded from the acceptable housing stock. The TG, therefore, decided to treat all the units aged 40 years or more in bad condition as obsolescent and exclude from the housing stock. The methodology of determining obsolescence thus remains exactly the same as that used for the Eleventh Five Year Plan.

The Population Census has estimated the number of households residing in totally non-serviceable structures in 2011 as 0.99 million. The estimate has to be for the date March 1, 2012. The TG has not applied any growth rate on the 0.99 million non-serviceable *katcha* houses because, over time, this proportion has declined as per census as well as NSS data. Hence, the TG assumes that as March 2012, 0.99 million of non-serviceable *katcha* houses need to be considered as out of the acceptable housing stock.

The NSS surveys on housing and amenities provide information on the age of the house only in case of owner occupied dwelling units. However, there is no prima facie reason to hold that the age structure of housing is different in the rented units than in the self-occupied units. It should, therefore, be possible to apply the ratios obtained from the households residing in their own houses to all tenancy categories of households. In case of perceived quality of housing units, information is available for all households including those residing in rented premises.

There can be a view that all *pucca* houses be considered as a part of the acceptable housing stock, even if a segment is reported to be in bad condition by the respondent. The HHs living in bad *pucca* houses would work out to be 5.06 per cent of all urban HHs, the latter being computed after excluding those living in non-serviceable units. This is thus a large figure compared to the figure of 8.37 per cent worked out for all HHs, discussed above. This is understandable as *pucca* houses constitute over 91 per cent of all urban housing stock in NSS. The TG, after considerable debate decided that the 'bad houses' falling in the serviceable *katcha*, semi

pucca and *pucca* categories, could be recommended for repairs and retrofitting while, as discussed above, excepting those aged 40-80 years, the latter being considered as a part of obsolescence stock. Accordingly, the TG decided that all the houses that are bad in the age of 40-80 years, irrespective of their quality of structure, along with those aged 80 years and above should be excluded from the acceptable housing stock.

The percentage of households living in dwelling units that are more than 80 years old among all the urban households (excluding those in unserviceable units) is 1.43 per cent. This, as stated above, could be computed for the owner occupied HHs only but can be taken as valid for all HHs. The percentage of dwelling units that are 40 to 80 years old and reported as 'bad' is 1.39 per cent. These two categories together form 2.82 per cent of all dwelling units, excluding un-serviceable katcha. Following these norms, the number of households in obsolescent or unacceptable dwelling units works out to be (81.35-.99)*0.0282 = 2.27 in millions as on 1.3.2012.

Table 3-2 Percentage of Households Residing in Dwelling Units of Different Durations in Perceived Conditions Excluding the Non-serviceable katcha

	Condition of structure			Total
	Good	Satisfactory	Bad	
Less than 1 year	0.70	0.14	0.04	0.88
1 to 5 years	4.71	0.93	0.21	5.85
5 to 10 years	18.18	8.92	1.63	28.73
10 to 20 years	17.83	13.04	2.50	33.37
20 to 40 years	9.15	9.42	2.05	20.63
40 to 60 years	2.51	3.61	0.95	7.06
60 to 80 years	0.48	1.12	0.44	2.04
80 years or more	0.35	0.80	0.28	1.43
	53.91	37.98	8.11	100.00

Calculations for the Congestion Factor

Another major issue in estimating housing shortage would be to identify the households that are residing in unacceptably 'congested condition' from physical and socio-cultural viewpoint. It is possible to determine congestion in terms of the number of persons per living room, per capita area availability or built up space for each member etc. It would, however, be difficult to determine any normative value for these parameters that would be acceptable at national or regional level. The figure would vary widely depending on climatic and socio-cultural conditions so much so that it would be impossible to work out a cut off value, acceptable for policy making. The TG thought that the starting point for the congestion factor must be to work out the number of households wherein each married couple does not get a separate room in the house, not considering those having a child below 10 years with them, as the starting point. The TG for the Eleventh Plan, too, had considered a married couple sharing a living room with an adult as socially unacceptable. Unfortunately, Population Census has not collected information on this parameter in 2011 although the figures are available for the year 2001. As information on many of the housing characteristics are being taken from the NSS, the TG suggested that the unit level data from the 65th round may be used for this purpose in the Report.

The TG further resolved that incremental housing has become a way of life in Indian cities and households tend to add a room if space is available or partition a large room, to provide independent rooms to their married couple. This needs to be supported through appropriate administrative environment. Hence, if the total built-up area (which includes carpet area, area of the walls, area of closed or semi-open verandah, and circulation area) of a dwelling unit is less than or equal to 300sq ft. in a household wherein the married couples do not have a separate rooms to themselves, it needs one or more new dwelling unit. In other words, it is decided that if there is crowding in a household on account of less than 300 sq. ft. of built-

up space, then additional dwelling unit is required for the married couple not having a separate room.

The TG further thought that congestion and obsolescence are two factors that need to be computed separately. There is, however, an overlap between these as obsolescent houses can have congestion problem and the other way round. The figures are, thus, additive once the overlap component is separated out. This implies that when the HHs living in obsolescent houses are considered as a component of housing shortage, one must recognise that a section of them have the congestion problem as well. Hence, when calculating the congestion factor, one must consider all the HHs and not restrict to those living in acceptable dwelling units. This implies that after working out the ratio for the congestion factor, it must be applied it to all households, in the year of projection, so as to address the problem of congestion in all HHs and not just those living in acceptable housing stock.

The following steps are taken in calculating the congestion using the NSS's 65th Round's unit level data:

i) Households living in non-serviceable *katcha* houses (those with walls and roofs of straw, cloth, etc.) are deducted from the total number households. The remaining number of households is for those living in serviceable *katcha*, semi-*pucca* and *pucca* dwelling units.

ii) At the second step, the HHs not having separate rooms for their married couples are identified, following the approach adopted by the TG for the Eleventh Plan. Among these HHs, those living in built-up area of less than or equal to 300 sq ft. are separated out to obtain the number of HHs that have problem for their married couples and also space problem. Thus, we have two estimates of congestion, one based on simple criterion of couple not having a separate room for the couples and the other, a subset of the first, obtained after excluding the HHs that have less space problem.

iii) Adopting the methodology of the TG for the Eleventh Plan, wherein the cut-off area of 300 sq. ft. is not used, the total number of couples having a congestion problem, after excluding those living in non-serviceable *katcha* houses, comes to 19.34 per cent of the total households or 12.854 million couples. (Table 3-7) These may be taken as the number of households that would require a separate dwelling unit on account of congestion.

iv) It may be argued that in HHs where the built-up area is more than 300 sq. ft., which also includes the area of the verandah, the room can be partitioned, or a veranda closed and converted it into a room, etc. to make a separate room available to its married couple. This approach implies making a departure from the method used for defining congestion by the TG for the Eleventh Plan. Among the HHs remaining after deducting those living in *unserviceable katcha* and those with built-up area more than 300 sq. ft., those with married couples not having a separate room were classified by the number of such couples. This was done through cross-tabulation of the HHs by the number of couples per HH and the number of couples not having a separate room in the HH (Table 3-3). This gives the figures of 12,648,640 households that have the problem of congestion.

v) Now, when a HH has only one married couple with the problem of congestion, the requirement may be taken to be of only one unit. However, when it has two married couples with the problem, one married couple can move out to let the second one have a separate room. The shortage would thus remain of one unit only. By applying this logic, the shortage in case of HHs with three and four married couples with problems, are taken to be of two and three units respectively. The total number of HHs requiring dwelling units has thus been estimated to be 12,773,864 (Table 3-3), based on the premise that each married couple would constitute one HH when they get into a new house. The difference in the number of HHs needing a house by the two different approaches does not work as very high. It is thus possible to argue that only 0.8 lakh HHs (less than only 1 per cent of the total

HHs)that have congestion problem have the space to build an additional room for their couples within the built up area of the house.

vi) As mentioned above, the HHs living in non-serviceable *katcha* houses are also facing congestion problem that needs to be addressed. It is assumed here that when a household with only one married couple not having a separate room living in unserviceable *katcha* house moves into a new house, the couple would be able to get a separate room to itself. However, if it has two couples with the problem, it will remain for one couple, even when the HH gets a dwelling unit. Following the same process as described in point (iii) above, number of couples facing congestion among those living in non-serviceable *katcha* is estimated (Table 3-4). This is computed based on the assumption that the problem of the HHs having a single couple not having a room would be solved while addressing the problem of obsolescence. The figure comes to 4,672 which must be added to the figure of congestion in computing the total housing shortage.

vii) The structures with age 80+ years and bad structures in age 40-80 years have been considered as a part of obsolescence stock to be replaced by the new housing units. However, for one obsolescent structure only one new structure would be considered as replacement. There still remains an issue of congestion among these structures. The congestion calculation given in Table 3-3, which gives the figure of 12,773,864, includes the congestion factor applied on the obsolete structures that are 80+ years in age and bad structures in age 40-80 years. Hence, no separate calculation is required for these structures.

viii) But, double counting of these in the total housing shortage has to be avoided. Hence, the households that are living in congestion, where one or more married couple do not have a separate room have to be deducted from the total households requiring an additional dwelling unit to take care of the congestion. This figure comes to 343,827 for households living in bad structures in age 40-80 years (Table 3-5) and 272,863 for households living in structures in older than 80 years

(Table 3-6). These are to be excluded from the computation of congestion component as these have been taken care of within the obsolescence factor.

ix) By adding the figures of congestion where one or more married couples not having a separate room with the congestion in non-serviceable katcha houses, the figure comes to 12,778,536 in case of households living <= 300 sq ft. and 12,858,975 in case of all households irrespective of the size of the dwelling unit (Table 3-7).

x) From the figures in point (ix) above, the households who are already covered by obsolescence calculation and have congestion, in the bad structures in age 40-80 years and in structures more than 80 years among the households (excluding those in unserviceable katcha), which are 272,863 and 343,827 respectively, (see point viii above), have to be deducted. After doing so, the total households requiring a separate dwelling unit on account of congestion are (18.30 per cent of the total estimated households in the NSS) and 12,242,286 (18.40 per cent of the total estimated households in the NSS) for severe congestion and congestion respectively (Table 3-7)

xi) As discussed above, the congestion factor has been computed by using the NSS data. We now apply the percentage figure of 18.30 per cent and 18.42 per cent on the estimated number of households in March 2012, obtained using the data from Population Census. This gives us the estimated number of 14,887,844 households that require dwelling units on account of severe congestion, where dwelling unit size is less than or equal to 300 sq ft. The entire calculation is giving in Table 3-7. This table gives two different estimates of housing shortage for the Twelfth Five Year Plan, one pertaining to congestion and the other to severe congestion. The households requiring a separate dwelling unit on account of congestion, which is roughly comparable with the estimate for the Eleventh Plan, comes to 14,986,312

Table 3-3: Estimation of Number of Households Requiring a Separate Dwelling Unit to Take Care of Congestion in Households Excluding Those Living in Non-serviceable Katcha and Living in HH Area of larger than 300 sq ft.

No. of couples per hh.	Couples with no separate room per household (HH)				Total Households
	1	2	3	4	
1	10,321,590	-	-	-	10,321,590
2	1,153,200	717,554	-	-	1,870,754
3	199,857	97,197	74,766	-	371,820
4	18,972	22,367	10,438	15,033	66,810
5	2,733	6,616	3,946	2,536	15,831
6	444	702	442	247	1,835
Total	11,696,796	844,436	89,592	17,816	12,648,640
Multiplying factor	1	1	2	3	
No. of couples requiring separate house	11,696,796	844,436	179,184	53,448	12,773,864

Note: It is assumed that the HHs with one married couple will need one dwelling unit. However, in HHs where 2 married couples do not have separate rooms, one can move out to let the second one have the dwelling unit. They would, thus, need one unit only. The requirement of housing for HHs with more couples can be computed following this procedure, as discussed in the text. The estimated figures of the total HHs are from the NSS 65thRound.

