भारत में आवास की प्रवृत्ति एवं प्रगति रिपोर्ट

Report on Trend and Progress of Housing in India

2018

राष्ट्रीय आवास बैंक
NATIONAL HOUSING BANK

REPORT ON TREND AND PROGRESS OF HOUSING IN INDIA 2018

दक्षिता दास
प्रबन्ध निदेशक एंव मुख्य कार्यपालक अधिकारी

Dakshita Das
Managing Director & Chief Excutive Officer

राष्ट्रीय आवास बैंक
NATIONAL HOUSING BANK

Letter of Transmittal

NHB (ND)/MD&CEO/A1925/2018-19
February 27, 2019

The Finance Secretary
Government of India
Ministry of Finance
North Block
New Delhi – 110 001

Sir,

In pursuance of the provision of Section 42 of the National Housing Bank Act, 1987, I have pleasure in transmitting herewith a copy of the Report on Trend and Progress of Housing in India 2018.

With regards,

Yours faithfully,

Dakshita Das

(Dakshita Das)

Encl: As above

भारतीय रिज़र्व बैंक के संपूर्ण स्वामित्व में
कोर 5-ए, तीसरे से पांचवा तल, इंडिया हैबिटेट सैंटर, लोधी रोड, नई दिल्ली-110003
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"बैंक हिन्दी में पत्राचार का स्वागत करता है"

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NATIONAL HOUSING BANK

Letter of Transmittal

NHB (ND)/MD&CEO/A1926/2018-19
February 27, 2019

The Governor
Reserve Bank of India
Central Office Building
Shahid Bhagat Singh Marg
Mumbai – 400 001

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ABMs	Alternate Building Materials
ABSH	Annuity Based Subsidized Housing
ADFIAP	Association of Development Financing Institutions in Asia and the Pacific
AGSH	Annuity-cum-Capital Grant Based Affordable Housing
AHP	Affordable Housing in Partnership
BCA	Building Construction Authority
BMS	Building Management System
BMTPC	Building Materials and Technology Promotion Council
BREEF	Building Retrofit Energy Efficiency Financing
CAGR	Compound Annual Growth Rate
CIC	Credit Information Companies
CLSS	Credit Linked Subsidy Scheme
CNA	Central Nodal Agency
CoR	Certificate of Registration
CPI	Consumer Price Index
CPI-C	Consumer Price Index- Combined
CRGF	Credit Risk Guarantee Fund
CSIR- CBRI	Central Building Research Institute of the Central Scientific and Industrial Research
DBIE	Database on Indian Economy
DFID	Department for International Development
DLBC	District Level Bankers Committee
DMA	Direct Marketing Agent
DRDA	District Rural Development Agency
DROH	Direct Relationship Ownership Housing
DRRH	Direct Relationship Rental Housing
DSA	Direct Selling Agent
DU	Dwelling Units
EME	Emerging Markets Economy
EPS	Expanded Polystyrene
ERB	Earthquake Resistant Bracing
EWS	Economically Weaker Sections
FCB	Fiber Cement Boards
FDI	Foreign Direct Investment
FY	Financial Year
GBT	Green Building Technology
GDP	Gross Domestic Product
GFRG	Glass Fibre Reinforced Gypsum
GHCTC-India	Global Housing Construction Technology Challenge–India
GLSH	Government-land Based Subsidized Housing
GM GFA	Green Mark Gross Floor Area
GMIS-EBP	Green Mark Incentive Scheme for Existing Building and Premises
GNPA	Gross Non Performing Asset
GRIDS	Grievance Registration & Information Database System
GST	Good and Services Tax
GVA	Gross Value Added
HFC	Housing Finance Company
HIMI	High Impact Molded Inserts
HPI	House Price Index
HVAC	Heating, Ventilation and Air-Conditioning
IAP	Integrated Action Plan
IAY	Indira Awaas Yojana
IBBI	Insolvency and Bankruptcy Board of India
IBC	Insolvency and Bankruptcy Code
ICD	Inter Corporate Deposit
IHSDP	Integrated Housing and Slum Development Programme

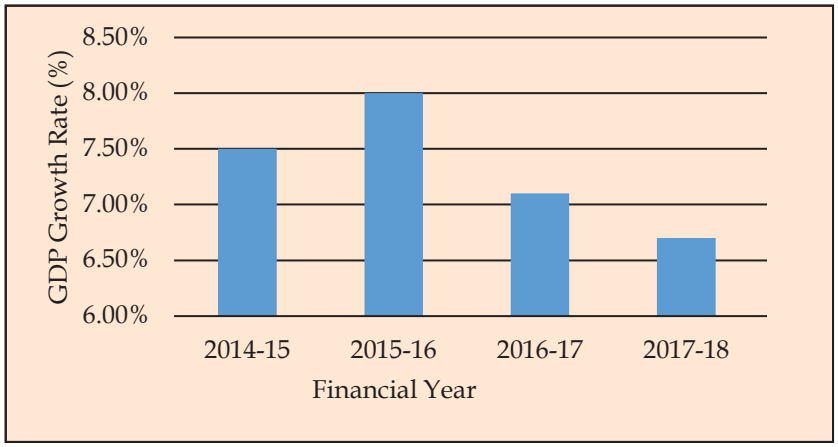
IMF	International Monetary Fund
IU	Information Utility
JRY	Jawahar Rozgar Yojana
KYC	Know Your Customer
LIG	Lower Income Group
LTV	Loan To Value
MCA	Ministry of Corporate Affairs
MDCH	Mixed Development Cross –subsidized Housing
MIG	Middle Income Group
MMR	Mumbai Metropolitan Region
MoA	Memorandum of Agreement
MoHUPA	Ministry of Housing and Urban Poverty Alleviation (now MoHUA)
MoHUA	Ministry of Housing and Urban Affairs
MoRD	Ministry of Rural Development
MoU	Memorandum of Understanding
NAREDCO	National Real Estate Development Council
NBCC	National Building Construction Corporation
NBFC	Non-Banking Financial Company
NCR	National Capital Region
NeSL	National E-Governance Services Limited
NHB	National Housing Bank
NNPA	Net Non-Performing Asset
NOF	Net Owned Funds
NPA	Non-Performing Asset
NREP	National Rural Employment Programme
NSSO	National Sample Survey Office
NTSA	National Technical Support Agency
NUHF	National Urban Housing Fund
NURHP	National Urban Rental Housing Policy
PLI	Primary Lending Institution
PMAY-G	Pradhan Mantri Awaas Yojana –Gramin
PMAY-U	Pradhan Mantri Awas Yojana-Urban
PPP	Public Private Partnership
PSB	Public Sector Bank
Q-o-Q	Quarter on Quarter
RBI	Reserve Bank of India
R&D	Research and Development
REIT	Real Estate Investment Trust
RERA	Real Estate (Regulation and Development) Act, 2016
RHISS	Rural Housing Interest Subsidy Scheme
RLEGP	Rural Landless Employment Guarantee Programme
RRB	Regional Rural Bank
SCB	Scheduled Commercial Bank
SEBI	Securities Exchange Board of India
SLBC	State Level Bankers Committee
TA	Technical Assistance
UCB	Urban Cooperative Bank
UHF	Urban Housing Fund
UNCHS	United Nations Commission on Human Settlements
UN DESA	UN Department of Economic and Social Affairs
UT	Union Territory
WB	World Bank
WWF	Welded Wire Fabric
Y-o-Y	Year on Year

1.1 Indian Economic Scenario

Despite a slowdown in GDP growth rate to 6.7% during the financial year 2017-18, India remained one of the best performing nations in the World with average GDP growth rate of 7.3% during 2014-15 to 2017-18. The growth has been achieved in a macro economic conditions of lower inflation and improved current account which makes it all the more creditable[1]. The fiscal deficit for the financial year stood at 3.53% of the total GDP as against the target of 3.5%. Headline inflation averaged 3.6%, reflecting low food prices on account of normal monsoon rainfall and agriculture sector reforms, subdued domestic demand, and currency appreciation.

Moody's Investors Service raised India's rating from the lowest investment grade of Baa3 to Baa2 on November 16, 2017 in the backdrop of a host of measures undertaken by the Government including implementation of GST, Insolvency and Bankruptcy Code, announcement of bank recapitalization and a number of reforms undertaken to boost industrial growth.

Graph 1.1 GDP Growth Rate of India



Source: Economic Survey 2017-18

1.2 Indian Housing Scenario [2]

Real estate and construction together, is the second largest employment provider in the country, next to agriculture. It employed over 40 million workforce in 2013, and as per projections is slated to employ over 67 million workforce by 2022. The sector is expected to generate about three million jobs annually. Nearly 90% of the workforce employed in the real estate and construction sector are engaged in construction of buildings. The remaining 10% workforce is involved in building completion, finishing, electrical, plumbing, other installation services, demolition and site preparation.

The share of real estate sector which includes ownership of dwellings accounted for 7.7% in India's overall Gross Value Added (GVA) in 2015-16. The growth of this sector decelerated in the last three years from 7.5% in 2013-14 to 4.4% in 2015-16. This was mainly due to growth of the ownership of dwelling segment decelerating from 7.1% in 2013-14 to 3.2% in 2015-16. As per the National Real Estate Development Council (NAREDCO), residential launches across top 14 cities in India during H1 2017 fell to the lowest in past five years to about 58,000 units. Similarly, new residential sales, fell to five years low of about 1,01,850 units during this period.

[1] *Economic Survey 2017-18*

[2] *Economic Survey 2017-18*

Despite the slowdown in residential launches, the strength of the Indian economy and favourable demographics, coupled with introduction of several growth oriented reforms are aiding the real estate sector to attract higher investments. Private equity investments in the real estate sector have increased from US$ 0.9 billion in 2013 to over US$ 5.9 billion in 2016, recording more than six fold jump during this period.

Box 1.1 Measures taken to promote real estate

The Union Budget 2018-19 continued its push for the real estate sector by announcing following measures:

(1) Establishment of a dedicated Affordable Housing Fund in National Housing Bank, financed from priority sector lending shortfall and fully serviced bonds authorized by the Government of India.

(2) Allocation of ₹6,505 crore has been provided for PMAY(U) as against ₹6,043 crore in 2017-18, including allocations for CLSS. Additionally, Internal and Extra Budgetary Resources of ₹25,000 crore under PMAY(U) have been made available for 2018-19.

(3) Allocation of ₹21,000 crore has been provided for PMAY(G) as against ₹23,000 crore in 2017-18. The total resource requirement is projected at ₹33,000 crore, comprising of ₹21,000 crore of Gross Budgetary Support and ₹12,000 crore of Extra Budgetary Resources.

The Government and market regulators have been taking necessary measures for development of monetizing vehicles like Infrastructure Investment Trust (InvIT) and Real Estate Investment Trust (REITs) in India. SEBI in February, 2017 notified norms allowing mutual funds to make investments in such entities. This move is aimed at boosting investor's interest in such alternative investments.

The RBI has raised housing loan limit for eligibility under priority sector lending (PSL) from ₹28 lakh to ₹35 lakh in metropolitan centres, and from ₹20 lakh to ₹25 lakh in other centres. The ceiling on cost of eligible dwelling units has also been revised from ₹ 35 lakh to ₹ 45 lakh in metropolitan areas and from ₹ 25 lakh to ₹ 30 lakh in other areas. The limits were revised in order to bring convergence between PSL guidelines for housing loans and the affordable housing scheme under the Pradhan Mantri Awas Yojana (PMAY).

Reference:
i. Union Budget 2018-19
ii. RBI Circular on Priority Sector Lending – Targets and Classification dated June 19, 2018

1.3 Growing Urbanization and Housing Shortage

According to "World Urbanization Prospects - The 2018 Revision" by the Population Division of the UN Department of Economic and Social Affairs (UN DESA), the future increases in the size of the world's urban population are expected to be highly concentrated in just a few countries. By 2050, it is projected that India will have added 416 million urban dwellers compared to 255 million in China.

The urban expansion in India will happen at a speed quite unlike anything the country or the world has seen before. While it took nearly 40 years (from 1971 to 2008) for India's urban population to rise by nearly 230 million; it will take only half that time to add the next 250 million.[3]

[3] *Mc Kinsey Global Institute (MGI) Report (April 2010)*

India's urban population is estimated to have grown at a CAGR of 2.8% over 2001-2011, resulting in an increase in the urbanization rate from 27.8% to 31.2%. The surge in urban population was supported by an increase in million plus cities. The number of urban agglomerations with more than 1 million population increased from 35 in 2001 to 53 in 2011. The growth of urbanization at such unprecedented level poses the challenge of meeting the increasing demand for affordable housing in cities.[4]

One of the constraints in meeting the increasing demand for affordable housing is the high cost of land. Other challenges include availability of finance to developers/ builders towards land and absence of clear title which acts as deterrent for participation by financial institutions and real estate developers in new as well as redevelopment projects of real estate.

In order to create a self-sustaining market to address the challenge of land availability and its high cost, the Central Government on September 21, 2017 announced a new PPP (Public Private Partnership) Policy for Affordable Housing. The fundamental strategy underlying Public Private Partnerships as an implementation strategy for affordable housing is to combine the strengths of the private sector with those of the public sector in order to overcome challenges faced by affordable housing and to achieve superior outcomes. The 8 PPP models for promoting affordable housing includes six with private investments on government lands while remaining 2 models involves private investments on private lands.

The new regulations and policy changes including the roll out of RERA and GST will help the industry become more organized, transparent, and accountable which will boost buyer sentiment in both residential and commercial segments.

Box 1.2: Public Private Partnership Models

PPP projects on Government owned land

1. **Government-land Based Subsidized Housing (GLSH):** Under this model, the public authority will provide land to the selected private developer. This would effectively constitute a state subsidy for the project. The private developer will be responsible and held accountable for designing, building and financing of affordable housing stock and associated services of predetermined standards, at a pre-determined cost and within a pre-determined time.
2. **Mixed Development Cross–subsidized Housing (MDCH):** Government land to be allotted based on number of affordable houses to be built on the plot offered to private builders, cross subsidizing this segment from revenues from high end house building or commercial development.
3. **Annuity Based Subsidized Housing (ABSH):** Government will provide land under this model as well. The key difference in this model will be that the developer receives revenue from the government in the form of regular annuity payments for a period of time (upto 10 years) instead of a lump sum amount at the time of handover.
4. **Annuity-cum-Capital Grant Based Affordable Housing (AGSH):** This model is similar to the ABSH Model, except that under this model a significant proportion of project cost (say 40-50%) is paid to the private developer during the construction phase itself. The remaining amount is paid to the developer as an annuity for upto 10 years after the successful completion of the project.

[4] *The Census of India, 2011*

5. **Direct Relationship Ownership Housing (DROH):** As against government mediated payments to builders and transfer of houses to beneficiaries in the above four models, under this option, promoters will directly deal with buyers and recover costs. Allocation of public land is based on unit cost of construction.
6. **Direct Relationship Rental Housing (DRRH):** In this model, the Allottees would be required to make rental payments towards the usage of the housing unit directly to the developer, whereas these units continue to be owned by the developers.

PPP projects on privately owned land

7. **PPP framework for Credit Linked Subsidy Scheme (CLSS) approach:** Under this model, private developer will provide land as well as be responsible and accountable for designing, building and financing of affordable housing stock and associated services of predetermined standards, at a pre-determined cost and within a pre-determined time. The establishment of the eligibility of beneficiaries will be the duty of the Banks extending the loans to the applicant; in this particular case this would be as per the PMAY (U) Guidelines. The allottees would be required to either make pre-determined payment for the cost of the housing unit at the time of handover or pay equated monthly installments for a predetermined period of time to the private developer. CLSS benefits will be available to the beneficiaries as per the PMAY (U) Guidelines.
8. **PPP framework for Affordable Housing in Partnership (AHP) approach:** Similar to previous Model. However, in this case the establishment of the eligibility of beneficiaries shall be the duty and the prerogative of the public authority. The same shall be announced prior to the implementation of the project. Central Assistance at the rate of ₹ 1.5 lakh per EWS house would be available for all EWS houses in such projects.

Reference: PPP Models for Affordable Housing, MoHUA, Sept 2017

1.4 Role of National Housing Bank

The NHB, wholly-owned by the Reserve Bank of India, is a multi-functional Development Finance Institution for the housing sector. Its functions include regulation & supervision of housing finance companies, financing, and promotion & development of housing finance in India. The NHB aims to promote a sound, healthy, viable and cost effective housing finance system to cater to all segments of the population and to integrate the housing finance system with the overall financial system.

- **Regulation & Supervision**

NHB as the regulator of HFCs, guides, monitors and inspects the activities of HFCs, to ensure that they are conducting their business activities in a manner that is not detrimental to the interest of depositors, customers and public at large. During 2017-18, the NHB granted Certificate of Registration (CoR) to 13 HFCs. As of June 30, 2018, there were 96 HFCs registered with the NHB. The Bank set up an online Grievance Registration and Information Database System (GRIDS) to look into the grievances of customers against HFCs. Another key area where NHB actively intervenes is fraud containment in the housing finance industry. NHB collects information about frauds in the housing finance industry and regularly disseminates consolidated information on frauds to all the HFCs through caution

advices. This helps the HFCs become more aware of the market events and safeguard their exposures. NHB regularly interacts with other regulators in the country for information sharing and coordination.

- **Financing**

(i) Refinance

During the year 2017-18, aggregate refinance disbursements of ₹24,921 crore were made with almost 53% disbursements being made to HFCs and 46% to Scheduled Commercial Banks (SCBs). Institution-wise breakup of refinance disbursements made during last three years are shown in Table 1.1. The scheme-wise details are captured in the Graph 1.2. Outstanding refinance of NHB was ₹58,725 crore as on June 30, 2018. Of this, HFCs' and SCB's share was about 65% (₹38,146 crore) and 33% (₹19,524 crore) respectively.

Table 1.1: Institution-wise Refinance Disbursements for the last three years

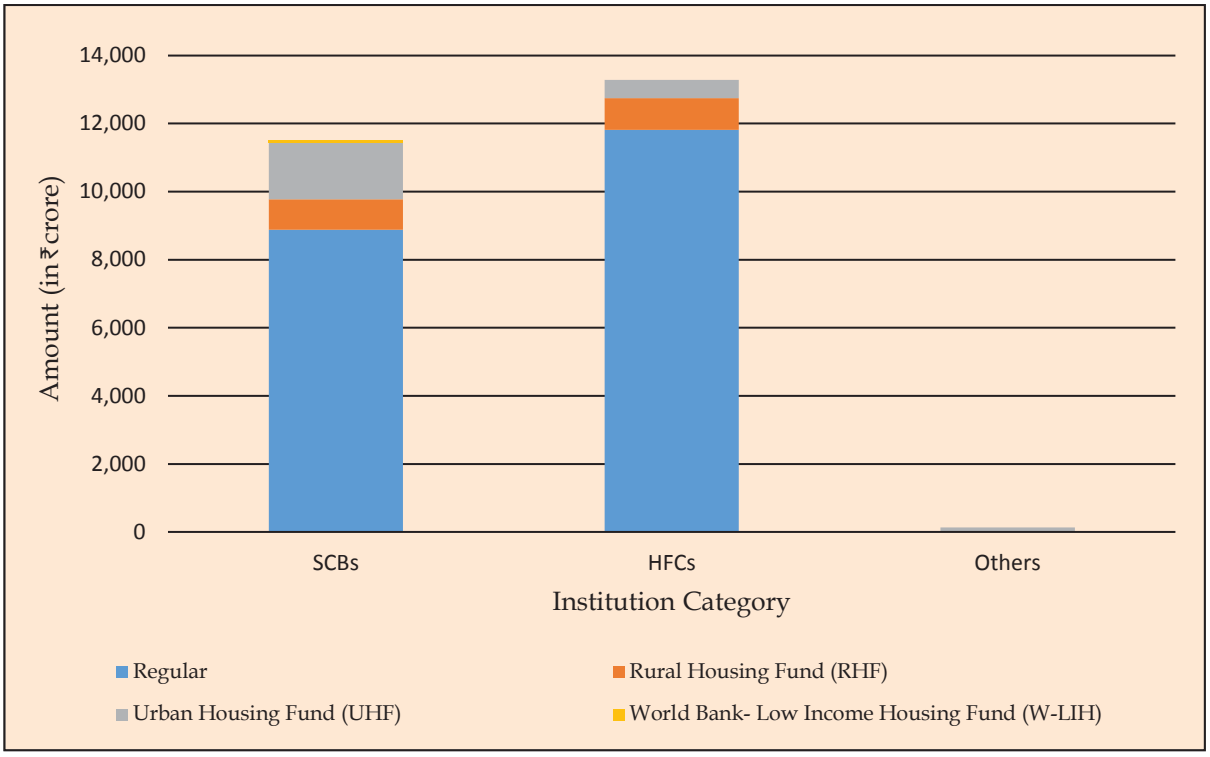
(Amount in ₹crore)

Primary Lending Institutions	2015-16		2016-17		2017-18	
	Amount Disbursed	% to Total	Amount Disbursed	% to Total	Amount Disbursed	% to Total
Housing Finance Companies	10,852	50.3	16,779	74.0	13,283	53.3
Scheduled Commercial Banks	10,275	47.6	5,696	25.1	11,508	46.2
Others	463	2.1	209	0.9	130	0.5
Total	21,590	100.0	22,684	100.0	24,921	100.0

Source: NHB

Graph 1.2: Scheme-wise Refinance Disbursements as on June 30, 2018

(Amount in ₹crore)

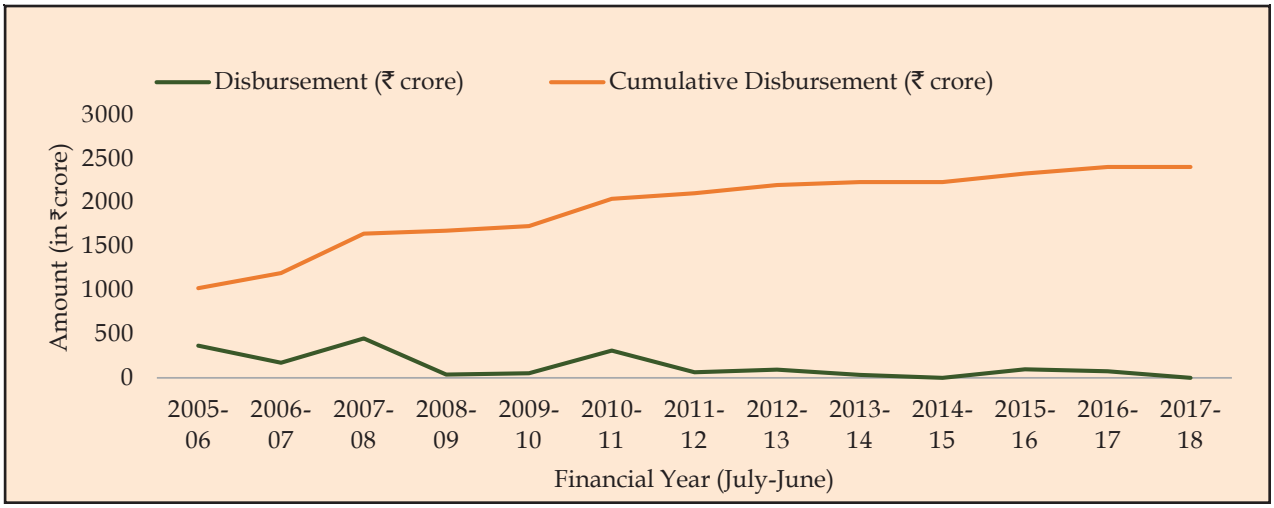


Source: NHB

(ii) Project Finance

Till June 30, 2018, NHB has financed 449 projects with project cost of ₹10,228 crore. The cumulative project finance disbursements stood at ₹2,406 crore. Trend in NHB's project finance disbursements is shown in Graph 1.3.

Graph 1.3: Trend in Project Finance Disbursements



Source: NHB

- **Promotion & Development**

  Equity Participation: In terms of the mandate given to NHB towards the promotion and development of the housing finance system in the country, the Bank participates in the equity share capital of HFCs and other related companies. Currently, NHB is a participant in the equity share capital of six institutions.

  Implementation of Government Schemes: The NHB acts as a Central Nodal Agency (CNA) for the implementation of the Government of India's Schemes. The Schemes where NHB performs this role include the following:

  » **Pradhan Mantri Awas Yojana (Urban) – Credit Linked Subsidy Scheme, Ministry of Housing and Urban Affairs:** As on June 30, 2018, NHB has disbursed subsidy of ₹3,439.35 crore to 134 PLIs benefitting 1,56,242 households under CLSS for EWS/LIG and ₹846.03 crore to 98 PLIs benefitting 40,301 households under CLSS for MIG.

  » **Rural Housing Interest Subsidy Scheme (RHISS), Ministry of Rural Development:** NHB has executed MoUs with 83 PLIs for implementation of the scheme.

In addition, the NHB also manages the Credit Risk Guarantee Fund Trust for low-income housing on behalf of the Ministry of Housing and Urban Affairs.

Capacity Building: The NHB regularly undertakes measures towards the training and capacity building of various stakeholders in the sector. This includes regular interaction with various PLIs in forums such as the CEO meetings and round tables, as well as imparting and conducting training programmes. In 2017-18, the NHB

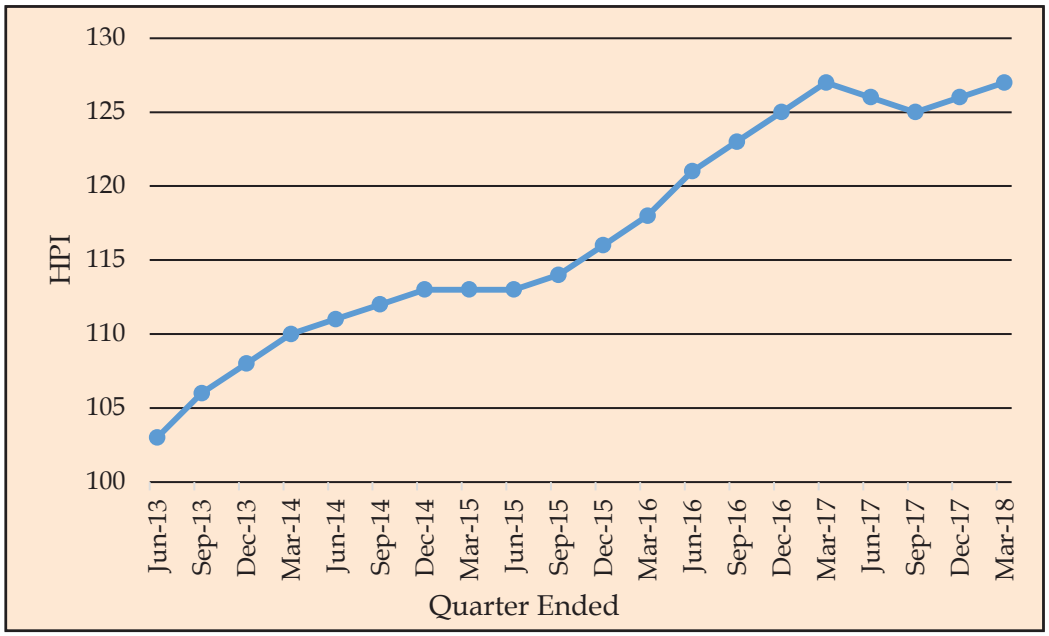
conducted 16 training programmes across India, with more than 770 participants from various PLIs. The programmes ranged from orientation programmes on housing finance to specialized programmes on Rural Housing Finance, Regulatory Framework, and Prevention of Fraudulent Practices in Housing Finance, etc. Customized programs for various RRBs/UCBs were also conducted in Rajasthan, Gujarat, Andhra Pradesh, Chhattisgarh,Tripura and Haryana. NHB also collaborated with Wharton School of Pennsylvania and Habitat for Humanity by convening the First International Collaboration Training Programme at New Delhi in July, 2017.

1.5 NHB RESIDEX – India's Residential Housing Price Index

NHB RESIDEX, India's first official housing price Index, tracks the movement of prices in residential housing segment based on information collected from 50 cities spread across 21 States of India. NHB RESIDEX is designed to track changes in housing prices at city and national level. It aims to provide guidance to stakeholders, not only in terms of a macroeconomic index, but also in decision making in the form of quarterly updated prices. NHB RESIDEX captures two housing price indices viz. HPI@ Assessment Prices and HPI@ Market Prices - Under Construction Properties based on the data available for 50 cities. HPI@ Assessment Prices is computed using lenders' valuation data received from Banks/Housing Finance Companies (HFCs), while HPI@ Market Prices for Under Construction Properties is based on primary market data for under construction properties collected from developers, builders and brokers. The housing prices are classified on the basis of carpet area size at city level (INR/sq.ft.) for units under three product category levels, namely, <=60 sq.m, >60 & <=110 sq.m, and >110 sq.m. The indices are computed using Laspeyres Methodology, followed by calculation of a Four Quarter Weighted Moving Average with application of dynamic weights at product category level and static base year weights on the Weighted Moving Average product category level prices, across all the quarters starting from the base year.

The movement of Composite Price Index based on HPI@ Assessment Prices and HPI@ Market Price for under construction properties for last 5 years is given in Graph 1.4 and Graph 1.5 respectively. Till March 2018, HPIs tracked the movement in prices of residential properties on a quarterly basis, taking FY 2012-13 as the base year. From the quarter ended June 30, 2018 the base year has been shifted to FY 2017-18.

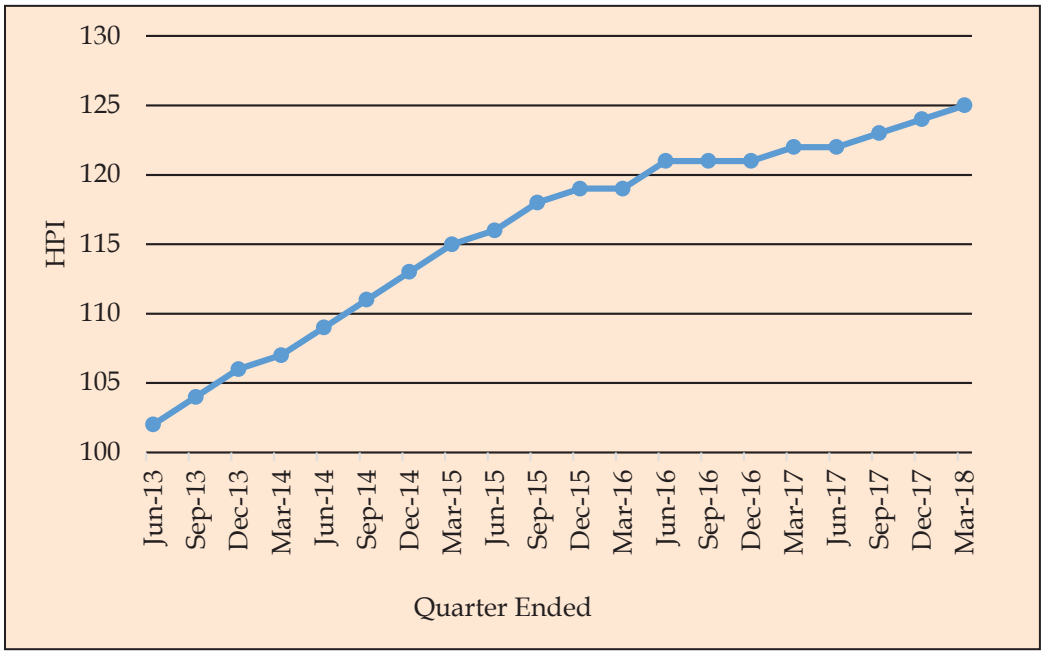
Graph 1.4: Composite Price Index based on HPI@ Assessment Prices for last 5 years



Source: NHB

The HPI @Assessment Prices in quarter ended March, 2018 at 127 remained unchanged on Y-o-Y basis. However, the index has moved up at a CAGR of 4.5% over the years. During the quarter ended March, 2018, the Index has shown an overall increase in 26 cities, decrease in 22 cities and no change in 2 cities on Y-o-Y basis.

Graph 1.5: Composite Price Index based on HPI@ Market Price for under construction properties for last 5 years



Source: NHB

The HPI @ Market Prices for under construction properties in quarter ended March, 2018 witnessed a rise of 2.5% on Y-o-Y basis. The index has moved up with a CAGR of 4.4% over the years. The detailed assessment of HPIs is given in Appendix A 1.