Table 3-4: Estimation of Number of Households Requiring a Separate Dwelling Unit to Take Care of Congestion in Households Living in Non-serviceable Katcha

No. of couples per hh.	Couples with no separate room per household (hh)				Total Households
	1	2	3	5	
1	132,989	-	-	-	132,989
2	4,882	3,483	-	-	8,365
3	-	139	431	-	570
5	-	-	-	47	47
Total	137,871	3,622	431	47	141,971
Multiplying factor	0	1	2	4	
No. of couples requiring separate house	0	3,622	862	188	4,672

Note: All the numbers are in context of the NSS's 65th Round's estimated households.

Table 3-5:Estimationof Number of Households Requiring a Separate Dwelling Unit to Take Care of Congestion in Households Living in Bad Structures with Age 40-80 yrs, Excluding Non-serviceable Katcha

No. of couples per hh.	Couples with no separate room per household (hh)				Total Households
	1	2	3	5	
1	160,668	-	-	-	160,668
2	13,783	15,246	-	-	29,029
3	3,494	965	16,758	-	21,217
4	-	-	380	-	380
6	-	-	-	247	247
Total	177,945	16,211	17,138	247	211,541
Total self-occupied households = 40,886,541	211,541 as a proportion of 40,886,541 = 0.52%		0.52% of total estimated hhs in the NSS = 343,827		

Note: 1. All the numbers are in context of the NSS's 65th Round's estimated households.

2. Age of the structure is available for only households living in self-owned houses and not for those living in rented houses. It is presumed that the distribution of structures by age among those that are rented units would be the same as those that are self-occupied.

Table 3-6: Estimation of Number of Households Requiring a Separate Dwelling Unit to Take Care of Congestion in Households Living in Structures with Age Above 80 Years

No. of couples per hh.	Couples with no separate room per household (hh)			Total Households
	1	2	3	
1	128,900	-	-	128,900
2	6,250	22,666	-	28,916
3	3,303	60	6,701	10,064
Total	138,453	22,726	6,701	167,880
Total self-occupied households = 40,886,541	167,880 as a proportion of 40,886,541 = 0.41%		0.41% of total estimated hhs in the NSS = 272,863	

Note:

1. All the numbers are in context of the NSS's 65th Round's estimated households.

2. Age of the structure is available for only households living in self-owned houses and not for those living in rented houses. It is presumed that the distribution of structures by age among those that are rented units would be the same as those that are self-occupied.

Table 3-7: Summary of Process of Estimating Households Living in Congestion and Requiring a New Dwelling Unit

		Estimate with severe congestion	Estimation with congestion
A	Total estimated households (NSS 65th Round)	66,454,637	66,454,637
B	Estimation of Households Requiring a Separate Dwelling Unit to Take care of Congestion Excluding those living in structures other than unserviceable katcha (See Table 3-3 for hhs with area less than 300 sqft and Table 3-7 for all households irrespective of area)	12,773,864	12,854,303
C	Estimation of Households Requiring Separate Dwelling Unit to Take Care of Congestion in non-serviceable katcha (See Table 3-4)	4,672	4,672
	DUs required on account of congestion (B + C)	12,778,536	12,858,975
	Number of HHs with married couples not having a separate room, living in bad structures aged 40-80 years (Table 3-5)	**343,827**	**343,827**
	Number of HHs with married couples not having a separate room living in 80 year old houses (Table 3-6)	**272,863**	**272,863**
	Estimated Households Requiring a New Dwelling Unit on Account of Congestion	**12,161,847**	**12,242,286**
	Households Living in Congested Living Conditions as a Proportion of Total Estimated Households of the NSS	**18.30**	**18.42**
	Estimated Households Requiring a Separate Dwelling Unit on account of congestion on March 31, 2012 (applying Census's estimated HHs)	**14,887,844**	**14,986,312**

Note: Severe congestion is when it is calculated for households living in <= 300 sq. ft of house and where one or more married couples do not have a separate room. Congestion is when it is calculated for all households irrespective of the dwelling unit size and this methodology is compatible with that used by the TG for the 11th Five Year Plan.

Homeless People

The homeless people form the core of the population requiring housing. Due to their homeless status, they do not enjoy any social and political patronage and do not become the target for any policy interventions, so much so that they do not appear importantly in official statistical system. There is not much information regarding socio-economic characteristics or family composition of these people. The TG felt that this group has to be included as an important component in any exercise for computing housing shortage, however shaky the computational basis may be. As per the Population Census of 2001, the number of homeless people is 0.8 million. Given the fact that the percentage of migrants and of the poor in urban

areas has declined marginally on the one hand and there has been small increase in growth in urban population, it may be alright to assume that the number of homeless people has remained the same during 2001-11. Now, it is unlikely that the homeless people live in family groups, but it would not be correct to presume that these are all single individuals. Going by the few studies available and discussion with the members of SPARC (see Annexure II), the TG has considered that half of the homeless are single migrants whereas the other half have an average household size of 3. By this, the housing need for the homeless should be roughly 0.4 million for single male migrants and 0.13 million for those with families taking the total to 0.53million.

Table 3-8: Summary of Households Having Housing Shortage (Millions)

	Severe congestion	Congestion
Households living in non-serviceable katcha	0.99	0.99
Households living in obsolescent houses	2.27	2.27
Households living in congested houses requiring new houses	14.89	14.99
Households in homeless condition	0.53	0.53
Total	18.68	18.78
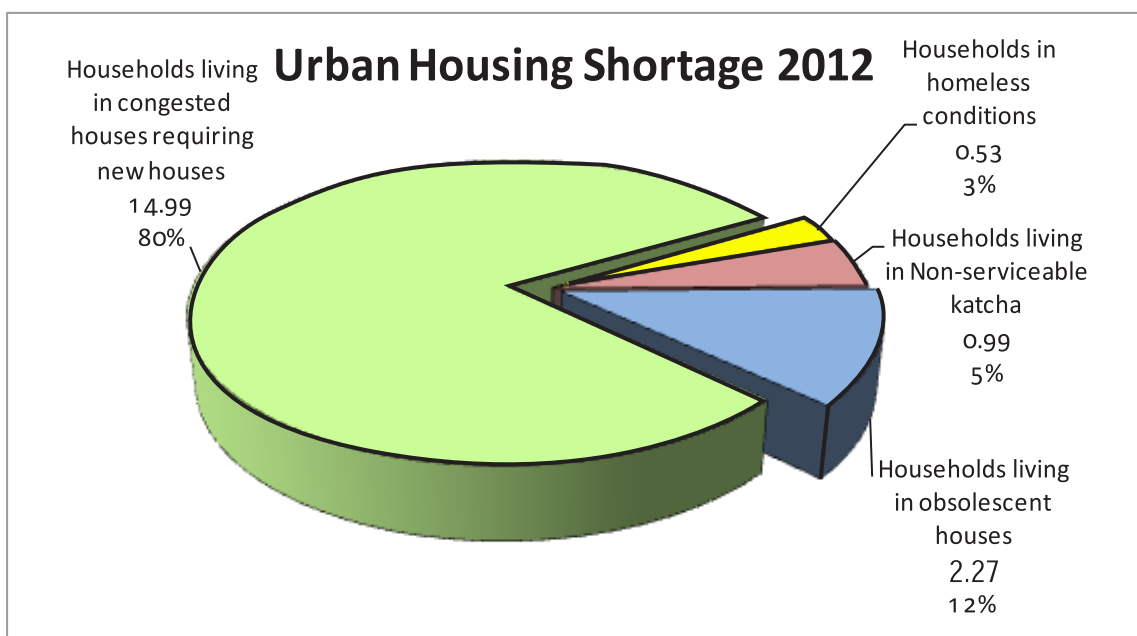
CHAPTER – IV

Distribution of Housing Shortage across
Tenure Categories, Expenditure Groups and Major States

The purpose of this chapter is to assess the distribution of the shortage across expenditure groups, tenure categories (self-occupied and rented) and for the major states. Firstly, the exercise of estimating the shortage by deciles is taken up. To be able to do so, unit level data of the NSS's 65th Round has been used. The households have been divided into two broad categories, residing in self-occupied and rented houses. First, the steps for calculating obsolescence are discussed and then those for calculating congestion. Towards the end, the total housing shortage by deciles and by tenure categories has been calculated, which includes the houseless households as well.

Calculation of Households Living in Obsolescence and Non-Serviceable Katcha in Different Tenure Categories

As discussed in Chapter 3, structures facing obsolescence are those with age above 80 years and which are in bad condition in age 40-80 years. Age data is available only for households living in self-owned houses. We are presuming that even the rented units would have similar obsolescence rate as those in that are self-occupied houses in different decile groups. Assuming these, the total households living in structures facing obsolescence, which is 2,266,152 (See Chapter 3), have been firstly distributed by the tenure categories and then by the deciles. The data are given in Table 4-1.

Table 4-1: Number of Households living in structures 80+ year's age and bad in 40-80 yrs age as on March 1, 2012

Decile	No. of hhs living in structures, 80+ years age and bad in 40-80 yrs age as per census March 1, 2012		
	Self-occupied	Rented	Total
1	299,591	125,063	424,654
2	196,770	89,839	286,609
3	133,524	61,577	195,101
4	262,427	168,583	431,010
5	45,365	31,952	77,317
6	102,332	80,135	182,467
7	107,066	87,535	194,601
8	108,439	90,385	198,825
9	113,317	101,793	215,111
10	39,088	41,153	80,240
Total	1,407,919	878,016	2,285,935

The NSS data gives the distribution of households living in Non-serviceable katcha by deciles and tenure category. However, the NSS estimate of such households is far lower than that given by the Population Census of 2011. For calculating the housing shortage, the figure of the population census have been taken, which is 0.99 million. Hence, these many households are distributed by their respective shares in the decile groups by tenure category (Table 4-2).

Table 4-2: Number of Households Living in Non-serviceable Katcha Houses as on March 1, 2012

Decile	Households Living in Non-serviceable Katcha Houses		
	Self-occupied	Rented	Total
1	390,901	68,337	459,238
2	191,826	26,938	218,764
3	81,218	32,775	113,993
4	65,656	26,446	92,103
5	11,891	2,433	14,324
6	7,749	52,387	60,136
7	9,985	2,713	12,697
8	7,129	6,740	13,869
9	4,462	414	4,877
10	-	-	-
Total	770,817	219,183	990,000

Households Living in Severe Congestion in Owner Occupied and Rented Houses

The households living in severe congestion, that is in dwelling units less than or equal to 300 sq ft. The steps followed are as discussed in Chapter 3 and hence are not being elaborated here. Firstly, the total number of households requiring a separate DU on account of married couples not having a separate room and living in < = 300 sq. ft house was calculated disaggregated by deciles and by tenure categories after excluding households living in non-serviceable katcha houses (column c in Tables 4-3 to 4-5). Tables 4-3 to 4-5 give these data for self-occupied houses, rented houses and all houses. Thereafter, total number of households requiring a separate DU on account of married couples not having a separate room and living in non-serviceable *katcha* houses was also calculated (column d in Tables 4-3 to 4-5). Thereafter, households living in congestion in bad structures and households living in congestion in structures 80 years and above are also estimated. Since, the age data is available for self-occupied houses, similar proportion has been assumed to be for the rented houses. The data are given in columns e and f in Tables 4-3 to 4-5. For the calculation of figures in columns d, e and f in the Tables 4-3 to 4-5, the total estimates of the three calculated at the aggregate level, which are 4,672, 343,827 and 272,863 respectively (See Chapter 3, Table 3-7), have firstly been distributed by tenure category and then by their shares in the deciles. The total of households living in congestion, as per the NSS estimated households has been arrived at by adding congestion in all structures except those in unserviceable katcha and congestion in unserviceable katcha minus households living in congestion in bad structures in age 40-80 years and in structures age 80 years and above. The total households living in congestion is therefore column c + column d – column e – column f in the Tables 4-3 to 4-5.