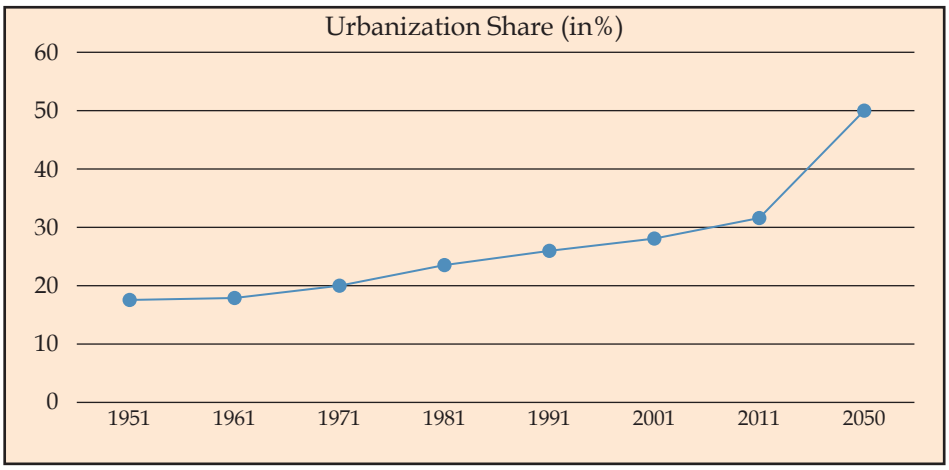
2.1 Population and Urbanization

The world population doubled from 3 billion in 1960 to 7.4 billion in 2016 and by 2030 the urban areas are projected to house 60% of people globally. The population increase is coupled with urbanization leading to migration of people from rural areas to urban areas; these factors are stressing the housing needs and shelter requirements across all the nations but in the developing nations it is coupled with poverty and inequality especially in urban cities. For a highly populated country like India with population of 1.3 billion and population density of 441 people per square kilometre of land area which is eight times the world average of population density which is 56.62, it creates extra pressure on the resources and infrastructure (WDI, 2018).

As per Census of India 2011, the population of India was 1210.50 million, of which 31% lived in urban and 69% in rural areas. The urban population located in 7,933 towns, comprising 4,041 Statutory Towns and 3,892 Census Towns. During 2001-2011, in absolute terms, the decadal increase in urban population was 90.99 million vis-à-vis 90.97 million in rural population. The percentage increase in urban population, however, was 31.8 vis-a-vis 12.3 in rural population. Also, during the decade, while the number of Statutory Towns increased by 242 (6.4%), the number of Census Towns went up by 2,530 (185%). At current rate of growth, urban population in India is estimated to reach a staggering 575 million by 2030 and 875 million by 2050. The supply of land and housing has not kept pace with the increase in urban population.

Graph 2.1 Urbanization growth over the years

Years	Urbanization Share in %
1951	17.29
1961	17.97
1971	19.91
1981	23.34
1991	25.71
2001	27.81
2011	31.16
2050	>50



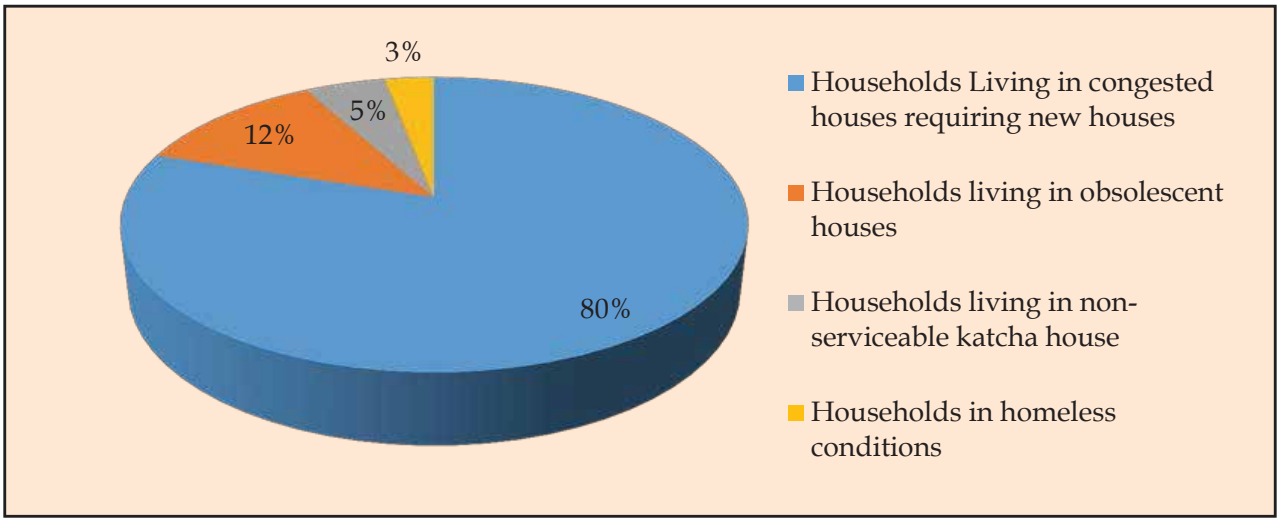
Source: Annual Report 2017-18 (Ministry of Housing & Urban Affairs)

2.2 Housing Shortage

Rapid urbanization, growth in population and increase in nuclear families has created demand for housing in India. Despite the constant focus on the housing segment, housing in India is far from being adequate. The shortage of housing in India has been a constant problem, deterring the economic growth of the country. The government in its 12th Five Year Plan gave this issue utmost importance and focused on increasing the amount of housing units available both in the urban as well as the rural sector. As per the estimates of the 12th Five Year Plan, the shortage of housing in urban segment of society stood at 18.78 million as per the 2011 census.

The Economically Weaker Section (EWS) has three-fourths of the shortage and the Lower Income Group (LIG) has a quarter of housing shortage approximately. The details of the house condition wise housing shortage is given in Graph 2.2. It is evident that the major reason for housing shortage in urban areas is congestion followed by the reason of obsolescent houses.

Graph 2.2: Urban housing shortage as per the housing condition



Source: MoHUPA Task Force Report, 2012

2.3 Impact of Housing on GDP and Employment

A Study on "Impact of investments in the housing sector on GDP and Employment in the Indian Economy"[5] was conducted by National Council of Applied Economic Research (NCAER) in 2014 based on the inter-industry linkages of housing investment. The key findings of the report are as follows:

i. The residential construction i.e. housing sector accounts for 1% of GDP and 6.86% of the employment.

ii. Housing sector is fourth largest employment generating sector.

iii. 99.4% of the jobs in housing sector are informal jobs.

iv. Its labour to output ratio i.e. number of persons employed to produce a lakh units of output, is 2.34 which is the highest among all the sectors.

v. For every lakh invested in the housing sector, 2.69 new jobs are created in the economy. With induced effect (i.e. resultant increase in demand for output on account of increased income), the number of jobs created would be 4.06 (3.95 informal and 0.11 formal).

vi. Every additional rupee invested in the housing sector will add ₹1.54 to the GDP and with household expenditure considered, this is going to add ₹ 2.84.

vii. For every rupee invested in creation of housing, ₹0.12 gets collected as indirect taxes.

[5] *Supported by DFID and MoHUPA (now MoHUA)*

Box 2.1: Progress in Implementation of Real Estate (Regulation & Development) Act

The Government of India enacted the Real Estate (Regulation and Development) Act 2016 on 26th March 2016 and all its provisions came into effect, from May 1st, 2017. Developers were given time till the end of July 2017, to register their projects under RERA. Real estate agents, who fall under its ambit, are still in the process of registering themselves. Several states still need to notify the rules under the Act and most importantly for buyers; developers/promoters need to register their projects under RERA. The RERA seeks to protect the interest of home buyers and also boost investment in the real estate sector. Under the Act, the Central and State governments are required to notify their own rules.

The Act is applicable in thirty five States/UTs, except the State of J&K. Six North Eastern States (Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland and Sikkim) have some Constitutional issues relating to land belonging to community and autonomous councils and these are under examination. Of the remaining twenty nine States/UTs, twenty seven States/UTs have notified Real Estate Rules under the Act. Ten States/UTs have established permanent Real Estate Regulatory Authority and nineteen States/UTs have established interim Real Estate Regulatory Authority. Six States/UTs (Tamil Nadu, Maharashtra, Madhya Pradesh and UTs of Andaman & Nicobar, Dadar & Nagar Haveli and Daman Diu) have established the Regular Appellate Tribunal and fifteen States/UTs have appointed interim Appellate Tribunals under the Act. Twenty one States/UTs have made a fully operational web portal for enabling online registration of Real Estate projects and agents. RERA and the government's model code, aims to create a more equitable and fair transaction between the seller and the buyer of properties, especially in the primary market. RERA shall bring in accountability and transparency in the real estate market.

Reference: Urban Transformation 2014-18: Ministry of Housing & Urban Affairs

2.4 Housing Policies & Programmes in India

Housing in India has been in focus of the planners since Independence. Each of the 12 five year plans allotted specific fund to the housing needs of the country. However, specifically from the Seventh Five Year Plan onwards i.e. 1985 onward, urban housing shortage and slum development programmes have been receiving special focus.

Broadly, the policy framework followed for housing in India can be briefed as under:

Sl. No.	Housing Policy/Programme	Year
i.	National Housing Policy	1988
ii.	National Housing and Habitat Policy	1998
iii.	Jawaharlal Nehru National Urban Renewal Mission	2005
iv.	National Urban Housing and Habitat Policy	2007
v.	Interest Subsidy Scheme for Housing the Urban Poor (ISHUP) Rajiv Rinn Yojana (RRY)	2008 2013
vi.	Rajiv Awas Yojana	2009
vii.	Affordable Housing in Partnership	2013
viii.	Pradhan Mantri Awas Yojana: Housing for All by 2022	2015

Source: MoHUA Website

The first policy specific to urban housing was the National Urban Housing and Habitat policy in 2007 (Ministry of Housing and Urban Poverty Alleviation, 2007). It focused on affordable housing as a key objective for sustainable urban development. A brief account of policies are as follows:

i. **National Housing Policy (NHP) 1988:** The March 1987 Preamble to the Draft National Housing Policy (DNHP) had for the first time recognized shelter as a basic human need. This can be regarded as the first steps towards recognizing the right to shelter or right to housing, but this particular emphasis was removed from the draft. The policy looked at land, materials, finance, technology and targeted poverty alleviation as part of an integrated and comprehensive solution to the housing. Development of the housing sector as a whole was emphasized (NHP, 1988).

ii. **National Housing and Habitat Policy (NHHP) 1998:** The policy envisaged and emphasized on a major shift in government's role to act more as facilitator than as a provider. The objective of the policy was to create surplus housing stock and facilitate construction of two million dwelling units each year in pursuance of the National Agenda for Governance. It also sought to ensure that housing along with supporting services is treated as a priority sector at par with infrastructure. The Planning Commission suggested modification of the housing policy to incorporate affordable housing programme for the urban poor. Considerable efforts were made during the Ninth and Tenth plan to enlarge the resource base and initiate innovative institutional mechanisms to augment housing delivery in urban areas (NHHP, 1998).

iii. **Jawaharlal Nehru National Urban Renewal Mission (JNNURM)** was launched in December 2005 with aim to cover construction of 1.5 million houses for urban poor during the Mission period (2005- 2012). It was launched in collaboration with various State Governments and Urban Local Bodies, supported 63 cities across the country. The focus of the programme was on improving efficiency in urban infrastructure services delivery mechanism, community participation and accountability of Urban Local Bodies.

JNNURM had two Sub-Missions:

- Basic Services for the Urban Poor (BSUP) which aimed to provide seven entitlements/ services i.e. security of tenure, affordable housing, water, sanitation, health, education and social security in low income segments in the 63 Mission Cities.
- The Integrated Housing and Slum Development Programme (IHSDP) provided the above mentioned seven entitlements and services in towns/cities other than the Mission Cities.

The two components of JNNURM were mandated to pursue 3 key pro-poor reforms, namely (a) earmarking of 25% of municipal budget for the urban poor for provision of basic services including affordable housing to the urban poor; (b) implementation of 7 Point Charter, namely provision of land tenure, affordable housing, water, sanitation, education, health and social security to the poor in a time-bound manner ensuring convergence with other programmes and (c) reservation of 25% of developed land in all housing projects, public or private, critical for slum improvement.

The Scheme was succeeded by Atal Mission for Rejuvenation and Urban Transformation (AMRUT). The focus of the Mission is on infrastructure creation that has a direct link to provision of better services to the citizens. The purpose of "AMRUT" mission is to (i) ensure that every household has access to a tap with assured supply of water and a sewerage connection (ii) increase the amenity value of cities by developing greenery and well maintained open spaces e.g. parks and (iii) reduce pollution by switching to public transport or constructing facilities for non-motorized transport. There is maximum allocation of 2.5% of project cost for development of parks with children and elderly friendly features. The Mission covers 500 cities that include all cities and towns with a population of over one lakh with notified Municipalities. Total outlay for AMRUT is ₹50,000 crore for five years from FY 2015-16 to FY 2019-20 and the Mission is being operated as Central Sponsored Scheme. The project fund is divided among States/UTs in an equitable formula in which 50:50 weightage is being given to the urban population of each State/UT and number of statutory towns. The Mission is encouraging and supporting the States in conducting reforms that will improve the financial health of the ULBs, delivery of citizen services, transparency and cut the cost of services.

iv. **National Urban Housing and Habitat Policy (NUHHP) 2007:** The policy emphasizes on housing and habitat sector in the urban context and views housing as a tool of productivity, equity, safe environment, pro-poor delivery of civic services and shelter as well as employment opportunities and has emphasized bottom – up planning. The Policy has been formulated keeping in view the changing socio-economic parameters of the urban area and growing requirement of shelter and related infrastructure. It also seeks to promote various types of public-private partnerships for realizing the goal of **"Affordable Housing For All"** with special emphasis on the urban poor (NUHHP, 2007).

v. **Interest Subsidy Scheme for Housing the Urban Poor (ISHUP)** was launched on December 26, 2008 to improve the affordability of housing loans among the EWS/LIG segments in urban areas, by MoHUA (earlier Ministry of Housing and Urban Poverty Alleviation). Under the Scheme, interest subsidy of 5% per annum for whole duration of the loan (15-20years) was provided on loans up to ₹1 lakh extended to EWS/LIG beneficiaries by the Primary Lending Institutions (PLIs). The maximum loan amount was ₹1 lakh for a EWS individual and ₹1.60 lakh for a LIG individual. The interest subsidy was provided on NPV and upfront basis. The Scheme was implemented through Banks and HFCs. The Scheme envisaged the appointment of State Level Nodal Agencies (SLNAs) by various States to facilitate the identification and selection of eligible beneficiaries for effective implementation.

NHB and HUDCO were designated as Central Nodal Agencies (CNAs) for implementation of the Scheme. NHB as Nodal Agency for the aforesaid Scheme had taken various measures to bring awareness through wider publicity, sensitization programmes and coordinating with various agencies for facilitating effective implementation of ISHUP. The Scheme ceased to exist on 30-09-2013.

MoHUPA, Government of India in October 2013, revised Interest Subsidy Scheme and renamed it as **Rajiv Rinn Yojana (RRY),** as an additional instrument for addressing the housing needs of EWS/LIG segments in urban areas with increase in limit of eligible housing loans from ₹1 lakh to ₹5 lakh. Under RRY, the amount

of loan has been revised upto ₹5 lakh for EWS and ₹8 lakh for LIG beneficiaries. The eligible lending institutions under the scheme are SCBs, HFCs and RRBs. NHB and HUDCO are the two nodal agencies under the Scheme. An interest subsidy of 5% was provided to the eligible borrowers availing housing loans from the financial institutions, on quarterly basis for the loan tenure of 15-20 years.

vi. **Rajiv Awas Yojana (RAY):** aimed to enable provision of credit to Economically Weaker Sections (EWS) and LIG households and to encourage the States to adopt policies for creation of a slum free India. The RAY scheme emerged from the vision statement of President of India in 2009, placed in parliament for "Slum Free India". In May 2015, Rajiv Awas Yojana (RAY) was rolled over into the Housing for All (HFA) by 2022 policy.

vii. **Affordable Housing in Partnership (AHP):** The Government launched a scheme of AHP as a part of RAY in 2013 to increase affordable housing stock with an outlay of ₹5,000 crore for construction of one million houses for EWS/LIG/MIG with at least 25% for EWS category. The Scheme facilitated partnership between various agencies/ Government/parastatals/ Urban Local Bodies/ developers for realizing the goal of affordable housing for all.

viii. **Housing for All by 2022 - Pradhan Mantri Awas Yojana (Urban):** PMAY (U), the affordable housing scheme, declared that 50 million houses will be built for the poor by 2022, out of which 30 million houses will be in rural areas and 20 million in urban areas. The Mission is being implemented during 2015-2022 and provides central assistance to Urban Local Bodies (ULBs) and other implementing agencies through States/UTs for:

a) In-situ Rehabilitation of existing slum dwellers using land as a resource through private participation

b) Credit Linked Subsidy Scheme is being implemented through PLIs and monitored by Central Nodal Agencies namely NHB and HUDCO

c) Affordable Housing in Partnership

d) Subsidy for beneficiary-led individual house construction/enhancement.