Table 4-3: Calculation of Households Living in Congestion among Self-Occupied Houses

Decile	Total households	HHs Requiring separate DU on account of married couples not having separate room & living in < 300 sqft house	in non-serviceabe katcha	HHs. living in congestion in bad structures in age 40-80 yrs	HHs. living in congestion in 80+ yrs structures	Total HHs. living in congestion as per NSS (c+d-e-f)	Distribution of HHs by census estimates on March 1, 2012	Total HHs living in congestion as per census estimates on March 1, 2012
a	b	c	d	e	f	g	h	i
1	4,870,675	1,654,184	1,459	68,464	17,745	1,569,434	5,963,195	1,921,467
2	4,868,658	1,456,462	716	36,503	18,175	1,402,500	5,960,725	1,717,089
3	4,249,352	1,031,283	303	25,109	12,071	994,406	5,202,505	1,217,457
4	6,810,998	1,485,009	245	40,980	30,166	1,414,108	8,338,743	1,731,301
5	1,681,250	317,502	44	3,497	7,975	306,074	2,058,364	374,728
6	3,609,155	614,714	29	14,339	13,025	587,379	4,418,709	719,131
7	4,051,263	582,847	37	8,623	18,538	555,724	4,959,984	680,375
8	4,154,578	400,681	27	6,152	20,761	373,795	5,086,473	457,639
9	3,869,455	273,780	17	6,190	21,880	245,727	4,737,395	300,845
10	2,758,939	65,755	-	1,908	7,722	56,125	3,377,784	68,714
Total	40,924,323	7,882,217	2,878	211,765	168,058	7,505,272	50,103,878	9,188,747

Table 4-4: Calculation of Households Living in Congestion among Rented Houses

Decile	Total households	HHs Requiring separate DU on account of married couples not having separate room & living in < 300 sqft. house	in non-serviceabe katcha	HHs. living in congestion in bad structures in age 40-80 yrs	HHs. living in congestion in 80+ yrs structures	Total HHs. living in congestion as per NSS (c+d-e-f)	Distribution of HHs by census estimates on March 1, 2012	Total HHs living in congestion as per census estimates on March 1, 2012
a	b	c	d	e	f	g	h	i
1	1,869,468	610,249	559	32,376	6,654	571,779	2,288,800	700,032
2	2,043,831	653,346	221	18,877	7,446	627,244	2,502,274	767,938
3	1,801,829	594,082	268	13,116	5,000	576,234	2,205,989	705,487
4	4,022,928	1,250,908	217	29,818	17,403	1,203,904	4,925,293	1,473,946
5	1,088,782	330,635	20	2,790	5,045	322,820	1,333,002	395,230
6	2,598,615	605,422	429	12,719	9,161	583,971	3,181,499	714,959
7	3,045,425	401,066	22	7,985	13,612	379,491	3,728,531	464,613
8	3,183,934	287,649	55	5,808	15,542	266,354	3,898,108	326,098
9	3,195,953	130,166	3	6,298	17,652	106,219	3,912,823	130,044
10	2,670,740	27,266	-	2,275	7,290	17,701	3,269,802	21,672
Total	25,521,505	4,890,789	1,794	132,062	104,805	4,655,716	31,246,122	5,700,019

Table 4-5: Calculation of Households Living in Congestion among All Houses

Decile	Total households	HHs Requiring separate DU on account of married couples not having separate room & living in < 300 sqft. house	in non-serviceable katcha	HHs. living in congestion in bad structures in age 40-80 yrs	HHs. living in congestion in 80+ yrs structures	Total HHs. living in congestion as per NSS (c+d-e-f)	Distribution of HHs by census estimates on March 1, 2012	Total HHs living in congestion as per census estimates on March 1, 2012
a	b	c	d	e	f	g	h	i
1	6,740,143	2,264,433	2,019	100,840	24,399	2,141,213	8,251,995	2,621,499
2	6,912,489	2,109,808	937	55,380	25,621	2,029,744	8,462,999	2,485,027
3	6,051,181	1,625,365	572	38,225	17,071	1,570,641	7,408,495	1,922,944
4	10,833,926	2,735,917	462	70,798	47,568	2,618,012	13,264,036	3,205,247
5	2,770,032	648,137	64	6,286	13,020	628,894	3,391,366	769,959
6	6,207,770	1,220,136	458	27,058	22,186	1,171,350	7,600,208	1,434,090
7	7,096,688	983,913	59	16,608	32,151	935,214	8,688,515	1,144,988
8	7,338,512	688,330	82	11,960	36,303	640,148	8,984,581	783,737
9	7,065,408	403,946	20	12,489	39,532	351,945	8,650,219	430,889
10	5,429,679	93,021	-	4,183	15,012	73,826	6,647,586	90,386
Total	66,445,828	12,773,006	4,672	343,827	272,863	12,160,988	81,350,000	14,888,766

Distribution of Houseless Population

Total households that are houseless has been estimate to be 0.53 million. These are distributed by in self-occupied and rented categories by the share of the two in total households, excluding the homeless. Thereafter, it is presumed that houselessness would be in bottom two deciles and the total households in each tenure category are then distributed equally in the bottom two deciles.

Estimation of Total Housing Shortage by Deciles and Tenure Categories

The households that require housing are thus placed in two broad categories; households that currently live in rented dwellings and households that live in own dwellings. According to housing data of the population census, 69.2 per cent households are living in self-occupied houses, 27.5 per cent households in rented premises and 3.3 per cent in 'others'. Others can be clubbed with rented as it contains those living in employer provided housing etc. However, as per the NSS's 65th Round, 61.6 per cent households are living in self-occupied houses and the rest 38.4 per cent in rented premises. We have used the NSS proportions as it gives us the tenure break-up by decile groups. The shortages, however, need not be in the same proportion. At the lower end of the economic strata, the dwellings are mostly in the own dwellings category and hence cross classification of housing need by tenure classification provides important insights for policy making. At the city level, housing shortage would depend on the land markets. At the macro level, we may assume that economic growth would push up the land and real estate prices and create a need for more affordable rental housing. It is likely that the share of rental units may increase over the 12th Five Year Plan. We have, however, not adopted a speculative approach in projecting tenurial pattern, but have taken the NSS ownership pattern of housing as it also gives higher share of rental housing than that given in the population census of 2011.

To obtain the total housing shortage by deciles and by tenure categories, total households living in non-serviceable katcha, living in obsolescent dwelling units, those living in severe congestion (house size <= 300 sqft) and houseless households have been added together (Tables 4-6 to 4-8 for self-occupied, rented and total houses).

Table 4-6: Estimation of Total Housing Shortage by Deciles as on March 1, 2012, Self-occupied Houses

Decile	Number of households Living in structures 80+ years age and bad in 40-80 yrs age	Number of households Living in Non-serviceable Katcha Houses	Number of households living in congestion	Number of houseless households	Total housing shortage (b+c+d+e)
a	b	c	d	e	f
1	296,998	390,901	1,921,467	163,215	2,772,581
2	195,067	191,826	1,717,089	163,215	2,267,197
3	132,368	81,218	1,217,457	-	1,431,043
4	260,156	65,656	1,731,301	-	2,057,113
5	44,972	11,891	374,728	-	431,591
6	101,446	7,749	719,131	-	828,326
7	106,140	9,985	680,375	-	796,500
8	107,501	7,129	457,639	-	572,269
9	112,337	4,462	300,845	-	417,644
10	38,749	-	68,714	-	107,463
Total	1,395,735	770,817	9,188,746	326,430	11,681,728

Table 4-7: Estimation of Total Housing Shortage by Deciles as on March 1, 2012, Rented Houses

Decile	Number of households Living in structures 80+ years age and bad in 40-80 yrs age	Number of households Living in Non-serviceable Katcha Houses	Number of households living in congestion	Number of houseless households	Total housing shortage (b+c+d+e)
a	b	c	d	e	f
1	123,981	68,337	700,032	101,785	994,135
2	89,062	26,938	767,938	101,785	985,723
3	61,044	32,775	705,487	-	799,306
4	167,124	26,446	1,473,946	-	1,667,516
5	31,676	2,433	395,230	-	429,339
6	79,441	52,387	714,959	-	846,787
7	86,777	2,713	464,613	-	554,103
8	89,603	6,740	326,098	-	422,441
9	100,912	414	130,044	-	231,370
10	40,797	-	21,672	-	62,469
Total	870,417	219,183	5,700,019	203,570	6,993,189

Table 4-8: Estimation of Total Housing Shortage by Deciles as on March 1, 2012, All Tenures

Decile	Number of households Living in structures 80+ years age and bad in 40-80 yrs age	Number of households Living in Non-serviceable Katcha Houses	Number of households living in congestion	Number of houseless households	Total housing shortage (b+c+d+e)
a	b	c	d	e	f
1	420,979	459,238	2,621,499	265,000	3,766,716
2	284,128	218,764	2,485,027	265,000	3,252,919
3	193,412	113,993	1,922,944	-	2,230,349
4	427,280	92,103	3,205,247	-	3,724,629
5	76,648	14,324	769,959	-	860,930
6	180,888	60,136	1,434,090	-	1,675,114
7	192,917	12,697	1,144,988	-	1,350,603
8	197,104	13,869	783,737	-	994,710
9	213,249	4,877	430,889	-	649,014
10	79,546	-	90,386	-	169,932
Total	2,266,152	990,000	14,888,765	530,000	18,674,917

Distribution of Shortage by States

In the past, the housing shortage estimated at the national level was distributed among the States/UTs in proportion to the number of urban households. We have observed that the shortage of housing is mostly at the lower economic strata of population. Further, the households in *katcha* houses that represent the housing deprivation are not distributed in the same proportion as the total household. Economically backward states have a larger share of *katcha* structures compared to their share of total households. Even though households residing with katcha houses represent housing deprivation, it was thought prudent to incorporate BPL households as well for determining the criteria for distributing the total housing shortage among states. The TG-12 accordingly decided that the total estimated shortage should be distributed among States/UTs in proportion to their share of households living in katcha *houses* and that of BPL households in the national total. It would have been desirable and more appropriate to exclude the HHs that belong to both the categories, to avoid double counting. However, disaggregated data for this are not available. Further, the overlap factor is unlikely to differ across states and consequently the share of the total HHs as given in column 6 of Table 4.9

would not be significantly altered. The TG-12 used the number of katcha houses (Censes -2011) and State wise BPL households (Planning Commission – 2009-10) figures with equal weightages, to distribute the total shortage across the states.

Table 4-9: Table: Distribution of Housing Shortage among States and UTs

Name of State/UTs	Estimated No. of households below poverty line in Urban	Number of Households with Katcha Houses in Urban	Average of BPL and katcha house households	State % in the total	State wise Distribution of Housing shortage-2012 (in millions)
1	2	3	4	5	6
Andhra Pradesh	1014583	235,159	624871	6.78	1.27
Arunachal Pradesh	16667	11,607	14137	0.15	0.03
Assam	233333	37,262	135298	1.47	0.28
Bihar	933333	230,961	582147	6.31	1.19
Chhattisgarh	283333	60,731	172032	1.87	0.35
Delhi	477083	1,170	239127	2.59	0.49
Goa	12500	50,987	31744	0.34	0.06
Gujarat	929167	40,275	484721	5.26	0.99
Haryana	408333	2,249	205291	2.23	0.42
Himachal Pradesh	18750	17,207	17979	0.19	0.04
Jammu & Kashmir	87500	44,591	66046	0.72	0.13
Jharkhand	500000	118,126	309063	3.35	0.63
Karnataka	935417	66,278	500847	5.43	1.02
Kerala	375000	159,434	267217	2.90	0.54
Madhya Pradesh	935417	144,517	539967	5.86	1.10
Maharashtra	1893750	7,887	950819	10.31	1.94
Manipur	77083	2,311	39697	0.43	0.08
Meghalaya	29167	2,989	16078	0.17	0.03
Mizoram	12500	6,875	9688	0.11	0.02
Nagaland	29167	175,906	102536	1.11	0.21
Orissa	368750	37,050	202900	2.20	0.41
Puducherry	2083	66,821	34452	0.37	0.07
Punjab	383333	405	191869	2.08	0.39
Rajasthan	691667	437,413	564540	6.12	1.15
Sikkim	2083	4,110	3097	0.03	0.01
Tamilnadu	906250	324,891	615571	6.68	1.25
Tripura	18750	12,687	15719	0.17	0.03
Uttar Pradesh	2860417	153,070	1506743	16.34	3.07
Uttarakhand	156250	433	78342	0.85	0.16
West Bengal	1302083	3,118	652601	7.08	1.33
Andaman & N Island	83	186	135	0.00	0.00
Chandigarh	19167	187	9677	0.10	0.02
Dadra and Nagar	5208	39,716	22462	0.24	0.05

Daman and Diu	11250	72	5661	0.06	0.01
Lakshadweep	208	13,777	6993	0.08	0.01
India	15929667	2510458	9220062	100.00	18.78

Source: 2009-10 Planning Commission data on BPL and Census 2011 data.
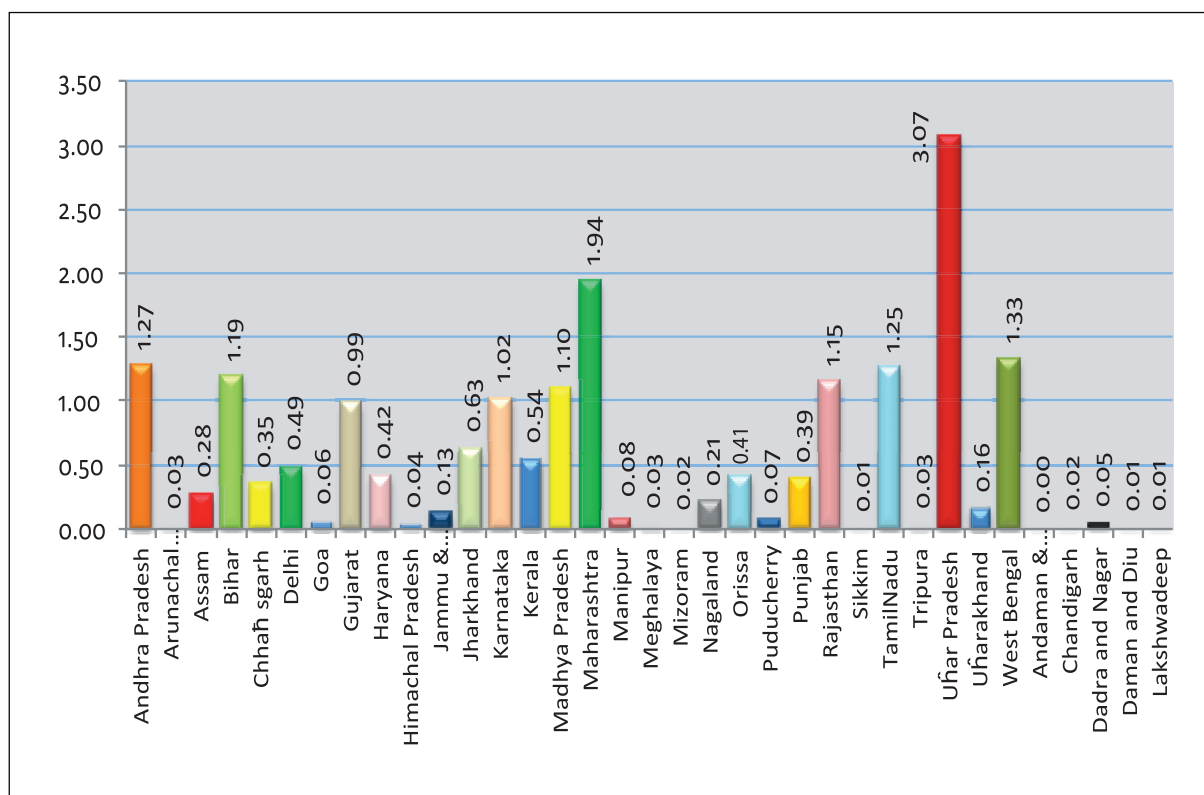
Distribution of Housing Shortage among the Economic category:

Earlier the Ministry of Housing and Poverty Alleviation (HUPA) had notified and classified EWS as the households with monthly income of less than Rs. 3300/- p.m. and the households with monthly income between Rs. 3301 to Rs. 6200/- as LIG. The income limit classifying LIG was subsequently revised by HUPA as between Rs. 3301 and Rs. 7301/- p.m. while no change was made in the income limit for EWS category. These income limits classifying EWS and LIG have been revised again (based on 2008 prices) by HUPA vide letter No. 14012/52/2005-H.II dated 12th March 2010. The revised classification is EWS (households with income upto Rs. 5000/- p.m.) and LIG (households with income between Rs. 5001/- and Rs. 10,000/- p.m.).

The classification of EWS and LIG households are based on household income. EWS households are those with income up to Rs. 5000/- p.m. and LIG households are those with income between Rs. 5001/- and Rs. 10,000/- p.m. The problem here is the absence of income data at household level which makes distribution of households by income categories a difficult task. What we have is the distribution of households by monthly per capita consumption expenditure of the HHs from NSS. Suitable adjustment in this

distribution is required for arriving at reasonable approximations of households falling in EWS and LIG categories.

Various household income/expenditure studies, including the one conducted by National Council for Applied Economic Research (NCAER), show that the households at the lower income levels do not have any saving. In other words, their income is usually fully consumed. Accepting that households tend to under report income and also that in the short run, consumption is a better indicator of economic wellbeing compared to income, which has much more fluctuations, we can assume that the consumption expenditure of the EWS categories is the same as their income. Thus, we would consider all households having consumption expenditure of Rs 5000 as belonging to EWS category. For the LIG categories, the monthly consumption expenditure along with an assumed saving component is necessary to get an acceptable estimate of households in this category. Based on fragmented evidence from regional and city level studies, we can assume the savings rate to be 5 per cent of their income. This implies that the Households having expenditure between Rs. 5000 and Rs. 9500 per month would constitute the LIG.

The Average MPCE figures in Table 4.10 suggest that the figure of Rs 5000 per month per household would fall in the fourth decile. It is evident that 25 per cent HHs have expenditure below Rs. 1000 per month. Assuming a uniform distribution of households within the decile, one would interpolate that about 8.3 per cent of the HHs are below the MPCE of Rs. 1000 per month. The EWS category can, therefore, be taken to comprise one third of the HHs in urban areas. Similarly, the cut off point of Rs. 9500 HH expenditure would occur in the eighth decile. A similar assumption would suggest that 80 per cent of the HHs have expenditure equal to or below the LIG expenditure category. Based on these figures, one can now compute the housing shortage for EWS and LIG categories based on the figures in Table 4.8. The estimated housing shortage, thus, works out to be 10.49 million for EWS households, which is 56.18 per cent of the total housing shortage in urban India. Similarly, for LIG households, the shortage works out to be 7.36 million, which constitutes about 40.00 per cent of the total shortage (Table 4-12).

Table 4-10: Estimation of Urban Household monthly income in different Economic Groups based on Average MPCE across decile classes

Decile Groups	Average MPCE	Average HH size in decile groups
0-10	521.32	5.85
10 – 20	722.31	5.29
20-30	869.62	5.05
30-40	1027.934	4.74
40-50	1420.07	4.63
50-60	1687.74	4.15
60-70	2051.45	3.97
70-80	2680.52	3.64
80-90	5673.16	3.34
90+	1785.81	2.73

Source: NSS 66th Round, Report 538

The National Sample Survey Organisation in its Report No. 535 (65th Round, July, 2008 – June, 2009) has estimated that out of the total urban households, 2.1% of the households are living in katcha houses. The data on percentage of households by type of structure and area type for each MPCE as per NSS 65th Round, 2009 (Report No. 535) is as follows:

Table 4-11: Distribution (per 1000) of households who lived in houses by type of structure for each quintile class on MPCE

MPCE quintile class.	Distribution of Dwelling Units Per 1000 HH			Estimated No of HH	Total Estimated Katcha HH
	Permanent (Pucca)	Semi Permanent (Semi Pucca)	Katcha *		
0-20	764	165	71	103441	7344
20-40	857	107	36	110784	3988
40-60	922	65	13	125945	1637
60-80	970	22	7	142981	1001
80-100	994	5	1	181308	181
All	917	62	21	664458	14152

Source: NSS 65th Round, Report No.535
* Katcha includes serviceable and non serviceable katcha

Table 4-12: Distribution of Housing shortage among Economic Category-2012

Category	Distribution of Housing Shortage among different Economic categories as on 2012	
	No. (in Millions)	In Percentage
EWS	10.55	56.18
LIG	7.41	39.44
MIG and above	0.82	4.38
Total	18.78	100.00

Housing requirement during the 12th Plan Period (2012-2017):

The total housing shortage estimated at the beginning of the 12th Plan Period i.e. 2012 will be 18.78 million. The Housing Shortage during the period 2012-17 may not go up if the rate of growth in housing stock continuous to be higher than the growth in number of Household in the 12th Five Year Plan. Assuming the business as usual scenario and also

prevention strategy both at State & Central level, Housing Shortage may actually go down. Since housing and land are states subjects, the growth of Housing stock during 2012-17 will be largely depend on the State Government Policies/Programmes and interventions by the Government of India in the form of policy prescription in flagship programmes such as JNNURM, RAY and also the response of the private sector to these policy interventions of States & Government of India.

Chapter V
Macro Issues concerning Urban Housing Shortage and their Implications

It is possible to determine housing shortage on the basis of the effective demand of the urbanites and others, interested in buying property in towns and cities, including the NRIs. Scholars have worked out affordability for current and capital expenditure of the households at macro level, by considering the growth in income in the economy, its distribution across sectors and households at different levels of expenditure and the elasticities of housing expenditure. The capacity of speculators can also be considered as a part of the demand. These two can then be added and matched with the trend in supply. This alternate approach understandably implies that provisioning of housing would be done through the market and those not having the capacity to pay the EMI or the monthly rentals would continue live in their dilapidated houses or unhygienic and congested conditions.

A third approach would be to set certain normative frame of acceptability in housing, as is done by setting a standard of calorie intake and deriving a poverty line for computing the figures of poverty by the Committees set up by the Planning Commission. Although Tendulkar Committee has in a way delinked its proposed poverty line from calorie norms, it has been at pains to show through a number of consistency checks, its adequacy in terms of requirements of calories and education and health expenditures. Unfortunately, no norm has been developed for housing for incorporation into the poverty line or in carrying out any consistency check.

The government, particularly the Ministry of HUPA, while ushering in an inclusive strategy of development has given clear signal that it has a mission and a vision with regard to the morphology of urban centres and the living conditions of their people. It has launched the Jawaharlal Nehru Urban Renewal Mission before the start of the Eleventh Plan, designed to

improve housing conditions, infrastructural facilities and basic services with focus on urban poor. Further, it has launched Rajiv Awas Yojana with a perspective of making urban India slum free. These tend to suggest certain degree of earnestness of the state in improving the housing condition of the people at the lower end of the income distribution. This would involve major involvement of public agencies.

The present TG deliberated the issue and posited that the issue of estimating shortage in housing is similar to that of working out housing poverty. It proposed to determine the number of households that are houseless and those residing in conditions that are physically and socially unacceptable. In a way it amounts to maintenance of the basic framework of the methodology used in working out housing shortage by the Working Group in the Eleventh Five Year Plan, although there are certain minor differences in the computational procedures for the disaggregated components of the shortage.

The paradox of Indian economic growth manifest in several ways, the most significant one being about a third of Indian population live in poverty and the rate of poverty reduction is low, despite a rapid growth in GDP and the capacity to withstand global economic crisis at macro level. Further, the country recording about 40 to 60 per cent of its population as malnourished, depending on the criteria used for identification, although the county is producing enough food grain for the entire population, for over two and a half decades now, is the other illustrative case. The paradox important in the context of the present Report is in that urban India has both a high housing shortage and a massive and rapidly growing stock of vacant houses. The policies and programs for dealing with housing shortage, therefore, cannot focus on promoting construction of new units and facilitating the households already residing in decent units to acquire new houses through fiscal and financial support. They must ensure that the design, costing and institutional arrangements for producing the dwelling

units are such that the people in housing poverty get to access the existing and new housing stock.