As per the mission guidelines, an 'affordable housing project' shall have a minimum of 35% of the houses for the Economically Weaker Section (EWS) category. EWS households are those having an annual income up to ₹ 3,00,000 and a dwelling with a carpet area of up to 30 sq. m. Low Income Group (LIG) is defined as having an annual income between ₹ 3,00,001 up to ₹ 6,00,000 and a dwelling unit having carpet area up to 60 sq. m. Slum is defined as a compact area of at least 300 population or about 60-70 households of poorly built, congested tenements in unhygienic environment, usually with inadequate infrastructure and lacking in proper sanitary and drinking water facilities. The PMAY provides an interest subsidy of 6.5% on housing loans with tenure of up to 20 years for EWS & LIG and recently has also incorporated the interest subsidy of @ 4% for the MIG I (6 lakh to 12 lakh) and interest subsidy of @ 3% for the MIG II (12 lakh above to 18 lakh). It also envisages to make all statutory towns slum free, i.e. to prepare Slum Free City Plan of Action (SFCPoA) for in-situ redevelopment of slums.

PMAY U: Mission Progress*

Housing Units Approved	47.5 lakh
Projects Approved	9896
Total Investment Approved	₹ 268096 crore
Central Assistance Approved	₹ 73460 crore
Number of Houses where construction has started	27 lakh
Number of Houses Completed	8 lakh
Central Assistance Released	₹ 25733 crore
Beneficiaries Given Housing Loans (CLSS for EWS/LIG/MIG)	165106
Interest Subsidy Released by Central Nodal Agencies	₹ 3559 crore

**Source: Urban Transformation 2014-18: Ministry of Housing & Urban Affairs*

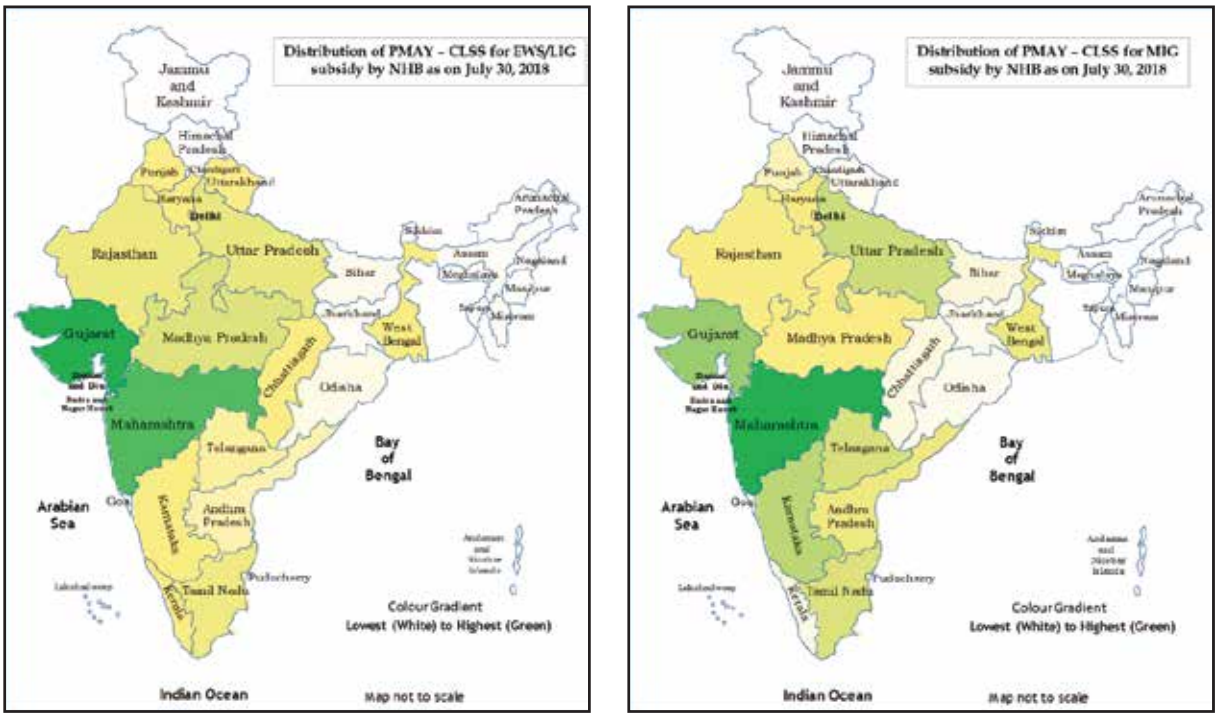
Box 2.2: Other Initiatives under PMAY-U

- Creation of National Urban Housing Fund (NUHF): ₹60,000 crore to be raised in phases through Extra Budgetary Resources.
- Public Private Partnership Models for Affordable Housing: 8 Public Private Partnership Models for Affordable Housing have been framed to boost the construction of affordable housing under PMAY(U) (Refer to Box 1.2)
- Announcing the Global Housing Construction Technology Challenge–India (GHCTC-India): GHCTC-India is being organized to provide sustainable, scalable and adaptable innovative technologies for accelerated affordable housing.
- Coverage of the Mission has been extended from 4041 statutory towns to all areas falling within notified Planning / Development Area under the jurisdiction of an Industrial Development Authority / Special Area/ Development Authority / Urban Development Authority or any such authority under State legislation which is entrusted with functions of Urban Planning and regulations.

Reference: Urban Transformation 2014-18: Ministry of Housing & Urban Affairs

Some of the State level initiatives and housing schemes are given in Appendix A 2.

Graph 2.3 State-wise distribution of subsidy under PMAY-CLSS for EWS & LIG and MIG



Source: NHB

Box 2.3: Housing Policies – Changing the lives of urban families in Latin America

Latin America is one of the most urbanized regions. Between 1950 and 2010 - the proportion of people living in cities grew from 30% to more than 85%. By 2050, 90% of Latin Americans will live in cities. In an effort to harness the benefits of urbanization and improve the living conditions of the urban poor, Latin American countries have experimented with housing subsidies. It started in the 1980s with Chile leading the way. However, whether these subsidies have worked and what type of impact they have had on the lives of the lower-income residents is still not very clear.

While subsidies have indeed increased access to housing in most Latin American countries, and have helped reduce the housing gap, however, based on the experiences it is becoming clear that housing subsidies alone won't be able to close the housing gap and a more diversified portfolio solution is needed.

On the positive front, most Latin American countries are competing for the title of the region's affordable housing top innovator. Brazil is using public-private partnerships involving three levels of government (federal, state and city) to redevelop city land and create space for affordable housing in the center of Sao Paulo; Mexico has succeeded in providing subsidies and is now re-calibrating its policies to promote better located housing; Bolivia has managed to increase the supply of low-cost housing for the poor and is trying to leverage private sector support and keep prices reasonable; in Argentina, policymakers are eager to design and implement a modern housing policy; Peru is making efforts to maximize the impact of major investments in transportation infrastructure and urbanization in Paraguay is dynamic but still well below the regional average providing authorities the opportunity to shape the future.

Approximately 25% of the region's urban population – more than 160 million people - lives in slums. Despite making major strides in reducing poverty over the past decades, Latin American countries and cities are struggling to meet the most basic

infrastructure challenges. This is due in part to sluggish growth over the past few years, which has slowed investment across the housing, water treatment, public transport, (renewable) energy and telecommunications sectors.

Consequently, there are major funding gaps when it comes to infrastructure spending. The region will need to increase overall spending from 3% to 5% of GDP - about $180 billion a year – to bridge the gap, according to studies. Latin American countries currently spend a smaller share of GDP on infrastructure than any other region, with the exception of sub-Saharan Africa. More than 70% of their expenditure on infrastructure comes from public sources, with just 20% from the private sector.

Reference:
i. How Latin America's housing policies are changing the lives of urban families, World Bank, November 2016
ii. Latin America's cities are ready to take off. But their infrastructure is failing them, World Economic Forum, June 2018

2.5 Land Policy Issues

The availability and cost of land is central to the issue of affordable housing. Depending on project location, land costs can vary anywhere between 20 to 60% of the total project cost. However, the potential for directing privately owned land towards affordable housing at a low cost is limited. The Ministry of Housing and Urban Affairs has recently announced strategic PPP models to create a self-propelled market to address the challenge of land availability and its high cost. The models adopts following strategies to enhance access to low cost land:

1. Private Land for affordable housing in exchange for permission for more intensive utilization of land.
2. Private Land for affordable housing in exchange for permission to build high-end housing.
3. Government Land for affordable housing by unlocking unutilized/underutilized parcels of government owned lands.
4. Land for affordable housing through Redevelopment of underutilized urban areas.
5. Land for affordable housing through Policy reform on Change of Land Use (CLU) of Agricultural Lands.

Land Markets and its availability[6]

Land markets in India face price distortions as it is highly affected by regulations, controls, and limitations. The land markets have seen limited reforms. Urban land is mostly reclaimed from erstwhile agricultural land situated on the fringes of a growing city which means that much of the land around cities is likely to be fragmented, increasing the costs of large-scale housing construction as well as that of developing complementary infrastructure.

The market forces alone devoid of suitable policy environment and public objective and programme will not serve the housing needs of the urban poor. Such

[6]*Evolution of the Indian Housing Finance System and Housing Market: R. V. Verma, CMD, NHB Chapter 9 - Global Housing Market: Crisis Policy and Institution, Edited by: Ashok Bardhan, Robert H. Edelstein, Cynthia A. Kroll*

interventions will not come directly or independently from the market unless this business segment has high profit potential. Given the constraints on the land supply, distortion in valuation, lack of income among the urban poor, low comfort among the lending agencies, and over all the "social" character of the objective of any such programme; the collective efforts of the public and private sectors, the local government, the state government and the central government is required.

Initiatives such as land pooling, land banks, and town planning schemes need to be upscaled, to integrate and bring synergies among the different pieces of policy interventions. To make these interventions more effective and efficient, there is need to assess them in a broader perspective in the context of a medium to longer term plan on the town and regional growth.

In order to provide adequately for the EWS/LIG housing, the public agencies may gainfully use their land bank as a good resource for the EWS/LIG housing. The capital value of the land may be converted into subsidized housing for the segment by way of predetermined lower-than-market price for the segment as also as a resource for incentivising the private sector to encash the embedded value in the land for generating their own profit against the subsidized pricing of the lower income housing.

Land Acquisition laws in India [7]

The land acquisition laws that India inherited from colonial times were undoubtedly heavily loaded against the interests of land owners and other people dependent on land for their livelihood. The Land Acquisition Act, 1894, was earlier the principal legislation providing for acquisition by government of private land for any public purpose. One of the major shortcoming of erstwhile land acquisition policy was on account of the fact that although the Act mandated payment of compensation on the basis of the market value of land, the market value was determined on the basis of rates shown in registered sale deeds, which were underquoted in order to save stamp duty. As a result, despite the payment of a 30% solatium in recognition of the compulsory nature of the sale, the landholder ended up getting a compensation that was lower than the market rate.

The government sought to provide remedy to the deficiencies in the Land Acquisition Act 1894 and do more for the landholder by enacting the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (LARR Act, 2013). The aim of the legislation was far-reaching in that it sought to redress the imbalance inherent in the procedures laid down in the Land Acquisition Act, 1894, between the interest of individual landholders and the authority of the government acquiring land for a public purpose. The LARR Act, 2013, has enhanced significantly the scale of compensation to be received by land owners and additionally provided for their rehabilitation and resettlement (R&R) in the event of displacement. The transparency of the process of land acquisition has been considerably increased through the processes of social impact assessment and prior consent of land owners and other affected persons in certain cases. Safeguards have also been introduced against large-scale acquisition of agricultural land that might diminish food production and jeopardise food security.

In order to eliminate the delays inherent in the provisions on social impact

[7] *Land Use and Land Acquisition laws in India: Anwarul Hoda, Working Paper no. 361, ICRIER*

assessment and for securing the consent of land holders the Central Government introduced an amendment bill in 2015, seeking to make a number of changes in the land acquisition statute. The main changes sought were for alleviating the concerns regarding prior consent, social impact assessment and restrictions on the use of agricultural land in respect of five categories of projects, viz., those for national security or defence, rural infrastructure, affordable housing, industrial corridors and infrastructure and social infrastructure. The amendment bill is yet to be passed in the Parliament. However, pursuant to Article 254 (2) of the Indian Constitution, six states viz. Andhra Pradesh, Gujarat, Haryana, Maharashtra, Tamil Nadu and Telangana have already enacted legislation amending the LARR Act, 2013, exempting or enabling exemption of land acquisition from consent and social impact assessment requirements and the restrictions in respect of agricultural land for certain categories of projects as envisaged in amendment bill introduced in Parliament.

Box 2.4: The Case for Inclusionary Zoning and Housing in India

The Inclusionary Zoning alternatively called Inclusionary Housing is an emerging and the dominant paradigm for the promotion of affordable housing in several countries of the world. It refers to a range of land use policies that aim at capturing the gains from rising land and property values due to urban planning and development. The gains captured are used for creating affordable housing for low or moderate-income groups.

Some economist contend that any form of control on housing or house rent is distortionary from a resource allocation point of view as it reduces the quantity and quality of housing. While others believe that the imposition of price control on a part of new development will not discourage production as much as price control on the whole development, but it will discourage development nonetheless.

Urban planning in India has tended to be exclusionary, which is also reflected by the fact that 96% of the urban housing shortage pertains to EWS/LIG categories. The objective of National Mission of "Housing for All by 2022" is to construct two crore affordable homes in urban areas over a period of 7 years from 2015 to 2022. The target beneficiaries are poor people belonging to EWS and LIG categories, with special focus on women, Scheduled Castes and Scheduled Tribes.

To address the problems of the housing market due to increased urbanisation and rising demand for affordable housing, the Central as well as State Governments in India have made inclusionary efforts from time to time with mixed success. The Central Government has attempted inclusionary zoning and housing through national policies and programmes. The National Urban Housing & Habitat Policy (NUHHP), 2007 stipulated that 10-15% of the land in every new public/private housing projects or 20-25% of Floor Space Index (FSI), whichever is greater be reserved for EWS/LIG housing. The Jawaharlal Nehru National Urban Renewal Mission also prescribed for reserving at least 20-25% of developed land in all housing projects (both public and private) for EWS/LIG categories with a system of cross-subsidization.

Some promising reforms aimed at making urban planning and development inclusive, include the inclusionary zoning practice of land reservation for socially and economically weaker sections as done in the Gujarat Town Planning Scheme. The Delhi Land Pooling Policy and Delhi Transit Oriented Development Policy of the Delhi Development Authority to promote land availability for affordable housing with approval of the Government, Policy of Rajasthan Government to promote affordable housing through various models, pioneering effort by the Government of Madhya Pradesh for assignment of permanent and temporary pattas to slum dwellers under the

Patta Act, and recent initiative by the Government of Telangana State to regularize government land under the occupation of slum-dwellers and the poor in cities and towns are some other examples worth emulating.

The problem of affordable housing in India is so huge that both markets and governments need to work together to achieve the social objectives of inclusion. While recognizing the limitations of government, innovative attempts are increasingly being made to promote private developer-led affordable housing through inclusionary methods.

The key aspects for successful implementation of inclusionary housing programme include robust legal framework, effective mechanism for coordination between different levels of government and agencies, adequate capacity building of all concerned, design of incentives for private participation and good planning to mobilize public funding.

However, inclusionary zoning alone cannot end all problems of affordable housing in the country and should not be solely relied upon to secure the required quantities of affordable and social dwellings.

Reference:

Is Urban Planning in India Exclusionary? - The Case for Inclusionary Zoning and Housing in India by Dr. Alok Kumar Mishra)

3.1 Housing Shortage in Rural Areas

House is a catalyst for a change in socio-cultural pattern and other characteristics of human life, including economic development, since it forms a nucleus for the operations of many human activities and is an essential contributory factor for improvement in life.