The TG is of the view that there is nothing sacrosanct about the exact figure of shortage or their distribution across the states and expenditure categories or their breakup by and self occupied and rental housing. They can be a bit on the lower or higher side. The basic idea in putting forward these numbers is to sensitise the policy makers, administrators, civil society organizations and create a sense of urgency regarding the dimensions of the problems and directions of solution among them. Also, the objective is to put forward a methodology for working out housing shortage in a simple and transparent manner, detailing out the steps and assumptions involved, as is done, to an extent, by the Committees set up to propose a methodology for counting the poor. The Report presents the methodology in a manner that if any state government or regional authority wants to compute the figures with higher levels of disaggregation, they should be able to do that. Furthermore, if any of the norms proposed appear to be more or less stringent, it should be possible for them to alter the assumptions and corresponding parameters and rework the figure without any difficulty or confusion.

The decennial housing census conducted by the Registrar General of India (RGI) as part of the population census provides the bench mark data for all housing statistics. In view of the practical problems in collecting more detailed data on housing conditions from Censuses, sample surveys remain the only option. The NSS which provides information on housing conditions follows a household approach in contrast to the Census approach of covering both houses and households, in the housing census. Given the differences in the classification system as well as estimates coming from the two sources, there is a need for providing a linkage between them.

The other requirement is to establish a system of continuously monitor the housing activity in the country, which can be done only through a regular

system of administrative statistics. An online platform for reporting administrative data relating to housing statistics should be developed under the aegis of NBO where the urban local bodies should be encouraged to report on a regular basis the housing activity taking place within their administrative domain.

 The total housing shortage has been placed at 18.78 million in March 2012. This implies that these households suffer from serious deprivation in terms of their housing conditions. They live in units that are unacceptable within the framework of inclusive growth, adopted in the country. This, however, does not mean that all of them do not have any roof over their heads, just as the people below the poverty line are not those with zero calorie intakes or no expenditure on health and education. The figure of 18.78 million households living in such condition should be considered a matter of serious concern in the context of the housing and urban development strategy, both at national and state level.

The 0.53 million dwelling units are required to provide shelter to the houseless households, 2.27 million units to take care of the problem of obsolescence and another 14.99 million to ensure that households do not have the problem of congestion. It is possible to argue that a few of them might be able to upgrade their units at their present location and therefore do not need a new unit. However, TG holds that given the space shortage in the congested HHs and nature of the repairs required, the public agencies must think of additional units. This would get reinforced by the stipulation of the National Housing Policy that all households must have the minimum of 300 square feet as total built up area. For a country growing at about 8 per cent per years over the past eight years with some fluctuations, and is being counted as a global economic power, the vision certainly seems achievable within the next five to seven years.

The TG strongly recommends the state and city level agencies must undertake detailed survey of the slum and low income areas as also other

high density colonies in the cities to determine how many of the HHs, identified as suffering from housing poverty as per the methodology adopted in this Report, can get their problem addressed through major repair work, addition of an extra room or partitioning of an existing one within their premise. They, then, need not be shifted to separate houses. However, considering the fact that they have failed in providing a room to their married couples, have less than 300 square feet of built up area and are mostly concentrated in bottom two deciles, such possibility does not seem very bright. A number of such surveys have been undertaken in recent years. However, since they have not adopted a standardised format and concepts across time and space, it is impossible to generate reliable figures for the whole country. The TG believes that the housing shortage in urban India for long term planning should be taken as 18.78 million. It should, nonetheless, possible to take care of a certain fraction of these HHs through in-situ upgradation and incremental housing, at least in the short run.

The TG 12 recognizes that eliminating housing shortage during the period of the Twelfth Five Year Plan, over and above maintaining the current rate of construction, will be a challenging task, even with full involvement and cooperation of private sector and builder's lobby. It is, therefore, proposed to meet this challenge through alternate and complementary strategies. An attempt must be made, firstly to bring in the vacant houses into the housing market through taxation and incentive policies. In case 80 per cent of the vacant houses become available through this initiative, during the period 2012-17, the need for additional house construction will be reduced by 8.83 million. It is true that these houses will not go directly to the houseless but only to those who are in a slightly worse condition and have the ability to go for better housing. These HHs would then make their units available in the market initiating a trickle down process. This would ultimately ease the housing constraint at the lower end, provided the public agencies back it up with appropriate measures.

Secondly, the households that have the problem of congestion must be enabled to create extra space or build extra rooms through support from public agencies. Carving out a room or an additional space within the existing premises may not be possible for a large number of households, due to non availability of space around or on the top of the existing units. The public agencies, instead of identifying such units and providing support for the incremental construction on individual basis, must create a congenial policy environment. The HHs having the congestion problem should be encouraged and facilitated to get loans and other logistic support to remedy the situation on their own. It is noted that 75 per cent of the HHs having the problem of obsolescence and congestion belong to the bottom 50 per cent in the expenditure category. These also have a very low per capita floor area available for the members. Understandably, they would need certain amount of subsidy to undertake the incremental house construction within a reasonable time frame. The key of such policy interventions would be designing it in a manner that they reach the households in 'housing poverty'.

Thirdly, the HHs living in houses built before 80 years need special attention. While it is true that all HHs residing in such premises do not have problem of obsolescence due to their nature of construction, many houses aged below 80 years may have this problem. It would be dangerous to ignore the problem as one hears of the accidents of collapse of old houses on a fairy regular basis. There should be special programmes to identify the vulnerable dwelling units and shift the households living there to new units. The methodology for computing the congestion factor implicitly assumes that the HHs living in unacceptable houses, when accommodated in the alternate houses, will be not have a problem of congestion. This implies that the new dwelling units would have adequate rooms so that the couples would have separate rooms.

Finally, the terms of reference set for the TG -12 requires that it suggests a mechanism for strengthening the system of collection housing statistics and

developing an urban data base at national level. An attempt has, therefore, been made to discuss the data requirements for estimating housing shortage and highlight the data deficiencies. The present status of the database pertaining to housing sector and problems in temporal and cross sectional comparability are discussed in some detail in a substantive section in Chapter II, before coming to estimation issues. Also, care has been taken to specify the assumptions based on which the data from different sources and time points have been made comparable. Also, when such comparability is not possible, the reasons and implications of that have been discussed. The TG believes that this requires detailed discussion of the database, methodology, its assumptions and procedures adopted in building up concepts, comparable across states and over time, would help in strengthening the housing and urban database in the country.

Another Committee under the Chairpersonship of Prof. Neelima Risbud, School of Planning & Architecture, New Delhi was constituted to look into the coverage of data, limitations, structure of schedules and their processing relating to current housing and building construction activities in the country. The Report of this Committee was presented to TG-12 and it is appended below.

CONTENTS

CHAPTER I

National Buildings Organisation and Institutional arrangement for data repository on housing and building construction in India

Housing and building construction is an important sector of the economy. The information available about housing and building construction is inadequate for the purpose of devising effective policies and programmes in the sector. There are serious gaps relating to housing inventory, current statistics of building activity, consumption of buildings materials, employment of building construction labour, data relating to building costs. Therefore, for an effective planning and policy formulation in the sector, detailed economic and statistical data on housing and building construction is essential.

Housing and building construction data scenario in India

The major sources of housing and building constriction statistics in India are as follows

1. **Registrar General of India (RGI):** Census operation in the country conducted once in ten years begins with house listing operation. During house listing operations, RGI collect certain limited information on Housing and Household Amenities in India.

2. **National Sample Survey Office (NSSO):** Through periodical surveys once in five year, NSSO collects data on housing condition and amenities.

3. **The National Buildings Organization (NBO):** Realizing the importance of collection, compilation and analysis of housing and building construction statistics, urban planners and experts in the country have recommended the creation of a nodal authority at the national level for this specific purpose. The necessity of instituting some suitable arrangements for systematic and regular collection of housing and buildings statistics was also recognized by the Government of India at the beginning of the era of economic planning in India. As a direct consequence, the National Buildings Organisation (NBO) was established in 1954 and entrusted with the role of national co-coordinating agency for compilation of these statistics.

NBO functions as the apex organization in the country for collection, tabulation and dissemination of statistical information on housing and building construction activities. In March 2006, in response to the changing socio-economic and statistical functions connected with housing, construction, slum development, urban poverty alleviation and related activities, and also to ensure that the schemes of the Ministry of Housing & Urban Poverty Alleviation (Mo HUPA) were supported with appropriate database sources, MIS and knowledge inputs, the National Building Organization was restructured. The main functions of NBO now are:

i.   To act as a national resource centre and repository on urban poverty, slums, housing, building construction and related statistics, networked with similar resource centers at the state and urban local body levels and also internationally

ii. To collect, collate, validate, analyze, disseminate and publish building construction, housing and other related statistics and statistical reports from time to time;

iii. To bring out compendia on urban poverty, slums, housing and building construction statistics and applied research publications analyzing statistical data gathered from various sources such as the Census of India, NSSO etc.;

iv. To create and manage a fully computerized data centre equipped with appropriate systems and e-governance tools to store, manage, retrieve and disseminate urban data as and when needed for policies and programs;

v.   To conduct regular short-term sample surveys/field studies in various pockets of the country to study the impacts of plan schemes being run by the Ministry of Housing and Urban Poverty Alleviation and other Ministries and to gather primary data as needed;

vi.   To undertake socio-economic research relating to design, formulation, implementation, monitoring, review and impact evaluation of policies, plans, programs and projects covering areas such as slum development/up gradation, affordable housing and basic services to the urban poor;

vii.   To develop a documentation centre relating to urban poverty, slums, housing, building construction, and related urban statistics which can function as a repository of urban resources, including best practices and innovations;

viii.   To organize capacity building/training programs for the officers and staff of Government of India, State Governments and Urban Local Bodies engaged in collection and dissemination of urban poverty, slums, housing, building construction and related urban statistics;

ix.   To coordinate and collaborate with State Governments/ Municipal Authorities/ Research & Training Institutions/ Statistical Institutions/ International Organizations as nodal agency catering to data and MIS needs of urban policy-makers, planners and researchers in areas relating to urban poverty, slums, housing etc.;

CHAPTER II

Present System of Collection of Housing and Building Statistics, and some Suggestions and Rationale

Present System of Collection of Housing and Building Statistics, and some suggestions and rationale

In order to carry out the functions described in Chapter VI, the following four types of data in urban areas are currently being collected by NBO.

1. Collection and compilation of data on current building construction activities in the country

2. Collection and compilation of building permits and completion certificates using prescribed formats

3. Compilation of data for constructing Building Construction Cost Index (BCCI), as per the methodology provided by NBO

4. Collection and compilation of the following information/ data as per the prescribed formats.
   a. Building Material Prices,
   b.   Wages of building construction labour,

In this manner, NBO ensures that data is collected from more than 50 centres in the country on quarterly basis.

1. Collection of Current Building Construction data in the country

NBO collects statistics on urban building construction activities from both, the public and private sectors. Since NBO has no state level infrastructure, it collects this data through the Directorate of Economics and Statistics (DES) and ULBs in the respective state. The combined (public and private) schedule canvassed and the respondents are asked to supply the data as on 31stMarch of the year for the last financial year.

a. Information relating to urban building construction activities as per the combined schedule collected from central government organizations such as the Central Public Works Department (CPWD), Railway, Telegraph and Postal, Communication, Military Engineering Services (MES) and all Central Public Sector Undertakings (CPSU).

b. Information relating to building construction activities as per the combined schedule collected from state government organizations such as the Public Works Department (PWD), Housing Boards, and State Public Sector Organizations (PSUs) in a given state.

c. Information relating to building construction activities as per the combined schedule collected from all private individuals, including private builders, who construct buildings with building permits issued by competent City/State authorities such as the Municipal Corporations or City Development Authorities.

Objective of collecting these data/statistics: The Socio-Economic Research Unit (SERU) of NBO has been entrusted with the responsibility for the compilation and analysis of housing and buildings statistics and also organizing socio-economic research studies on housing related areas in the country. Since, the information on the subject is mainly collected by RGI and NSSO once in ten and five years respectively; the information on current building construction activities in the country is collected by NBO through State Directorate of Economics and Statistics (DES) and Urban Local Bodies (ULBs) of the respective States. The primary data is available in the administrative records of municipal authorities/ city development authorities concerned with building construction activity or its regulative wings such as PWD, ULBs, etc. this data is mainly used for the:
  i)   Assessment of current housing stock in the country
  ii) Estimation of Gross Value Added (GVA) in the housing sector
  iii) Estimation of Gross Fixed Capital Formation. (GFCF) in the housing sector.

Current System of Collection of data on Housing and Building Construction activities

As stated above, the NBO collects data on urban housing and building construction activities both from the public and private sector.

1.a. Public Sector.

NBO collects data directly in case of Central Public Sector Undertakings such as the Central Public Works Department (CPWD), Indian Railways, Postal, Telegraphic, and the Military Engineering Service (MES), among others. Similarly the DES of respective states collects state-level public sector building construction data from Public Works Department (PWD), City Development Authorities and State Public Sector Undertakings. In the event that the total cost of all the projects in one particular field unit is Rs. 25 lakh or more, the return is filed by each of the field units of public sector construction agencies/undertakings However, If the total cost of all the projects undertaken during the accounting year by the field unit does not exceed Rs. 25 lakh, irrespective whether it is a new or continuing project, then no report is to be filed for each individual project.

The data obtained by the State DES from the Urban Local Bodies and State PWD's and State Public Undertakings, is sent to NBO on-line. The data collected relates to location and nature of construction, type of construction, plinth/floor area of the project, estimated cost of the project, number and type of dwellings and value of work done for a given reference year. The details of private building construction activities include not only information on construction, but also addition and alterations done in the existing buildings as in the case of the public sector.

1.b. Private Sector.

As far as the private sector is concerned, the return is filed by all the builders/individuals, irrespective of the cost of the project. The private sector schedule is filled from all the class I and II towns and on a 10% sample basis form Class III to VI towns in the State. The sample list of class III to VI towns is provided by NBO. The data collected relates to location and nature of construction, type of construction, plinth/floor area of the

project, estimated cost of the project, number and type of dwellings and value of work done for a given reference year

Limitations on this current system

From the public sector undertakings the requisite data/information on the value of work done on building construction for a given reference year is not made available to NBO with the best effort by NBO in the last seven years.
In case of private sector the data could not be collected, the completion certificates issued by respective City Municipal/Development authority is main source of data. The percentage of applicants applying for building completion certificate is very low or negligible in all major states in the country.

Suggestions
The Committee therefore recommends that NBO should discontinue the existing combined schedule for data collection and replace the same with a new schedule similar to Housing Start Up Index (HSUI) format. The data will be compiled in this format only for cities and towns with a population of 3 lakh and above as per census 2011.

The objective of constructing a Housing Start-Up Index (HSUI) is to measure the change in the level of activities in housing sector in all cities having a population of three lakh and above, as well as to identify the growth/recessionary tendencies in this and related sectors of the economy. The current HSUI format used by NBO for collecting data in identified major Cities has been slightly modified by adding column no 14; the proposed format (Part-1 & 2) is given below, while the guidelines for the format are at Annexure–IV.

भारत सरकार
Government of India
आवास एवं शहरी गरीबी उपशमन मंत्रालय
Ministry of Housing and Urban Poverty Alleviation
राष्ट्रीय भवन निर्माण संगठन
National Buildings Organisation

DATA ON BUILDING PERMITS
Schedule –Part 1
Building Permit for New Residential Units

[1]   Identification Block:
i)   State/UT: _____ code*: _____   ii) District: _____ code*:
iii)   Name of town: _____ code*:   iv) Civic status of the town: _____ code*:
v)   Class of the town by population size _____ code*:
vi)   Name of the permission issuing authority _____
        (full address):...
        Contact /Mobile No.:- ....
        E-mail:- ....

A.   Period in which permits were issued for I/II/III/IV .... Quarter ....Year

Sl. No.	Ward Number	Detailed address of Building	Pin Code of Location	Address & Name of the Owner /Builder	Building Permit No.	Permit Issue Date (dd/mm/yy)	Whether Building Contains Single=01 or Multiple=02 housing Units	If Cl.(8) is 02 then No. of Housing Units in the Building	No. of storeys in the Building	Whether Basement is a part of Housing Unit (Yes=1, No=2)	Height of the Building (In Meters)	Total Floor Area of the Building (In Square Meters)	Total Approved Cost of the Project in Rs. in Lakhs
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)

• **To be supplied quarterly online to NBO, M/o HUPA.**   *As per Census – 2011*

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DATA ON BUILDING PERMITS
Schedule –Part 2
Listing for Sample selection

[1]   Identification Block:
i)   State/UT: _____ code * :   ii) District: _____ code * :
iii)   Name of town: _____ code * :   iv) Civic status of the town: _____ code * :
v)   Class of the town by population size _____ code*:
vi)   Name of the permission issuing authority _____
      (full address)..
      Contact /Mobile No.:- ....
      E-mail:- ....

[2]   List of units for Sample selection(for residential buildings)
A.   Period in which permits were issued for I/II/III/IV …… Quarter …………Year

Sr. No:	Administrative Zone	Building Permit issue No.	Permit issue date (dd/mm/yyyy)	No of stories	Name of the Building Permit issuing Authority**	No of houses in case of multiple housing	Whether Building contains Single =1 or Multiple (upto 4 units) = 2 or Multiple (more than 4 units) = 3	If Rw. (8) is 2 or 3 then No. of housing units in the Building	No: of floors in the Building (*Not including the basement*)
1	2	3	4	5	6	7	8	9	10

- To be supplied quarterly online to NBO, M/o HUPA.   *   *As   per   Census   –   2011*
  ** *Municipal Commissioner/Development Authority/Housing Board, Military Land/Cantonment Board etc.*

The Committee recommends that NBO may ask the DES in the States to collect this information (as per the format above) from all cities having a population of more than three lakh persons as per Census 2011 and send the information through online BRIKS software. Since all building permits issued do not convert into housing in the same quarter/ year in which permit is issued, the Committee recommends that NBO conduct a sample survey similar to the one conducted for HSUI in all cities to know the start up of building construction trend in these cities once in three/five year for constructing the Index (As per Part-2 of schedule).

2. **Collection and compilation of Building Permits and Completion**

   Objective of collecting this data/statistics: To know the total number of permits issued and completion certificates issued. This data will be used to estimate the proportion of completion certificates issued against number of permits issued in a given year and also to know the ratio of residential to non-residential building permits issued.

   Current System of collection and compilation of Building Permits and Completion data

   NBO collects and compiles the data on building permits and completion certificates from Cities/Towns having a population of 100,000 and above. At present, this data is collected on calendar year basis i.e. January to December of every year.

   The data is collected by DES from Municipal/local self-government authorities in a prescribed format. The municipal authority maintains records for each of the building projects completed or for which authorization certificate has been issued under their jurisdiction. This is because in the urban area, building construction activity is subject to the approval of building plans by the competent authority and occupation of completed building also requires completion certificate to be issued by competent authority. This authorization certificate contains the necessary details regarding new construction or additions/ alterations done to the existing housing stock. DES collects the data from Municipal authorities and sends it to NBO, in the prescribed format given below.

Building Permits and Completion Certificates Issued

STATE NAME:

Name of the Municipal Corporation/ Municipality/Development Authority:

Data collected on financial year basis i.e. upto 31st December of the year

Category	Number of Building Permits Issued	No. of Building Completion Certificate issued
Residential		
Non-Residential		
Total		

Suggestions.

The committee recommends that this format be retained with minor corrections i.e. instead of calendar year NBO should collect data for the financial year. i.e. up to 31st March of the year.

3. **Compilation of data for constructing Building Construction Cost Index (BCCI)**

Objective of collecting this data/statistics: The index depicts the trends in the increase in the cost of building construction in a particular city. The building construction cost varies with the type of construction, design, region etc. Therefore, in order to study the variations in building construction cost in the country, it is necessary to compile building cost index numbers for well-demarcated regions within which the design, construction techniques and materials used are similar. The BCCI for states can be worked out by using an appropriate weight (such as the number of houses in the city –based on data from Census 2011) for the city index in the state index. This is subject to the condition that the construction techniques and materials used are similar in all cities within the State.

What is an Index Series?

Index series show the trends in the item for which, the index has been compiled at specified place and for a period of time; as such, an index is always time and place specific.

A building cost index series can show the trends in the building construction costs at a specified centre over a period of time. (Base year to current year).

The cost of a building structure comprises mainly of the cost of material and labour. A study of the relative increase or decrease in the cost of these two components during a certain period indicates the trend of construction costs.

The Committee recommends the following broad guidelines to be followed in the compilation of such indices.

(i)   Building construction costs vary with the type of construction, design, region etc. Therefore, in order to study these variations, it is necessary to compile the building cost index numbers for well-demarcated regions within which the design, construction techniques and materials used are similar.

(ii) The index may relate to a typical, popular, common type of residential structure constructed in the public sector under the Low Income Group (LIG) Housing Scheme by the State Housing Board or under the scheme for the low-paid government employees by the State Public Works Department. Since the standard requirement of all types of material and their cost for a standard LIG housing unit is maintained by the State Housing Boards/PWD therefore, it is advisable to use these as the typical residential structure based on the building cost of which the index is prepared. These costs are generally revised by the PWD or housing boards on a yearly basis.

(iii) The year 2004-2005 (base year as per Central Statistical Office) may be taken as the base year.

(iv) The index may consist of three components, namely: material, labour and other charges as follows:

Material: Bricks, Sand, aggregate, cement, iron and steel, timber, sanitary and water supply fittings and electrical fittings are to be included in the material group.

Labour: The wages for mason, carpenter and unskilled labour.

Other Charges: Includes architects' fee, corporation fee, contingency etc.

(v) Retail prices (inclusive of taxes) and transport charges (imputed), if necessary, are to be used for the compilation of the index.

(vi) Weights are to be assigned to each item included in the index in the proportion of their expenditure to the total cost.

(vii) The index numbers should be compiled using the weighted arithmetic mean method.

(viii) This index first calculated for LIG house may be converted to a per sq. ft cost.

BCCI Formula

B.C.C. Index   **Symbolically, Building Construction Cost index (BCCI)**

$$\sum_{J} Wij * Pj$$

Index=   --------------------------*100

$$\sum_{J} wij$$

Wi = base year cost each item in the total building cost at the base year

P= relative Cost of the item (current cost of an item/constant cost of an item)

Model Exercise

Prepare Building Construction Cost Index for the Low Income Group(LIG) house measuring 500-800 sq. ft. with the use of building material cost, labour cost and other (miscellaneous) expenses.

Collect data for the current year and base year (2004-05) cost of standard materials and their cost information of a LIG house from housing board or Public Works Department office in the city. The Housing Board or Public Works Department office in a city maintains the standard items (material, labour,) required for a standard LIG house in their city, and also cost of those items, which is updated on a yearly basis. Given below, is an illustrative exercise, where items of building material and labour may vary from centre to centre, but for the sake of comparison, it is advised to maintain standard items or same number of items in every centre.

Building Construction Cost Index

- Collect constant and current cost of different item used for constructing Low Income Group (LIG) house from Housing Board or State PWD
- Calculate the weight of every item i.e. Individual item Cost of base year/Total cost of base
- Calculate the cost relative i.e. **current cost of each item/constant cost of each item**
- Estimate the Index by multiplying the weight of every item with relative price of every material item

(Amount in Rs.)