Erstwhile Planning Commission and Ministry of Rural Development, Government of India has taken official initiative to assess the quantum of housing shortage in Rural India. The Working Group on Rural Housing for the 12th Five Year Plan estimated a total housing shortage of 43.67 million houses for the plan period (2012-17). The working group assumes that 90% of the total rural housing shortage i.e. 39.30 million affects BPL families.

Estimation of the Rural Housing Shortage by Working Group on Rural Housing for the Twelfth Five-Year Plan

Factors Taken into Account for Assessing Housing Shortages	Shortage (in millions)
1. Number of households not having houses in 2012 *Number of households (173.78 million) – Number of housing stock (169.63 million) in 2012, based on calculations of the Working Group on Rural Housing for the Eleventh Five-Year Plan by projecting the exponential growth rate as estimated from the 1991 and 2001 Census figures at the rate of 2.1% and 2.09% for households and housing stock, respectively.*	4.15
2. Number of temporary houses in 2012 *Number of housing stock – Number of permanent houses (pucca and semi-pucca), based on calculation of the Working Group on Rural Housing for the Eleventh Five-Year Plan by projecting the exponential growth rate estimated from the 1991 and 2001 Census figures.*	20.21
3. Shortage due to obsolescence in 2012 *4.3% x number of households in 2012 (173.78 million) – Obsolescence factor of 4.3% based on data of 58th round of the NSS. Houses that were more than 80 years old and those with a lifespan of 40 to 80 years that were of bad structural quality were considered obsolete.*	7.47
4. Shortage due to congestion in 2012 *6.5% x number of households in 2012 (173.78 million) – Congestion factor of 6.5% of households was estimated based on 2001 Census data of the number of couples not having separate rooms.*	11.30
Total housing shortage in 2012	43.13
5. Additional housing shortage arising between 2012 to 2017 *Number of households projected for 2017 over 2012 – Number of excess housing stock projected for 2017 over 2012, based on calculation of the Working Group on Rural Housing for the Eleventh Five-Year Plan by projecting the exponential growth rate as estimated from the 1991 and 2001 Census figures by projecting growth trends.*	0.55
Total Rural Housing shortage during 2012-2017	43.67

Source: MoRD

Together with huge shortage, the condition of housing and availability of concerned amenities in rural areas is poor as compared to the urban areas. As highlighted in Box 3.1, the data from the 69th Round (2012) of NSSO show widespread gaps that exist between the rural and urban sectors in terms of housing and housing amenities. There is a need for holistically focusing on eradicating shelter deprivation in rural India and contributing to an enhancement of the quality of life of the people.

Box 3.1: Results of NSSO Survey on Housing Condition

Good housing is a pre-requisite for human development and welfare. Along with the requirement of shelter, other facilities in the micro environment of housing such as type of dwelling unit, drinking water, sanitation, hygiene, etc., form vital components of overall quality of life of the population. The National Sample Survey Office (NSSO) conducted a nation-wide survey on 'Drinking water, Sanitation, Hygiene and Housing Condition' in its 69th round (July 2012-December 2012) of operations. The objective of the survey was to examine and study different aspects of living conditions necessary for decent and healthy living of the household members by developing suitable indicators based upon collected information. Some of the major findings were as under:

- 85.8% households in rural India and 89.6% households in urban India had sufficient drinking water
- 62.3% of households in rural India and 16.7% of households in urban India did not have any bathroom facility.
- 59.4% households in rural India and 8.8% households in urban India had no toilet facilities. Thus, there was a wide gap between rural and urban India in respect of bathroom and sanitation facilities.
- 80.0% households in rural India and 97.9% households in urban India had electricity for domestic use.
- 65.8% and 93.6% households in rural India and urban India, respectively, lived in a house with pucca structure, whereas 24.6% and 5.0% of the households in rural and urban areas, respectively, lived in a house with semi-pucca structure during 2012.
- At All-India level, only 9.6% households in rural area and 1.4% households in urban area lived in a kutcha house during 2012.
- The average floor area of a dwelling unit was 40.03 sq. m. in rural India and 39.20 sq.m. in urban India during 2012.

Reference: *Drinking Water, Sanitation, Hygiene and Housing Condition in India, NSS, 69th Round*

3.2 Rural Housing Programmes in India

Specific focus on rural housing in India had its origin in the wage employment programmes of National Rural Employment Programme (NREP), which began in 1980, and the Rural Landless Employment Guarantee Programme (RLEGP), which was started in 1983, as construction of house was permitted under these programmes. In 1985, Indira Awaas Yojana (IAY) was launched as a sub-scheme of Rural Landless Employment Guarantee Programme (RLEGP) and later as a sub-scheme of Jawahar Rozgar Yojana (JRY) to provide houses for SCs/STs and freed bonded labourers. In 1993-94, the coverage of JRY was extended to Non-SC/ST families by increasing the

earmarked fund for housing from 6% to 10%. Indira Awaas Yojana was made an independent scheme with effect from January 01, 1996 and since then it became a flagship programme of the Ministry of Rural Development as part of the larger strategy of rural poverty eradication and to provide the dignity of an address to the poor households.

IAY was a cash subsidy based programme under which assistance was provided to the rural BPL families for constructing dwelling units on their own using their own design and technology. The subsidy was shared between the Centre and the State with the Centre being the major contributor. The scheme was implemented through the District Rural Development Agencies (DRDAs). Although IAY addressed the housing needs in the rural areas, certain gaps such as non-assessment of housing shortage, lack of transparency in selection of beneficiaries, low quality of houses, weak monitoring mechanisms etc. were identified and the same were limiting the scope of the Scheme. To address these gaps in the rural housing programme and in view of Government's commitment to providing "Housing for All by 2022", the scheme of IAY has been re-structured into Pradhan Mantri Awaas Yojana –Gramin (PMAY-G) w.e.f. 1st April 2016.

3.3 Pradhan Mantri Awaas Yojana –Gramin (PMAY-G)

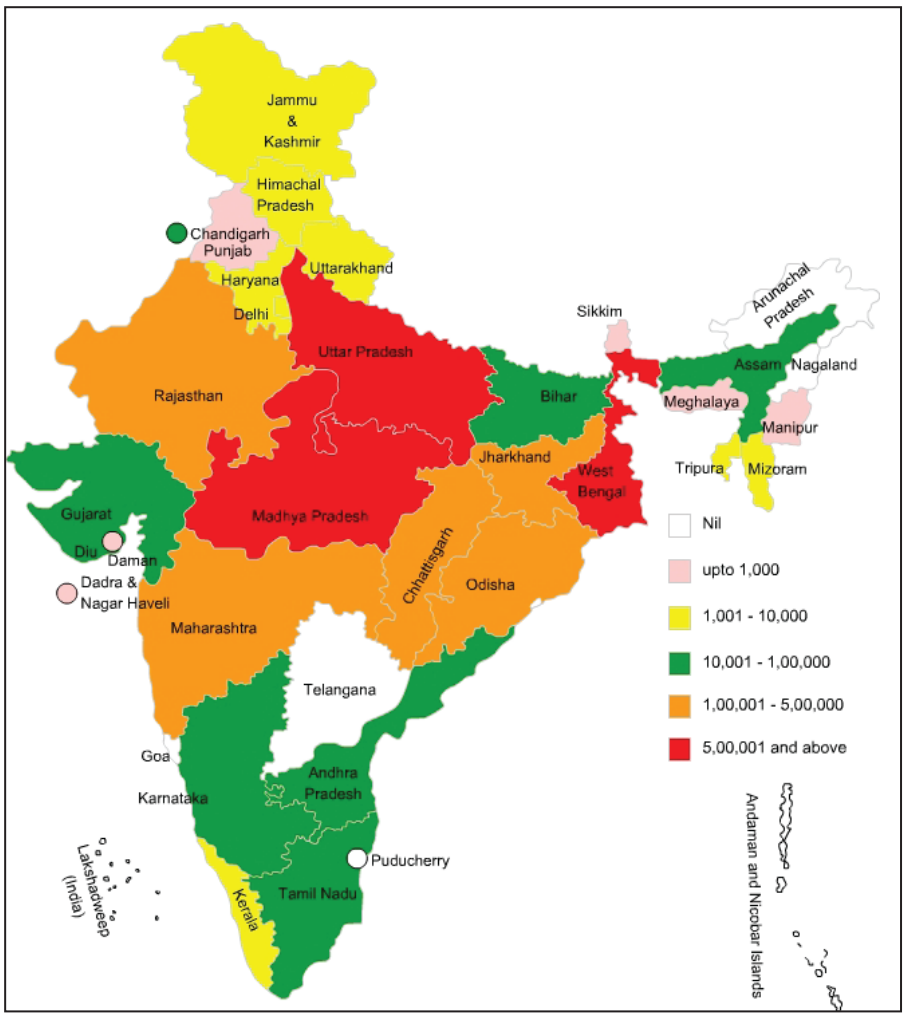
In an effort to accomplish the target for 'Housing for all by 2022', IAY was restructured and transformed into Pradhan Mantri Awaas Yojana-Gramin (PMAY-G) in April 2016. The Scheme aims to provide a pucca house to all houseless householders and those households living in kutcha and dilapidated house, by 2022. The selection of PMAY-G beneficiaries is based on the Socio-Economic Caste Census (SECC) 2011. Under the programme, apart from the unit assistance of ₹ 1.20 lakh for plain areas and ₹ 1.30 lakh for the hilly, difficult, and Integrated Action Plan (IAP) areas, the beneficiaries are also entitled to 90-95 days of employment under Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) and ₹ 12,000 for constructing toilets under Swachh Bharat Mission (SBM). Different schemes and programmes run by the government for providing basic amenities like piped drinking water, electricity connection, and Liquefied Petroleum Gas (LPG) etc. have also been integrated with PMAY-G to provide the basic amenities and sustainable living conditions to the beneficiaries.

The Scheme also facilitates the willing beneficiary to avail institutional finance up to ₹ 70,000/- which would be monitored through the SLBC and DLBC. In addition to these benefits, the beneficiaries are endowed with a number of other support services such as training to masons and skill certification for the good quality construction of the houses, sourcing of construction material, support to old and disabled beneficiaries in getting the house constructed, development and provision of house design topologies etc.

In order to deal with the problem of mismanagement of funds, the amount gets directly transferred into the account of the beneficiary through electronic transfer and the progress of the payment can be tracked through a mobile application. A National Technical Support Agency (NTSA) has also been created under this Scheme in order to ensure the quality of the houses.

The immediate objective of the programme is to cover 1 crore household living in kutcha house/dilapidated house in three years from 2016-17 to 2018-19. Till 2017-18, around 38.2 lakh houses were completed under PMAY-G.[8] State wise houses completed under PMAY-G till 2017-18 is given in Graph 3.1.

Graph 3.1 State-wise houses completed under PMAY-G till FY 2017-18



Source: MoRD

A study was conducted by National Institute of Rural Development and Panchayati Raj (NIRD&PR) on impact assessment of PMAY-G in three states viz. Madhya Pradesh, Odisha and West Bengal. The major findings of the study are as follows:

a) PMAY-G house has decreased the burden of house maintenance.

b) PMAY-G has made significant impact on the lives of beneficiaries both in terms of physical facilities provided and their well-being.

c) 68% of the households having PMAY-G houses mentioned about having got additional space for livelihood activities in-door.

d) Most beneficiaries of PMAY-G houses get water through common water collection points.

e) PMAY-G has slightly reduced congestion in houses by providing two or more rooms.

[8] *MoRD Website*

Box 3.2: Impact of Pradhan Mantri Awaas Yojana –Gramin (PMAY-G) on Income and Employment

As per a study conducted by National Institute of Public Finance and Policy (NIPFP), the estimated employment potentials of PMAY- G was found to be 40.07 crore person-days considering the total houses completed upto March 05, 2018. The expenditure incurred on both completed houses and houses under-construction in PMAY-G has led to increase in the demand for construction material which generated 2.16 lakh additional jobs in the economy. The total estimated expenditure on PMAY-G of about ₹ 35,135 crore upto March 05, 2018 is expected to have generated 94.53 lakh jobs (both direct and indirect) in the economy due to the inter-sector linkages. Further, the total investment in PMAY-G gives an equivalent increase in the demand for residential construction and is expected to increase the production of residential construction by 22.67%. Considering the amount spent in the last two years (2016-17 and 2017-18), the estimated changes in the macro-economic parameters suggest that expenditure in PMAY-G is expected to increase the gross output, employment, and GVA by 0.65%, 1.77% and 0.55% respectively.

Reference:
Impact of Pradhan Mantri Awas Yojna –Gramin (PMAY-G) on Income and Employment, National Institute of Public Finance and Policy (NIPFP), 2018

3.4 Rural Housing Interest Subsidy Scheme (RHISS)

In order to ensure that adequate resources are made available to such households which requires construction/modification of their dwelling units and have not been covered under PMAY-G, Ministry of Rural Development (MoRD) has launched the Rural Housing Interest Subsidy Scheme (RHISS) under "Housing for All by 2022". The Scheme provides easy access to institutional loan to needy households for construction/modification of their dwelling units who are not covered under PMAY (G).

Under the Scheme, the beneficiaries would be eligible for an interest subsidy at the rate of 3.0% for loan amount up to ₹ 2 lakh for maximum tenure of 20 years or the actual tenure of the loan whichever is lesser, with the NPV discount rate of 9.0%. RHISS will cover entire India, excluding the Statutory Towns as per Census 2011 and towns subsequently covered under PMAY - Urban. It will be implemented through PLIs viz. SCBs, HFCs, RRBs, Co-operative Banks, Small Finance Banks and NBFC-MFIs. NHB has been identified as the Central Nodal Agency (CNA) by the Government of India, Ministry of Rural Development (MoRD) to implement the RHISS vertical of Housing for All Mission. The Bank has executed MoUs with 83 PLIs for implementation of the Scheme till June 30, 2018.

Some of the State level initiatives and housing schemes are given in Appendix A 2.

4.1 Primary Lending Institutions in Housing Finance

Primary Lending Institutions (PLIs) that primarily include Housing Finance Companies and Scheduled Commercial Banks, have over the years, established their approach to lending for housing finance. In the evolution of housing finance over the last three decades, the PLIs have engaged actively in the market and thereby contributed immensely to the growth of housing credit. While for HFCs, housing finance is their primary business activity, a large number of Scheduled Commercial Banks have also focused on housing finance by creating separate housing finance verticals and leveraging their extensive branch network. Given the diversity in the market and the complex nature of issues, it took some time for the market to evolve. As of today, housing finance has evolved to be a successful business model for many companies and has emerged as a key aspect of the housing ecosystem.

NHB was set up in 1988 to be the apex institution for housing finance in the country. The preamble of NHB reads as "to operate as a principal agency to promote housing finance institutions both at local and regional levels and to provide financial and other support to such institutions and for matters connected therewith or incidental thereto." Over the years, through a multipronged approach, NHB has significantly facilitated broadening and deepening of the housing finance market in the country. There were 91 specialized housing finance institutions in the country as of March 31, 2018. NHB's active engagement in this sector has given shape to a new finance eco-system in India in which housing finance has come to be looked at as an important retail lending product for all major PLIs.

4.2 Housing Finance Companies

Housing Finance Companies (HFCs), specialized lending institutions for housing, registered with the NHB have come as a major player in the mortgage market in India. As on March 31, 2018, there were 91 HFCs registered with NHB under Section 29A of the National Housing Bank Act, 1987 and operating through a network of around 5,100 branches/ offices spread across the country. Some of these HFCs had their representative offices for liaison work, abroad.

The Directions, Policy Circulars, Guidelines etc., issued by NHB for HFCs on the issues relating to Capital Adequacy Ratio, Loan to Value Ratio, assignment of Risk Weights and Provisioning, Know Your Customer, Anti Money Laundering, Fair Practices Code, Asset Liability Management etc. are aimed at ensuring sound and healthy growth of housing finance sector on sustainable basis.

Box 4.1 Some of the key highlights of the performance of HFCs are as under-

- Number of registered HFCs increased from 83 as on 31-03-2017 to 91 as on 31-03-2018, registering Y-o-Y growth of 10%.
- Number of branches/offices of registered HFCs increased from 4,298 as on 31-03-2017 to 5,107 as on 31-03-2018, registering Y-o-Y growth of 19%.
- Total loan portfolio of HFCs increased by 27% from ₹8,18,508 crore as on 31-03-2017 to ₹10,38,347 crore as on 31-03-2018. Of which,

  a) housing loans increased by 26% from ₹5,98,454 crore as on 31-03-2017 to ₹7,52,798 crore as on 31-03-2018, and

  b) non-housing loans increased by 30% from ₹2,20,053 crore as on 31-03-2017 to ₹2,85,549 crore as on 31-03-2018.

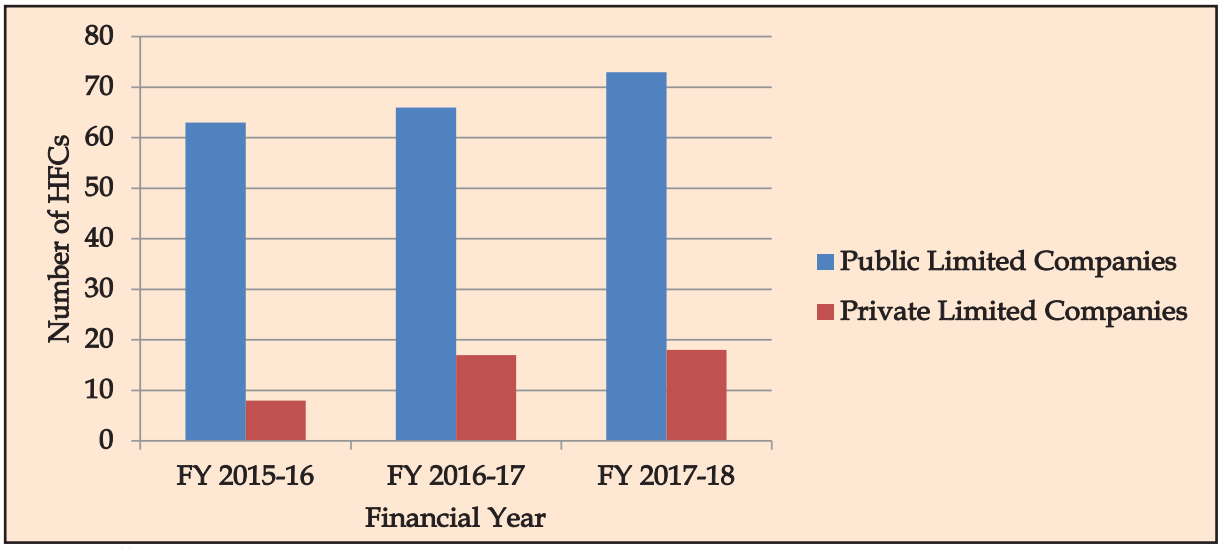
- Housing loans to total loans & advances decreased from 73.12% as on 31-03-2017 to 72.50% as on 31-03-2018 while non-housing loans to total loans & advances increased from 26.88% as on 31-03-2017 to 27.50% as on 31-03-2018.
- GNPAs as on 31-03-2018, which were ₹13,555 crore increased by about 48% over the previous year (₹9,126 crore as on 31-03-2017). However, in percentage term, GNPA to total loans & advances marginally increased to 1.31% as on 31-03-2018 from 1.11% as on 31-03-2017.
- NNPAs as on 31-03-2018, which were ₹6,173 crore increased by about 48% over previous year (₹4,164 crore as on 31-03-2017). However, in percentage term, NNPA to total loans & advances marginally increased from 0.51% as on 31-03-2017 to 0.60% as on 31-03-2018.
- Total Net Owned Funds of HFCs increased by 45%, from ₹95,451 crore as on 31-03-2017 to ₹1,38,700 crore as on 31-03-2018.
- Outstanding Borrowings of HFCs (including Public Deposits) increased by 24% from ₹7,56,450 crore as on 31-03-2017 to ₹9,40,364 crore as on 31-03-2018.
- Outstanding Public Deposits which were ₹93,143 crore as on 31-03-2018 increased by 8% from ₹86,573 crore as on 31-03-2017.

Source: Off-site Returns, NHB

4.2.1 Number of Housing Finance Companies

As on 31-03-2018, 91 HFCs were holding the Certificate of Registration (CoR) from NHB under Section 29A of the National Housing Bank Act, 1987. Of these, 73 HFCs were granted CoR without permission to accept public deposits. Out of 91 HFCs, 73 were public limited companies and 18 were private limited companies. In FY 2017-18, NHB has granted CoR to 10 new companies, namely, Navarathna Housing Finance Ltd., Altum Credo Home Finance Pvt. Ltd., Aryarth Housing Finance Pvt. Ltd., Clix Housing Finance Pvt. Ltd., Hero Housing Finance Ltd., Piramal Housing Finance Ltd., Satin Housing Finance Ltd., JM Financial Home Loans Ltd., IFL Housing Finance Ltd., Roha Housing Finance Pvt. Ltd., and has cancelled CoRs in respect of two of the HFCs, namely Rose Valley Housing Development Finance Corporation Ltd. (due to non-compliance with HFCs (NHB) Directions, 2010) and Aadhar Housing Finance Ltd. (merged with DHFL Vysya Housing Finance Limited and renamed as Aadhar Housing Finance Ltd.).

Graph 4.1: Classification of HFCs under Public Limited and Private Limited Companies for the last three years is as follows:

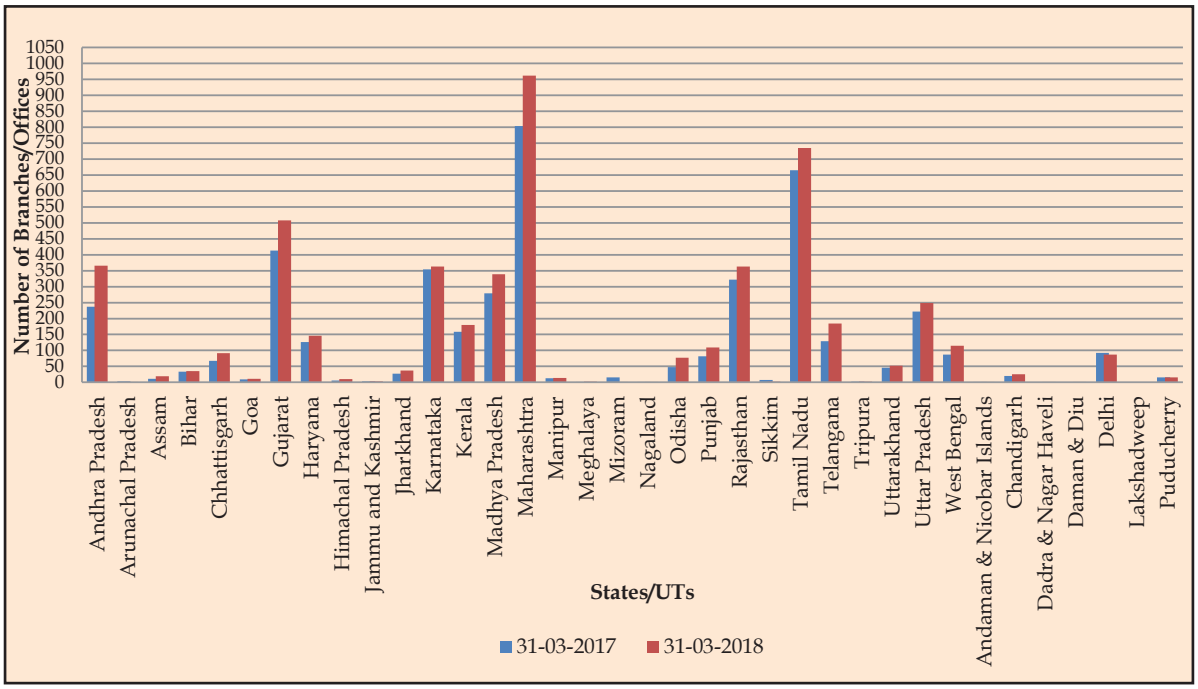


Source: Off-site Returns, NHB

4.2.2 Network of the HFCs

HFCs were operating through 4,298 branches/offices as on 31-03-2017 which increased to 5,107 branches/offices as on 31-03-2018 with Y-o-Y growth of about 19%. The following chart provides the State/Union Territory-wise branches/offices of HFCs.

Graph 4.2: State/ Union Territory-wise Distribution of Branches/Offices of Registered HFCs in the last two years



Source: Off-site Returns, NHB

4.3 Financial Profiles Of HFCs

4.3.1 The financial year for the HFCs registered with NHB is from April 1 to March 31, and the data provided under this Chapter is as on March 31, 2018. A summary of key financial indicators of 91 HFCs is given in table 4.1:

Table 4.1: Key Financial Indicators of HFCs

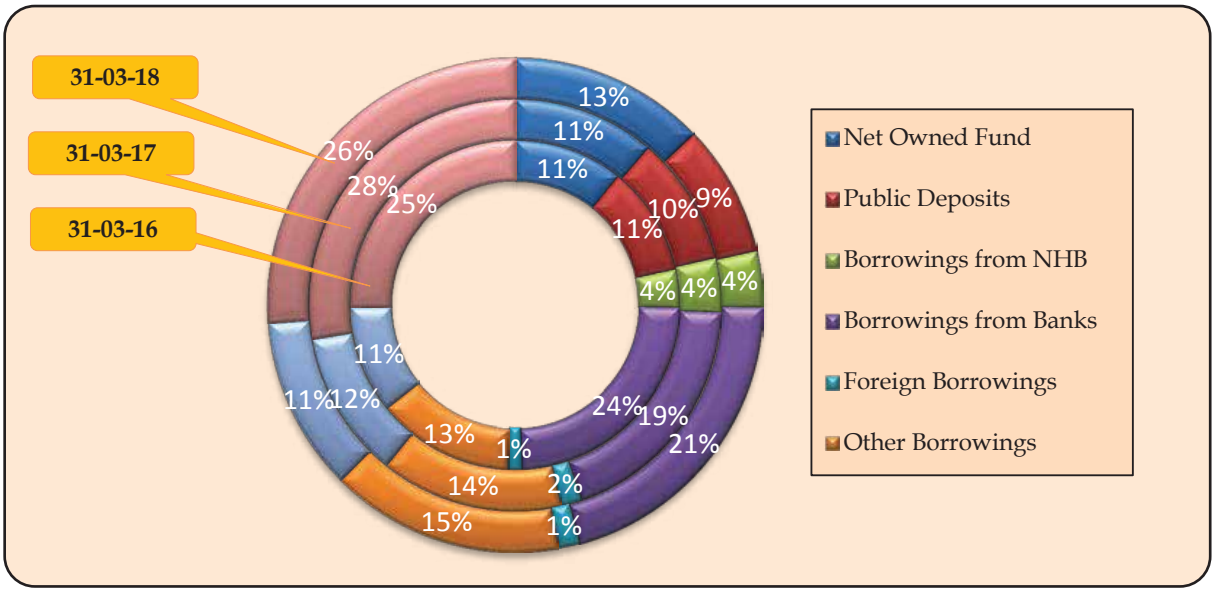
(Amount in ₹Crores)

Particulars	31-03-2016	31-03-2017	Y-o-Y Growth	31-03-2018	Y-o-Y Growth
Paid up Capital	7,904	9,331	18.05%	30,454	226.38%
Free Reserves	74,673	94,605	26.69%	1,26,122	33.31%
Net Owned Fund	74,665	95,451	27.84%	1,38,700	45.31%
Public Deposits	74,222	86,573	16.64%	93,143	7.59%
Other Borrowings	5,43,539	6,69,877	23.24%	8,47,221	26.47%
Housing Loans	5,12,589	5,98,454	16.75%	7,52,798	25.79%
Total Loans & Advances	6,81,118	8,18,508	20.17%	10,38,347	26.86%
GNPA as %age to Total Loans & Advances	1.09	1.11	-	1.31	-
NNPA as %age to Total Loans & Advances	0.52	0.51	-	0.60	-

Source: Off-site Returns, NHB

4.3.2 Aggregate NOF of HFCs which was ₹ 95,451 crore as on 31-03-2017 increased to ₹1,38,700 crore as on 31-03-2018, registering a growth of 45.31% over the previous year. The significant increase in the aggregate paid-up capital and NOF of HFCs as on 31-03-2018 over the previous year was primarily on account of two group companies being amalgamated with one of the HFCs registered with NHB. Trend analysis on resources data of HFCs as on 31-03-2018 shows that HFCs raised around 26% of their resources from bank borrowings, 48% from issuance of debentures, 5% from National Housing Bank's refinance facility and around 19% from other resources. Public Deposits increased from ₹86,573 crore as on 31-03-2017 to ₹93,143 crore as on 31-03-2018, registering a growth of 7.59% over previous year. The following chart depicts the trend in HFCs outstanding resources in the last three years –

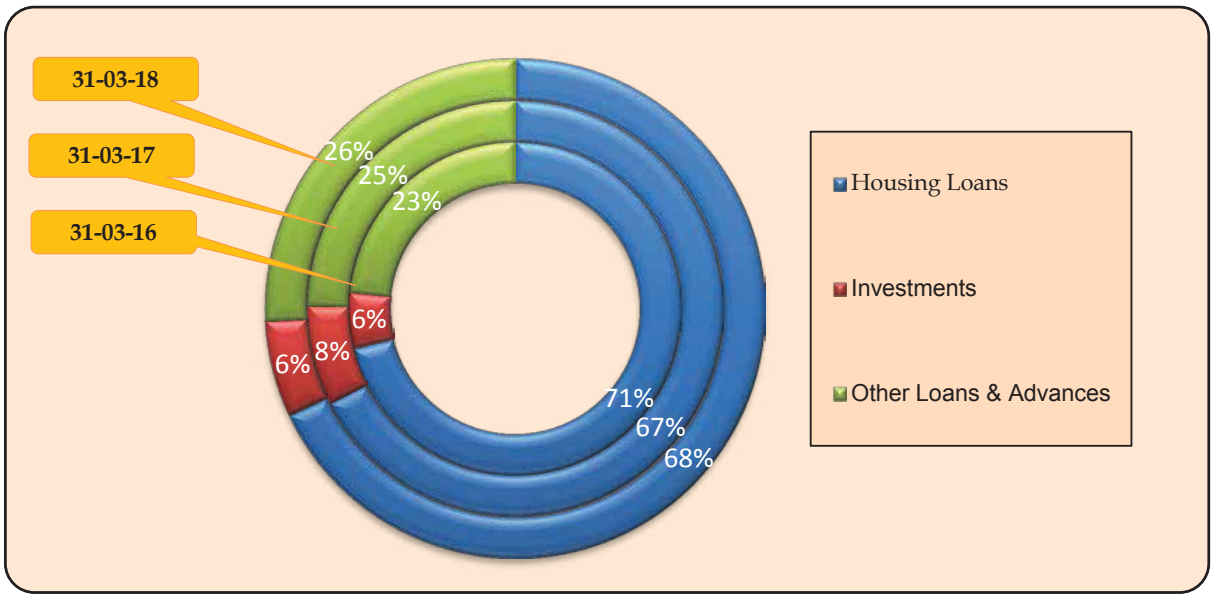
Graph 4.3: Trend of Outstanding Resources of HFCs in the last three years



Source: Off-site Returns, NHB

4.3.3 Housing loans of HFCs as at the end of March, 2017 which were ₹ 5,98,454 crore increased to ₹7,52,798 crore as at the end of March, 2018, registering Y-o-Y growth of about 26% in FY 2017-18. The housing loan portfolio of HFCs has retained the highest share in the entire loan portfolio at around 72% during FY 2017-18. Aggregate investments of HFCs stood at ₹68,830 crore as on March 31, 2018 as against ₹68,348 crore as on March 31, 2017, thereby registering an increase of 0.71%. The following chart provides the trend in the distribution of earning assets of HFCs in the last three years –

Graph 4.4: Trend of Earning Assets of HFCs in the last three years



Source: Off-site Returns, NHB

4.4 Key Performance Indicators of HFCs.

4.4.1 On the basis of Public Ltd and Private Ltd Categorization of HFCs :

The key financial parameters of Public Ltd and Private Ltd HFCs are provided in the table 4.2.