Items	current year Cost of each item (Rs.)	Base Year Cost of each item (Rs.)	Weights (Individual item Cost of base year/Total cost of base year) Wi	Cost relative (2)/(3) current/constant pi	pi*Wi (4)*(5)
1	2	3	4	5	6
(a) Material Cost					
1. Bricks	280435	250,000	24.38	1.1217	27.350
2. Cement	85439	75,000	7.31	1.1392	8.333
3. Sand, stone	61534	55,000	5.36	1.1188	6.001
4. Iron and Steel	63859	55,000	5.36	1.1611	6.228
5. Timber	53900	45,000	4.39	1.1978	5.257
6. Electrical fittings	51327	50,450	4.92	1.0174	5.006
7. Paints & Varnish	65423	48,980	4.78	1.3357	6.381
8.Sanitary ware Sanitary ware	63553	25,480	2.49	2.4942	6.198
(b)Labour Cost					
1. Skilled	200740	165,850	16.17	1.2104	19.578
2. Unskilled	154890	130,520	12.73	1.1867	15.106
(c)Other Expenses					
1. Mixer Charges	13000	10,070	0.98	1.2910	1.268
2. Supervision charges	58450	50,000	4.88	1.1690	5.700
3. Contracting	98497	64,000	6.24	1.5390	9.606
Total (a)+(b)+(c)	1251047	1025350	100		122.01

$$\frac{\sum_J W_{ij} * P_j}{\sum_J w_{ij}} * 100 \quad = \quad (122.01*100)/100 = 122.01$$

Suggestion:

The Committee recommends that the DES to calculate this index for a LIG house and work out the cost Index proportionately for per sq.yard/sq.ft. The state level Index can be worked out by estimating average cost (all cities in the state*) for every item in the Index item box.

* In order to estimate the state-level index, it is essential that before clubbing different cities in the state, the similarity of design and other condition of LIG house in each city within the state should be ensured.

4. Collection of Data on Prices of Building Materials and Wage rates of Building Labour.

Objective of collecting this data : It is very important to know the trend in the material cost variations at different times in the city. This data is used to compile a material price index. A comparative analysis among cities in the state can then be worked out.

As a part of development of statistics on current housing and building activity, NBO also collects data on prices of building materials and wage of construction labour from various centers in States and Union Territories. The main objective of the collection of these data has been to compile an index of:

(i) Building materials prices.

(ii) Building construction labour wages.

The building material prices along with wages of building construction labour for important centers are collected for every state. The data collected depicts the trend of prices of building materials and wages for certain categories of construction labour.

Presently, data on prices and wages is being collected from more than 50 centers in various States and Union Territories. The DES/PWD cells are responsible for collection of data under the guidance of NBO.

A detailed procedure for collection of such data has been laid down by the NBO along with instructions to cover special situations which might involve a process of substitution or the prescribed grade and variety of different building materials. Necessary proforma for collection of data have also been prescribed.

Current Methodology

A). Building Material Price,

The main aim for price data collection is to know the price change of the prescribed quantity and quality at a particular centre on a particular date. While collecting data on building material price, the following has to be strictly followed. Price has to be collected at a set pattern for pre decided items:

1. Price of same quality to be collected every time
2. Unit must be the same
3. Quantity must be the same
4. Price must be collected from the designated shop, and pre-decided market of the centre.
5. Price must be collected on the last working day of each quarter.
6. Price should be the one the builder actually paid; it should include the sales tax and local tax, if any.
7. Data has to be collected without an interval/break.

In case prescribed grade and variety is not available in the selected shop, the price for the same item collected from a reserved shop; if that also not available, the price may be collected for the prescribed quality and quantity in any other shop in the market.

In case prescribed quality not available, commonly used quality may be selected.

b) Building Constructions Labour wage

Every city has certain places where the construction labour generally gathers in the morning hours. At these locations:

1. Collect the prevailing wage on the last working day of each quarter.
2. Wage rates collected from the same centre every quarter.
3. For each specified category of worker possessing a particular skill, experience and efficiency.

4.   All remuneration capable of being expressed in terms of money and payable to employee should be taken in to account.

Suggestions: The Committee recommends that DES may continue to collect this information with the same format (Annexure- II & III).   At present about 50 centers in different states are collecting and transmitting this data through the online channel using the Building Related Information Knowledge System (BRIKS) software. BRIKS has been specially developed for transmitting building and construction related data online by DES officials to NBO. The Committee recommends that NBO to up scale the centres to population having 3 lakhs and more as per Census - 2011, so as to have real picture across the country, may provide financial assistance to DES of minimum Rs. 2 lakh per centre under the USHA scheme, for the collection of data on building material and wages of construction labour and collecting information in Schedule – I & II building permits etc. This financial assistance to be given to DES can be used to meet the operational expenses for collection, collation, compilation and online transmission of data on building construction statistics including hiring of contractual manpower.

The Committee also recommends that present structure of financial assistance of Rs. 3-5 lakhs provided to DES according to state urban population size to meet the expenses for running the e-unit connected with BRIKS software may be increased to Rs. 5 lakhs to states having less than 5 lakh urban population and Rs. 10 lakhs for all states having 5 lakh and above population as per census 2011, for running the e-unit which interlia includes, connected with BRIKS software as well as for collection of data on building construction statistics . Since the previous limit was decided 5 years back this revision is necessary. This financial assistance is necessary, as most of the DES units in the States/UTs are facing an acute staff shortage and do not have budget for doing these extra activities.

5.   Data/Information   on   dilapidated/dangerous   houses, construction activities in unauthorized colonies

The committee decided that NBO may also collect information on dilapidated/dangerous houses, housing stock in unauthorized colonies etc.,

so as to have a more reflective and robust trend in the housing & building construction etc., as currently only authorized construction activities are reported in the existing system. The Municipal Commissioners/District Collectors/ City Development Authorities will be requested to provide the information as per the format at Annexure-V

CHAPTER III

Summary of Recommendations regarding a mechanism for strengthening the system for collection of Housing Statistics and developing a National Database for Urban Areas

1. NBO should continue to collect data through Directorate of Economics & Statistics on building material and wages of construction labour. The current data collection centers should be increased to 300 centers across the country. The number of centers for each State/UT should be in proportion to the number of cities/towns in the State as per the 2011 Census.

2. NBO should provide financial assistance to the tune of Rs. 2 lakh per annum per centre under USHA scheme, for collection of data on building material and wages of construction labour. This financial assistance to be given to DES units can be used to outsource investigators and data entry operators on contractual basis as per state rules to carry out data collection and data entry regularly.

3. Directorate of Economics & Statistics (DES) of every State/UT should generate the Building Construction Cost Index (BCCI) using the methodology provided by NBO and send the same to NBO online on an annual basis.

4. NBO should incorporate BCCI as a new module in the existing BRIKS software.

5. NBO should discontinue the existing combined schedule for data collection and replace the same with a new schedule (Part – I & II) similar to Housing Start Up Index (HSUI) format. The schedule will be used to compile HSUI data for the cities for newly built residential housing (Both Public & Private). Cities and town having a population more than 3 lakh (147 cities in 2011 Census) should be covered through DES.

6. Information on building permits issued by Municipal Corporations and City Development authorities etc. in all cities with population of 1 lakh

and above as per Census 2011 should be collected by DES using NBO format and the data should be sent to NBO online using the BRIKS software.

7. NBO should continue the existing system of financial assistance under USHA scheme with an enhanced financial support to DES in all States/UTs in the country of Rs. 5 lakhs to States/UTs having less than 5 lakh urban population and Rs. 10 lakhs for States/UTs having more than 5 lakh urban population as per Census 2011 to meet the operational expenses for collection collation, compilation and online transmission of data on building construction statistics including hiring of contractual manpower.

8. NBO should coordinate and work in tandem with statistical organizations like RGI, CSO and NSSO so as to create a robust database of building and construction activities in the country for effective policy making.

9. NBO should continue to support capacity building programmes through National Resource Centers, State/ULBs etc. for officials of DES and ULBs so as to ensure supply of better quality of data on regular basis.

10. NBO should collect information from Urban Local bodies on the number of residential buildings notified as 'dangerous'/'dilapidated' and the number of unauthorized colonies and houses therein, in a prescribed format.

11. Since, the information on Housing & Building Construction activities is a crucial input to policy decision at both Micro & Macro level, it is suggested that Ministry of Housing & Urban Poverty Alleviation should make it a mandatory for the ULBs to supply data online to NBO under all its flagship programs i.e. JNNURM, RAY and proposed National Urban Livelihood Mission (NULM).

12. To reduce the time gap between data collection and its dissemination, it is strongly recommended that e-governance and e-tool should be immediately developed and implemented by NBO through linking the States/ULBs with the National Data Centre of NBO.

13. It is further suggested, NBO should be suitably strengthened both with professional manpower and e-tools.

14. Secretary (HUPA)/Additional Secretary (JNNURM) should write comprehensive and self explanatory letter detailing the need of housing, building construction statistics, role of States in the exercise along with a set of instruction for collection of housing and building statistics, tabulation plan to all State Chief Secretaries/Secretaries detailing the importance of housing, building Statistics, and requesting them to instruct all the concerned state departments/ULBs/ Development Authorities/Para-Statals etc. to provide timely data relating to current housing and building construction activities to NBO through online BRIKS software.

15. Wide publicity through print and electronic media be given to the entire exercise at regular intervals detailing the importance of building construction statistics, through print and electronic media and sufficient funds be kept for this purpose in the plan scheme.

16. Last but not the least USHA plan scheme, which was launched during the 11th Five Year Plan, should be given a renewed thrust in the 12th five year plan so that above recommendations are implemented in letter and spirit by NBO.

Annexure I

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<u>**Number of Building Permits and Completion Certificates Issued**</u>

STATE NAME:

CITY NAME :

Name of the Municipal Corporation/ Muncipility/Development Authority:

Population of the City (2011) :

Financial Year:

Category	Number of Building Permits Issued	No. of Building Completion Certificate issued
RESIDENTIAL		
NON-RESIDENTIAL		
TOTAL		

- **City with above one lakh population as per Census 2011.**

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National Buildings Organisation

....को समाप्त तिमाही में भवन निर्माण सामग्रीयो बाजार भाव दर्षाने वाली विवरणी

Showing the market rates of buildings materials for quarter ending------------ -----------

केन्द्र ⁄ Centre---

कम सं. 1.	किस्मो सहित सामग्री **Material with varieties** 2.	**Unit** 3.	रू0 Price Rs. 4.	(जहां लागू हो वहां ब्रांड आदि का उल्लेख करे।) **Remarks. (Specify the brand etc. Wherever applicable)** 5.
	ईटे			
1.	**Brick**			
(क)	श्रेणी (क)	हजार		
(a)	Class (A)	Thousand		
(ख)	श्रेणी (ख)			
(b)	Class (B)	"		
(ग)	टाइल की इटे (पतली) ईटे	"		
(C½	Tile bricks (thin) bricks			

रेत
2. **Sand**
(क) निम्न घन मीटर

(a) Coarse Cu. Mt.
(ख) मध्यम
(b) Medium "
(ग) उच्च "
(C) Fine

पत्थर की रोड़ी घन मीटर
3. **Stone ballast** Cu. Mt.
(क) 15 मि. मी. गेज और कम
(a) 15 mm. gauge
(ख) 20 मि. मी. "
(b) 20 mm gauge
(ग) 40 मि. मी.
(c) 40 mm gauge "

चूना
4. **Lime**
(क) बुझा हुआ
(a) slaked (Quintal)
(ख) अनबुझा
(b) Unslaked "

इमारती लकड़ी
5. **Timber**
(क) सी. पी. सागौन घन मीटर
(a) C.P. Teak Cu. Mt.
(ख) देवदार
(b) Deodar "
(ग) कैल
(c) Kail "
(घ) साल की लकड़ी
(d) Salwood "
(ड) चीड़
(e) Pine "
(च) अन्य (उल्लेख करे)
(f) Others (Specity)

सीमेंट
6. **Cement**
(1) सफेद (5 किलो ग्राम)
(1) White (5 Kg. Bag)
(2) साधारण (सफेद) (50 किलो ग्राम)
(2) Ordinary (grey) (50 Kg. Bag)

(क)   उच्च शक्तिवाली

(a)   High Strength   "

(ख)   कम शक्तिवाली

(b)   Low Strength "

इस्पात   मि. टन

7.   Steel   M. Tone

(क)   साधारण इस्पात की गोल छड़े

(a)   M.S. Round Bars   "

      6 मि. मी. व्यास

(i)   6 mm diameter   "

      10 मि. . व्यास

¼ii)   10 mm

      12 मि. मी. व्यास   "

¼iii)   12 mm

      16 मि. मी. व्यास   "

(iv)   16 mm

      20 मि. मी. व्यास   "

(v)   20 mm   "

      अन्य उल्लेख करे

(vi)   Other (Specify)   "

(ख)   साधारण इस्पात की चपटी छड़े

(b)   M.S. Flat iron   "

      30*12 मि. मी.

(i)   30*12 mm   "

      40*12 मि. मी.

(ii)   40*12 mm   "

(ग)   एंगल आयरन

      Angle Iron   "

      मि. मी.

(i)   25*25*5 mm   "

(ii)   40*470*6mm   "

(iii)   45*45*6 mm   "

(iv)   50*50*6 mm   "

(v)   65*65*6 mm   "

(vi)   75*75*6 mm   "

      चादरे (जस्तेदार)

(d)   M.S. sheets (galvanised)

      सपाट

(i)   Plain

      मोटाई मि. मी.   मि. टन

(a)   1.00 mm thickness   M. Tone

(b)   1.25 mm thickess   "

(c)   1.60 mm thickness   "

नालीदार

(ii)   Corrugated (0.63 mm)   "

आर एम पी.

(a)   R M P   "

अन्य

Others

साधारण इस्पात टीज

(f)   M.S. Tees

मि. मी.   मि. टन

(i)   40*40*6 mm   M. Tone

मि. मी.

(ii)   50*50*6 mm   "

मि. मी.

(iii)   60*60*6 mm   "

मि. मी.

(iv)   80*80*6 mm   "

          साधारण इस्पात के चैनल

          M.S. Channels

मि. मी.   मि. टन

(i)   150*75 mm   M. Tone

मि. मी.

          125*65 mm   "

मि. मी.

(ii)   220*75   "

          (धरन) गार्डर

(g)   Griders   M. Tone

मि. मी.   मि. टन

(i)   100*50 mm

मि. मी.   "

(ii)   125*75 mm

मि. मी.   "

(iii)   600*210 mm

          फर्ष के लिए पत्थर की स्लैब   100 वर्ग मीटर

(8)   Stone slab for flooring   100 sq.mt.

ऐस्बेस्टास सीमेंट की चादरे | 100 वर्ग मीटर

(9) | **Asbestos cement sheets** | 100 sq.mt.

नालीदार
(a) | Corrugated | "

अन्य
(b) | Others | "

टाइले
(10) | **Tiles**

देसी टाइले | हजार
(a) | country tiles | Thousand

मंगलूर टाइले
(b) | Mangalore Tiles | "

कुचाई (ग्लेज्ड) टाइले
(c) | Glazed tiles | "

अन्य (उल्लेख करें)
(d) | Others (Specify)

रोगन व वार्निष
11. | **Paints & Varnishes**

लकड़ी तथा इस्पात कार्य के लिए विषेष पेंट | लीटर
(a) | special paint for wood and steel work | Liter

वार्निष रोगन
(b) | Varnish Paints | "

गोपाल वार्निष
(c) | Gopal Varnish | "

तारपीन
(d) | Turpentine | "

डिस्टेम्पर | 20 किलो ग्राम
(e) | Distemper | 20 Kilogram

अन्य (उल्लेख करे)
(f) | Other (Specify)

चादर कांच | वर्ग मी.
12. | **Sheets glass** | sq.mt

सफाई पात्र
13. | **Sanitary Wares**

एस. डब्लयू पाइप
(a) | S.W. Pipes

100 मि.मि. व्यास | प्रत्येक
(i) | 100 mm diameter | each

14. **Electric Fittings**

(a) **Copper Wire**
    (i) Size-1 sq. MM Flexible   90 Mts.
    (ii) Size-1.5 sq. MM Flexible   90 Mts.

(b) **Switches (Piano)**   Per Dozen

(c) **Three Pin Plugs (Top)**   Per Dozen

(d) **Holder (Pendent)**   Per Dozen

(e) **Ceiling Rose**   Per Dozen

(f) **Bulbs**
    (i) 80W   Per Dozen
    (ii) 100W   Per Dozen

(g) **Florescent Tubes (4',40W)** Per Piece
(h) **CFL Bulbs**
    (i) 15 W   Per Dozen
        (ii) 20 W   Per Dozen

Annexure III

भारत सरकार
Government of India
आवास एवं शहरी गरीबी उपषमन मंत्रालय
Ministry of Housing and Urban Poverty Alleviation
राष्ट्रीय भवन निर्माण संगठन
National Buildings Organisation

_____तारिख को _____शहर में भवन निर्माण करने वाले कामगारों को मजदूरी की दरे दर्षाने वाली विवरणी

Statement showing the wage rates for construction workers in ---------------------- city on ---------------(date).

Sl.No.	कामगारों का वर्ग Category of workers	प्रत्येक दिवस की औसत मजदूरी दर रूपये Average wage rate per day (in Rs.)
1	राज मिस्त्री (प्रथम श्रेणी) Masons (First Class)	
2	राज मिस्त्री (द्वितीय श्रेणी) Masons (Second Class)	
3	बढई (प्रथम श्रेणी) Carpenters (First Class)	
4	बढई (द्वितीय श्रेणी) Carpenters (Second Class)	
5	अकुशल कामगार (पुरूष) Unskilled workers (male)	
6	अकुशल कामगार (महिला) Unskilled workers (Female)	

आदेष
Instruction

1. इसमें बताई गई मजदूरी की दरें वे होनी चाहिए जो प्रत्येक वर्ष में 31 मार्च, 30 जून, 30 सितम्बर, तथा 31 दिसम्बर, को समाप्त होने वाली तिमाही के अन्तिम कार्य दिवस को प्रचलित हो।

1. The wage rates reported should be those prevalent on the last working day of the quarter ending 31st March, 30th June, 30th September and 31st December of each year.

2. यह महसूस किया गया है कि कुछ केन्द्रों में कुशल कामगारों को मिलने वाली मजदूरी में उनके अनुभव के आधार पर अन्तर हो सकता है, इसलिए बढई और राज मिस्त्रियों में "प्रथम श्रेणी" तथा "द्वितीय श्रेणी" जैसा भेद कर दिया गया है। यदि किसी केन्द्र में कुशल कामगारों के किसी वर्ग विषेष के लिए उनके अनुभव की परवाह किए बिना मजदूरी की दरें समान है तो इस/प्रपत्र में दर्षाए गए कालम के बजाए राज मिस्त्री वर्ग (सभी श्रेणियां) की मजदूरी दरें बताई जाए। दूसरी ओर यदि किसी केन्द्र में कुशल कामगार के किसी वर्ग के लिए मजदूरों की दरें दो से अधिक प्रकार की हो तो पहली दो को प्रथम और द्वितीय श्रेणी माना जाए।

2. It is felt that in some centers, the wages paid to skilled workers may differ based on their experience. Hence, distinction has been made as **'First Class'** and **'Second Class'** among carpenters and masons. If in any centre, the wage rates for a particular category of skilled workers are the same irrespective of their experience, then wage rates may be   reported for category masons (all class), instead of those shown in the form. On the other hand, if in any centre, there are more than two types of wage rates prevailing for a category of skilled workers then, the first two may be taken as first and second class.

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Annexure IV

भारत सरकार
Government of India
आवास एवं शहरी गरीबी उपषमन मंत्रालय
Ministry of Housing and Urban Poverty Alleviation
राष्ट्रीय भवन निर्माण संगठन
National Buildings Organisation

Guidelines for Data Collection

Part [A]: General Information

This part of the format contains general information of the City/town and the Building permit issuing authority. This part of the format will be filled by the *DES officials from records of building permit issuing authorities.* Information like name of the State, District, City/town, Civic Status of the City/town, population, Name of the Building Permit Issuing Authority and Name of the nodal officer in the City/town will be recorded in this part of the format. Since all the items are self explanatory, further instructions for each item are not required.

Part [B]:   Information on House Building Permits Issued

There are 7 columns in this part. Information against each of the 7 columns is mandatory. The detailed instructions for recording the information against the 7 column of part B of the format are as follows:

Column 1:   Sl. No: Assigned to the building permit record in the data compilation format. This number is allotted to each permit holder only for maintaining the sequence/order in the data sheet.

Column 2:   Ward Number: The ward in which the buildings permit is applied for construction of new housing unit/alteration of the existing housing unit

Column 3:   Detailed address of Building : Postal address of the location of the building for which the permit has been issued has to be indicated in this column.

Column 4:   Pin Code *of* Location: Pin Code of the area in which the building is located has to be shown.

Column 5:   Name & address of the Owner /Builder: Name of the owner of the building along-with his address for which permit has been issued has to be shown.

Column 6:   Building Permit No. : The unique building permit number assigned by the building permit issuing authority to the housing unit proposed to be constructed while approving the building plan has to be indicated against this column.

Column 7:   Permit Issue Date (dd /mm /yy): The building permit issue date will be recorded in this column in the following format:

               dd: 01, 02, 03……….31,

               mm: 01, 02, 03……..12,

               yy: 07, 08, 09 ……….

Part [C]:   Information on House Building Specifications

There are 6 columns in this part. Information against each of the 6 columns is mandatory. The detailed instructions for recording the information against the 6 column in part C of the format are as follows

Column 8:   Whether Building contains Single or Multiple housing Units: The information will be recorded against this item in code. The codes are:

     01:     If the building for which the permit is issued contains single housing unit

     02:     If the building for which the permit is issued contains multiple i.e. more than one housing unit.

Column 9:   If Cl. (8) is 02 then number of Housing Units in the Building: If 02 is recorded in column 8 then the exact number of housing units in the building for which building permit is issued will be recorded.

Column 10:   Number of Storey's in the Building: This column is self explanatory; the number of storey in the building has to be mentioned.

Column 11:   Whether Basement is a part of Housing Unit: The information will be recorded against this item in code: The codes are:

     01:     If basement is a part of the housing unit in the approved building plan

     02:     If basement is not part of housing unit

Column 12: <u>Height of the Building (In Meters):</u>The height of the building as per the sanctioned building plan has to be mentioned in Meters in this column.

Column 13: <u>Total Floor Area of the Building (In Square Meters):</u>The floor area in square meters of the building as per the sanctioned building plan by the building permit issuing authority will be recorded against this column.

Column 14: Estimated cost of building if available in the record.

Special Instructions:

1.   Floor area of all the floors of the building including basement (if basement is part of housing unit) but excluding the parking and supper area have to be taken into account.

2.   Any addition in the building carried out with building permits will be covered.

The data on all building permit issued for construction of residential units during each quarter of the year to be collected whether Private, Public or Cooperative housing.

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Annexure V

भारत सरकार
Government of India
आवास एवं शहरी गरीबी उपषमन मंत्रालय
Ministry of Housing and Urban Poverty Alleviation
राष्ट्रीय भवन निर्माण संगठन
National Buildings Organisation

Format for information on dilapidated/dangerous and unauthorized construction

Name of City:

Name of State:

As on 31st March ...

1	2	3
Number of residential building notified as dilapidated/dangerous	Number of Unauthorized colonies	Total No. of Houses/Plots in Unauthorized colony.

Name of the forwarding Officer

Designation

Office Address

Verified by *

*To be verified by the officer not below the rank of Deputy Commissioner of ULB.