Table 4.2 : Performance of Public Ltd and Private Ltd. HFCs

(Amount in ₹ crore)

Particulars	31-03-2016			31-03-2017			31-03-2018		
	Public Ltd.	Pvt. Ltd.	Total	Public Ltd.	Pvt. Ltd.	Total	Public Ltd.	Pvt. Ltd.	Total
Paid up Capital	7,712	192	7,904	8,894	436	9,331	29,854	600	30,454
Free Reserves	74,476	198	74,673	94,231	374	94,605	1,25,943	179	1,26,122
Net Owned Fund	74,283	382	74,665	94,657	794	95,451	1,37,964	736	1,38,700
Public Deposits	74,222	-	74,222	86,573	-	86,573	93,143	-	93,143
Housing Loans	5,11,856	734	5,12,589	5,97,088	1,366	5,98,454	7,51,770	1,028	7,52,798

Source: Off-site Returns, NHB

4.4.2 On the basis of Public deposit accepting and Non Public deposit –accepting HFCs :

As on 31-03-2018, there were 18 HFCs which have been granted CoR with permission to accept public deposits. However, of the 18 HFCs, 6 are required to obtain prior written permission from the NHB before accepting any public deposits. The key financial parameters of HFCs for the past three years provided in the table above were further segregated on the basis of classification into public deposit accepting and non-public deposit accepting HFCs and given in following table.

Table 4.3: Performance of Public Deposit accepting and Non Public deposit accepting HFCs

(Amount in ₹ crore)

Particulars	31-03-2016			31-03-2017			31-03-2018		
	Deposit accepting HFCs	Non-Deposit accepting HFCs	Total	Deposit accepting HFCs	Non-Deposit accepting HFCs	Total	Deposit accepting HFCs	Non-Deposit accepting HFCs	Total
Paid up Capital	4,577	3,327	7,904	4,520	4,810	9,331	4,277	26,177	30,454
Free Reserves	60,894	13,779	74,673	76,752	17,853	94,605	1,01,041	25,081	1,26,122
Net Owned Fund	57,916	16,749	74,665	73,473	21,978	95,451	99,062	39,638	1,38,700
Public Deposits	74,222	-	74,222	86573	-	86,573	93,143	-	93,143
Housing Loans	4,32,266	80,323	5,12,589	4,85,455	1,12,999	5,98,454	5,56,023	1,96,775	7,52,798

Source: Off-site Returns, NHB

4.4.3 HFCs sponsored by the Commercial Banks and Multi-State Co-operative Bank:

As on 31-03-2018 there were five HFCs sponsored by the Scheduled Commercial Banks and one HFC sponsored by a Multi-state Co-operative Bank, the details of which are as follows –

a) CanFin Homes Ltd., sponsored by Canara Bank

b) Cent Bank Home Finance Ltd., sponsored by Central Bank of India

c) ICICI Home Finance Ltd., sponsored by ICICI Bank

d) Ind Bank Housing Ltd., sponsored by Indian Bank

e) PNB Housing Finance Ltd., sponsored by Punjab National Bank

f) REPCO Home Finance Ltd., sponsored by REPCO Bank, which is a multi-state co-operative Bank.

There has been no change in the number of HFCs sponsored by the Schedule Commercial Banks and Multi-State Co-operative Banks since the previous year. The key financial parameters of HFCs classified on the basis of HFCs sponsored by the Scheduled Commercial Banks and Multi-State Co-operative Banks, and Other HFCs are summarized in the table 4.4:

Table 4.4: Performance of HFCs sponsored by the Scheduled Commercial Banks and Multi-State Co-operative Bank vis-a-vis other HFCs

(Amount in ₹ crore)

Particulars	31-03-2016			31-03-2017			31-03-2018		
	Sponsored by SCB/ MSCB	Other HFCs	Total	Sponsord by SCB/ MSCB	Other HFCs	Total	Sponsored by SCB/ MSCB	Other HFCs	Total
Paid up Capital	1,350	6,554	7,904	1,389	6,554	9,331	1,390	29,064	30,454
Free Reserves	4,267	70,406	74,673	8,098	70,406	94,605	9,294	1,16,828	1,26,122
Net Owned Fund	5,177	69,488	74,665	8,933	69,488	95,451	9,823	1,28,877	1,38,700
Public Deposits	6,835	67,387	74,222	9,637	67,387	86,573	10,115	83,028	93,143
Housing Loans	40,859	4,71,731	5,12,589	52,930	4,71,731	5,98,454	68,832	6,83,966	7,52,798

Source: Off-site Returns, NHB

The significant increase in the aggregate paid-up capital and NOF of HFCs other than those sponsored by the Schedule Commercial Banks and Multi-State Co-operative Banks as on 31-03-2018 over the previous year was primarily on account of two group companies being amalgamated with one of the HFCs.

4.4.4 Borrowings Profiles of HFCs

Paid-up capital of the HFCs (including the preference shares which are compulsorily convertible into equity) increased by 226.38% from ₹9,331 crore as on 31-03-2017 to

₹30,454 crore as on 31-03-2018, while net owned funds increased by 45.31% from ₹95,451 crore as on 31-03-2017 to ₹1,38,700 crore as on 31-03-2018.

HFCs were primarily dependent on loans and bonds & debentures from banks and financial institutions. Borrowings through inter-corporate deposits (ICDs), commercial papers, mutual fund and sub-ordinated debts etc. are other sources of funds for HFCs. The HFCs resources details for the last three years are given in Table 4.5.

Table 4.5: Composition of borrowings by HFCs

(Amount in ₹ crore)

S. No.	Particulars	31-03-2016	31-03-2017	Y-o-Y Growth	31-03-2018	Y-o-Y Growth
1	NHB Borrowing	26,440	36,347	37%	39,259	8%
2	Foreign Borrowing	9,398	14,135	50%	15,291	8%
3	Banks	1,66,744	1,63,090	-2%	2,23,079	37%
4	Debentures	2,47,863	3,34,383	35%	4,05,261	22%
a	*subscribed by banks*	73,258	*98,559*	*35%*	*1,22,592*	*24%*
b	*subscribed by others*	1,74,606	*2,35,824*	*35%*	*2,82,669*	*20%*
5	Other Borrowing	93,093	1,21,923	16%	1,64,332	34%
6	Public Deposits	74,222	86,573	17%	93,143	8%
Total		**6,17,761**	**7,56,450**	**22%**	**9,40,365**	**24%**

Source: Off-site Returns, NHB

The outstanding borrowings of HFCs, excluding public deposits, increased by about 26% from ₹6,69,877 crore as on 31-03-2017 to ₹8,47,221 crore as on 31-03-2018. Borrowings from banks increased by about 37% and stood at ₹2,23,079 crore as on 31-03-2018 as against ₹163,090 crore as on 31-03-2017. Other borrowings increased from ₹1,21,923 crore as on 31-03-2017 to ₹1,64,332 crore as on 31-03-2018, registering a growth of about 35%.

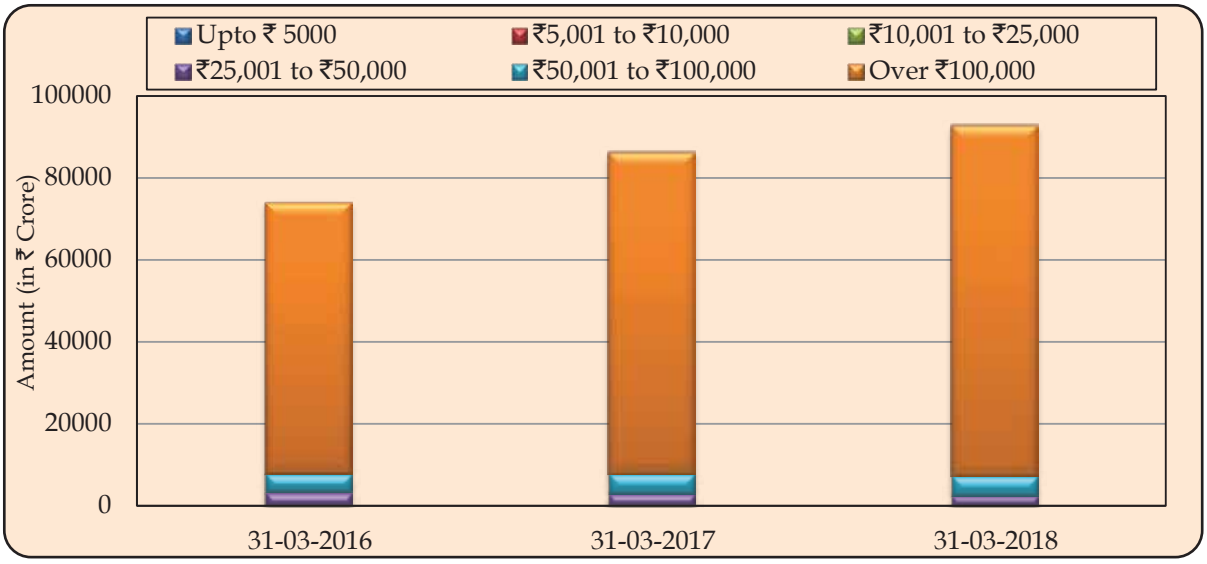
Growth of outstanding public deposits with the HFCs increased by around 8% from ₹86,573 crore as on 31-03-2017 to ₹93,143 crore as on 31-03-2018.

4.4.5 Public Deposits with HFCs

Outstanding public deposits with the HFCs have shown an increasing trend during the year 2017-18. As on 31-03-2018, public deposits over ₹1,00,000 accounted for maximum with a share of 91.93% of the total public deposits. The trend in size-wise outstanding public deposits at the end of last three years is shown in the Graph 4.5.

Graph 4.5: Trend in Size-wise Public Deposits of HFCs in the last three years

(Amount in ₹ crore)



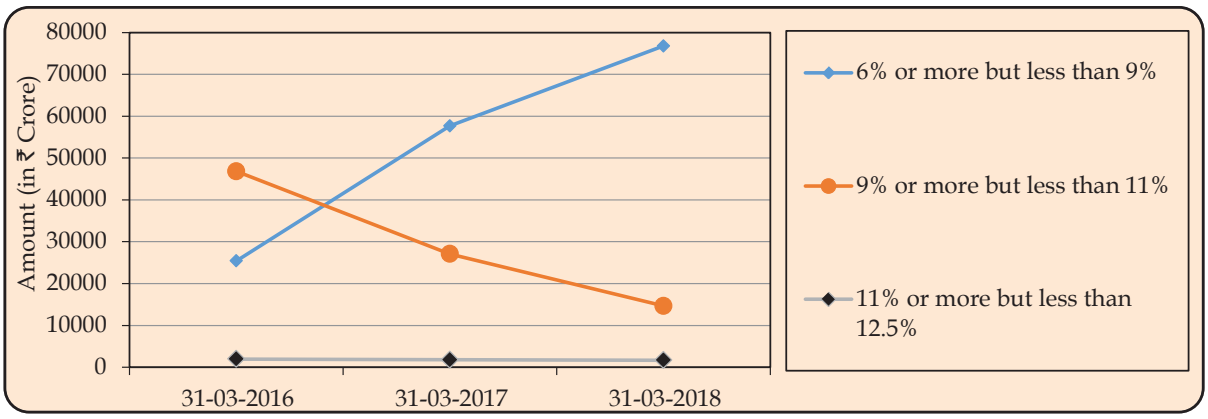
Source: Off-site Returns, NHB

4.4.6 Interest rate-wise Public Deposits of HFCs:

As on 31-03-2018, 82.45% of the total public deposits held by the HFCs fell in the interest slab of 6% to 9% per annum. HFCs had 15.75% of the total public deposits in the interest rate slab of 9% to 11% per annum. The trend in interest rate-wise classification of outstanding public deposits at the end of last three years is shown in the graph 4.6.

Graph 4.6: Trend in Interest rate-wise Public Deposits of HFCs in the last three years

(Amount in ₹ crore)



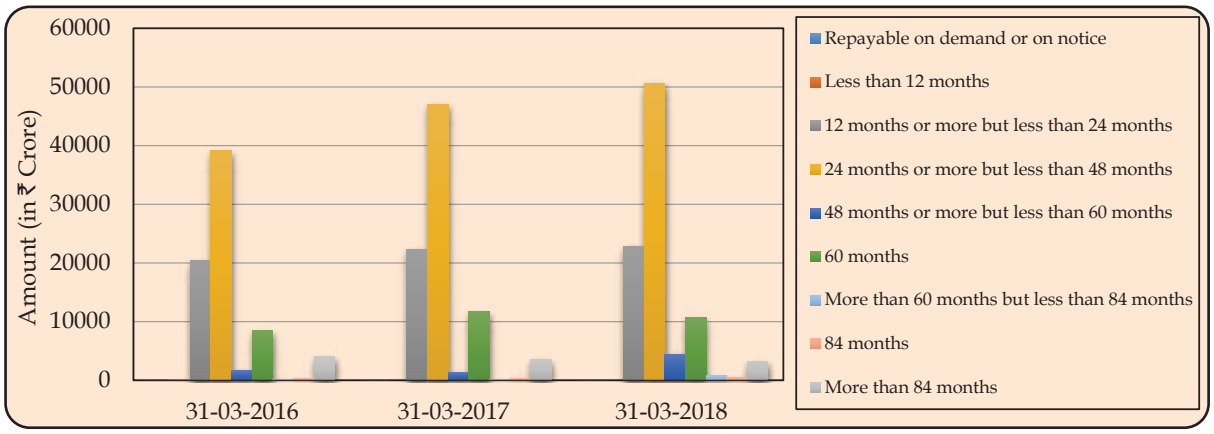
Source: Off-site Returns, NHB

4.4.7 Maturity-wise Public Deposits of HFCs:

Analysis of maturity-wise classification of public deposits in the last three years indicates that the majority of the public depositors' preference was for a maturity period between 24 months to 48 months. Around 80% of public deposits were in the maturity slab of upto 48 months during the FY 2017-18. The trend in maturity-wise classification of outstanding public deposits at the end of last three years is shown in the graph 4.7.

Graph 4.7: Trend in Maturity-wise Public Deposits of HFCs in the last three years

(Amount in ₹ crore)



Source: Off-site Returns, NHB

4.4.8 Assets Profile of HFCs

Assets profile of HFCs comprising of earning assets namely housing loans, other loans & advances and investments was at ₹11,07,177 crore as on 31-03-2018. As on 31-03-2018, housing loans contributed around 68% of the total earning assets of HFCs, with a growth of about 26% during FY 2017-18 as compared to a growth of about 17% during FY 2016-17. Other Loans and Advances constituted about 26% while investments constituted about 6% of the total earning assets of HFCs as on 31-03-2018. The outstanding position of major assets along with their annual growth, is shown in table 4.6.

4.4.9 Outstanding Loans and Advances and Investments of HFCs

Table 4.6: Outstanding Loans and Advances and Investments of HFCs

(Amount in ₹ crore)

Particulars	31-03-2016	31-03-2017	Y-o-Y Growth	31-03-2018	Y-o-Y Growth
1. Loans and Advances	**6,81,118**	**8,18,508**	**20.17%**	**10,38,347**	**26.86%**
a) Housing Loans	5,12,589	5,98,454	16.75%	7,52,798	25.79%
b) Other Loans & Advances	1,68,529	2,20,053	30.57%	2,85,549	29.76%
2. Investments	39,437	68,348	73.31%	68,830	0.71%
Total	**7,20,555**	**8,86,856**	**23.08%**	**11,07,177**	**24.84%**

Source: Off-site Returns, NHB

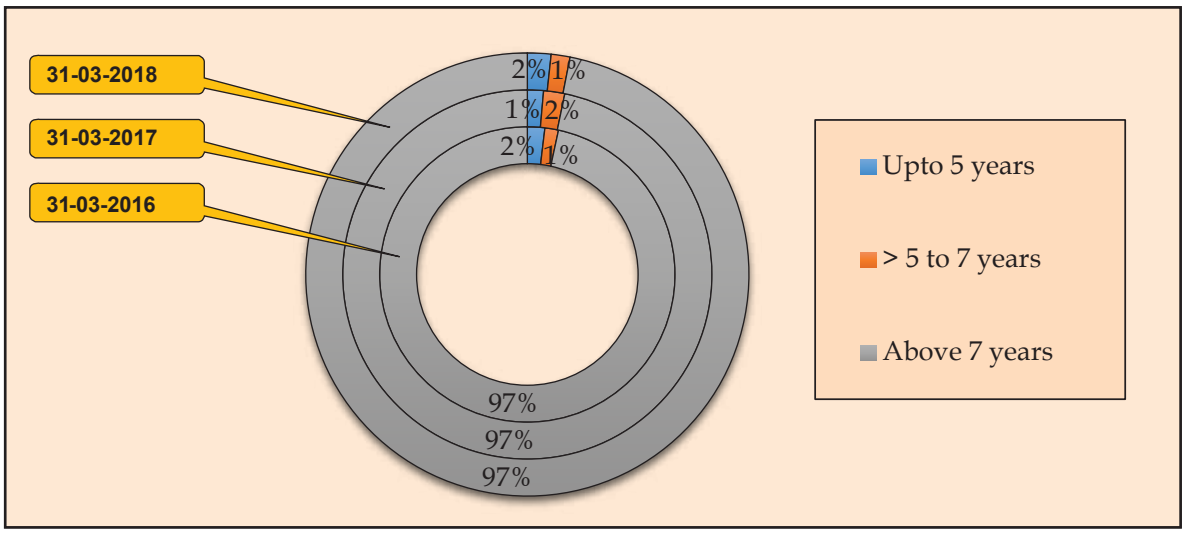
Housing loans of HFCs which stood at ₹5,98,454 crore as on 31-03-2017 increased by 25.79% to ₹7,52,798 crore as on 31-03-2018. Other loans and advances which stood at ₹2,20,053 crore as on 31-03-2017 increased by 29.76% to ₹2,85,549 crore as on 31-03-2018. The ratio of housing loans and other loans & advances remained around 3:1.

Aggregate investments of HFCs stood at ₹68,830 crore as on 31-03-2018 as compared to ₹68,348 crore as on 31-03-2017, an increase of 0.71% over the previous year.

4.4.10 Maturity pattern of Housing Loans of HFCs

Analyzing the trend on the maturity pattern of housing loans outstanding to Individuals with HFCs, it was observed that around 97% of these housing loans were having maturity of over 7 years. This indicates that the preference of majority of HFCs housing loans to individuals was for housing loans on a long tenure rather than short or medium tenure. The maturity pattern of outstanding housing loans to individuals at the end of last three years is shown in the graph 4.8.

Graph 4.8: Trend in Maturity-pattern of Housing Loans to Individuals by HFCs

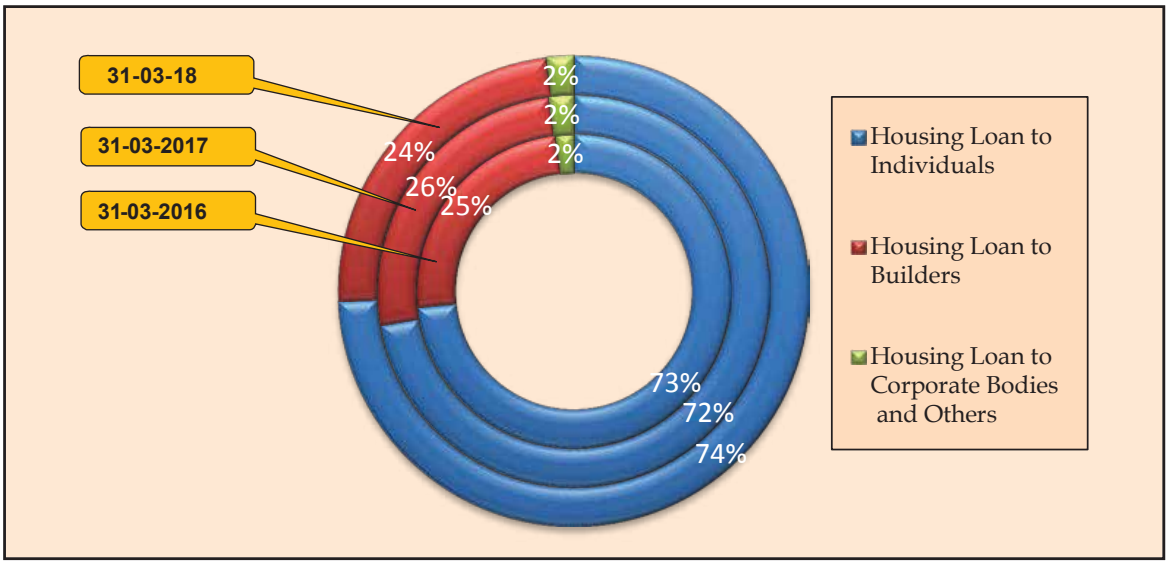


Source: Off-site Returns, NHB

4.4.11 Borrower's type-wise disbursements of housing loans:

The disbursements of housing loans by HFCs had a growth rate of about 32% in FY 2017-18 over FY 2016-17. Borrower's type-wise dissection of disbursement of housing loans in FY 2017-18, further shows that around 74% of their housing loans were to individuals, 24% to builders and 2% to corporate bodies & others. This indicates that HFC's main service concentration of housing loan was on individuals. The disbursement in the last three years is shown in the graph 4.9.

Graph 4.9: Borrower's type-wise Disbursement Trend of Housing Loans by HFCs



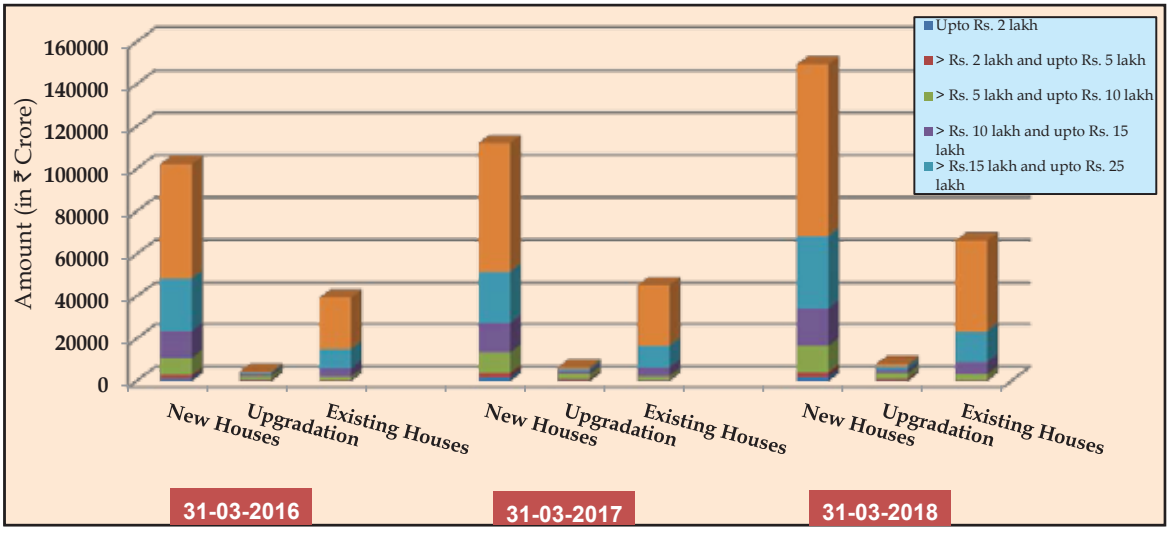
Source: Off-site Returns, NHB

4.4.12 Purpose-wise disbursements of housing loans to individuals:

Analysis of purpose-wise HFCs disbursements of housing loans to individuals revealed that about 66% of the loans were for acquisition/construction of new houses, 4% for up-gradation including major repairs, and the balance 30% for purchase of old/existing houses. This showed that new assets creation were the main component of the total housing loans disbursed by HFCs. The trend in disbursement during the last three years is shown in graph 4.10.

Graph 4.10: Purpose-wise Disbursement Trend of Housing Loans to Individuals by HFCs

(Amount in ₹ crore)



Source: Off-site Returns, NHB

In FY 2017-18, HFCs disbursed ₹2,24,292 crore for acquisition/construction of new houses, up-gradation (including major repairs), and purchase of old/existing houses (resale). The segregated and consolidated details are captured in the tables 4.7 to 4.10.

Table-4.7: Disbursement of Housing Loans by HFCs to Individuals, for acquisition/ construction of new houses

(Amount in ₹ crore)

Particulars	FY 2015-16	FY 2016-17	Y-o-Y Growth	FY 2017-18	Y-o-Y Growth
Upto ₹2,00,000	1,324	1,963	48.23%	2,195	11.82%
Above ₹2,00,000 & upto ₹5,00,000	1,549	1,942	25.43%	1,933	-0.46%
Above ₹5,00,000 & upto ₹10,00,000	8,166	9,662	18.32%	12,600	30.40%
Upto ₹10,00,000	**11,039**	**13,568**	**22.91%**	**16,728**	**23.29%**
Above ₹10,00,000 & upto 15,00,000	12,623	13,912	10.21%	17,750	27.59%
Above ₹15,00,000 & upto 25,00,000	24,954	24,325	-2.52%	34,223	40.69%
Above ₹25,00,000	53,750	60,541	12.64%	80,802	33.47%
Total (1)	**1,02,366**	**1,12,346**	**9.75%**	**1,49,503**	33.07%

Source: Off-site Returns, NHB

The disbursements of housing loans to individuals for acquisition/ construction of new houses increased by 33.07% in FY 2017-18 as compared to 9.75% in FY 2016-17. Of the total housing loans disbursements, HFC's loans upto ₹25 lakh constituted 45.95% in FY 2017-18 as compared to 46.11% in FY 2016-17. The disbursements of housing loans in the category of above ₹25 lakh increased by 33.47% in FY 2017-18 as compared to 12.64% in FY 2016-17.

Table-4.8: Comparison of Disbursement of Housing Loans by HFCs to Individuals, for up-gradation (including major repairs)

(Amount in ₹ crore)

Particulars	FY 2015-16	FY 2016-17	Y-o-Y Growth	FY 2017-18	Y-o-Y Growth
Upto ₹2,00,000	59	99	68.53%	76	-23.33%
Above ₹2,00,000 & upto ₹5,00,000	735	881	19.80%	1,019	15.75%
Above ₹5,00,000 & upto ₹10,00,000	1,757	2,545	44.80%	2,678	5.24%
Upto ₹10,00,000	**2,551**	**3,524**	**38.14%**	**3,773**	**7.06%**
Above ₹10,00,000 & upto ₹15,00,000	895	1,317	47.07%	1,717	30.40%
Above ₹15,00,000 & upto ₹25,00,000	696	1,065	53.04%	1,548	45.32%
Above ₹25,00,000	459	747	62.89%	1,134	51.79%
Total (2)	**4,601**	**6,653**	**44.60%**	**8,172**	**22.83%**

Source: Off-site Returns, NHB

The disbursements of housing loans to individuals for upgradation (including major repairs) increased by 22.83% in FY 2017-18 as compared to 44.60% in FY 2016-17. Of the total housing loans disbursements, HFC's loans upto ₹25 lakh constituted 86.12% in FY 2017-18 as compared to 88.77% in FY 2016-17. The disbursements of housing

loans in the category of above ₹25 lakh increased by 51.79% in FY 2017-18 as compared to 62.89% in FY 2016-17.

Table-4.9: Comparison of Disbursement of Housing Loans by HFCs to Individuals, for acquisition of old/existing houses

(Amount in ₹ crore)

Particulars	FY 2015-16	FY 2016-17	Y-o-Y Growth	FY 2017-18	Y-o-Y Growth
Upto ₹2,00,000	23	58	153.30%	25	-57.39%
Above ₹2,00,000 & upto ₹5,00,000	325	295	-9.40%	308	4.54%
Above ₹5,00,000 & upto ₹10,00,000	1,960	2,109	7.63%	2,961	40.38%
Upto ₹10,00,000	**2,308**	**2,462**	**6.66%**	**3,294**	**33.79%**
Above ₹10,00,000 & upto ₹15,00,000	3,810	4,127	8.31%	5,639	36.64%
Above ₹15,00,000 & upto ₹25,00,000	8,985	10,084	12.23%	14,507	43.86%
Above ₹25,00,000	24,409	28,838	18.14%	43,177	49.72%
Total (3)	**39,512**	**45,511**	**15.18%**	**66,617**	**46.38%**

Source: Off-site Returns, NHB

The disbursements of housing loans to individuals for acquisition of old/existing houses have increased by 46.38% in FY 2017-18 as compared to 15.18% in FY 2016-17. Of the total housing loans disbursements, HFC's loans upto ₹25 lakh constituted 35.19% in FY 2017-18 as compared to 36.63% in FY 2016-17. The disbursements of housing loans in the category of above ₹25 lakh have increased by 49.72% in FY 2017-18 as compared to 18.14% in FY 2016-17.

Table 4.10: Comparison of Total Disbursement of Housing Loans by HFCs to Individuals

(Amount in ₹ crore)

Particulars	FY 2015-16	FY 2016-17	Y-o-Y Growth	FY 2017-18	Y-o-Y Growth
Upto ₹2,00,000	1,406	2,119	50.77%	2,295	8.31%
Above ₹2,00,000 & upto ₹ 5,00,000	2,609	3,118	19.50%	3,261	4.59%
Above ₹5,00,000 & upto₹10,00,000	11,883	14,317	20.48%	18,239	27.39%
Upto ₹10,00,000	**15,898**	**19,553**	**22.99%**	**23,795**	**21.69%**
Above ₹10,00,000 & upto 15,00,000	17,328	19,356	11.70%	25,106	29.71%
Above ₹15,00,000 & upto 25,00,000	34,635	35,474	2.42%	50,277	41.73%
Above ₹10,00,000 & upto 25,00,000	**51,963**	**54,830**	**5.52%**	**75,383**	**37.48%**
Above ₹25,00,000	78,618	90,127	14.64%	1,25,113	38.82%
Total (4) = (1) + (2) + (3)	**1,46,479**	**1,64,510**	**12.31%**	**2,24,292**	**36.34%**

Source: Off-site Returns, NHB

The total disbursements of housing loans to individuals have increased by 36.34% in FY 2017-18 as compared to 12.31% in FY 2016-17. In particular, the disbursements of housing loans in the category of above ₹25 lakh have increased by 38.82% in FY 2017-18 as compared to 14.64% in FY 2016-17.

Out of the total housing loan disbursements of ₹2,24,292 crore to individuals in FY 2017-18, HFCs have disbursed housing loans of ₹23,795 crore constituting 10.61% in the category of housing loans upto ₹10 lakh and ₹99,178 crore constituting 44.22% in the category of housing loans upto ₹25 lakh. The loans above ₹25 lakh were ₹1,25,113 crore constituting 55.78% of the total housing loans disbursed to individual by HFCs during FY 2017-18.

Out of ₹5,518 crore disbursed in the slab of housing loan upto ₹5 lakh an amount of ₹40 crore, ₹413 crore, and ₹5,065 crore were disbursed to the category of borrowers having income per month upto ₹5,000, ₹5,001 to ₹10,000 and more than ₹10,000, respectively. The above details are shown in the following Table 4.11.

Table 4.11: Comparison of Disbursement of Housing Loans by HFCs to Borrowers, during FY 2017-18, as per income category

(Amount in ₹ crore)

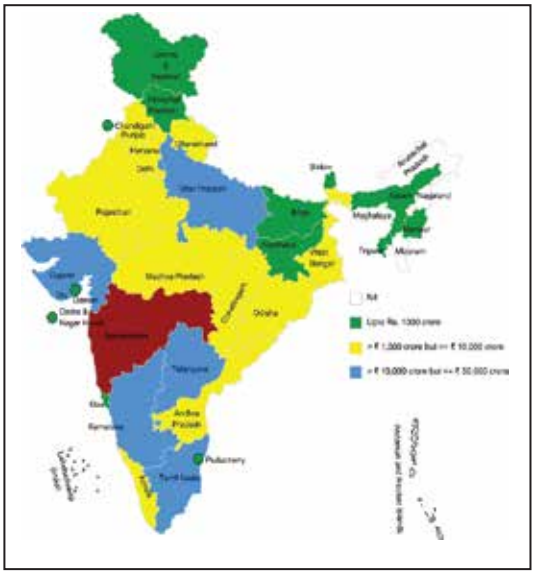
Size of Housing Loan	Income <₹5,000 p.m.		Income ₹5,001 to ₹10,000 p.m.		Income >₹10,000 p.m.		Total	
	No.	Amt	No.	Amt	No.	Amt	**No.**	**Amt**
Upto ₹3 lakh	1,508	12	43,974	362	1,95,431	2,523	2,40,913	2,897
Above ₹3 lakh & upto ₹5 lakh	850	28	1,547	51	63,538	2,542	65,935	2,621
Total	**2,358**	**40**	**45,521**	**413**	**2,58,969**	**5,065**	**3,06,848**	**5,518**

Source: Off-site Returns, NHB

The State/ UT-wise and area wise (rural and urban) data on housing loans disbursed to Individuals for the last 2 years are shown in Appendix A 3.

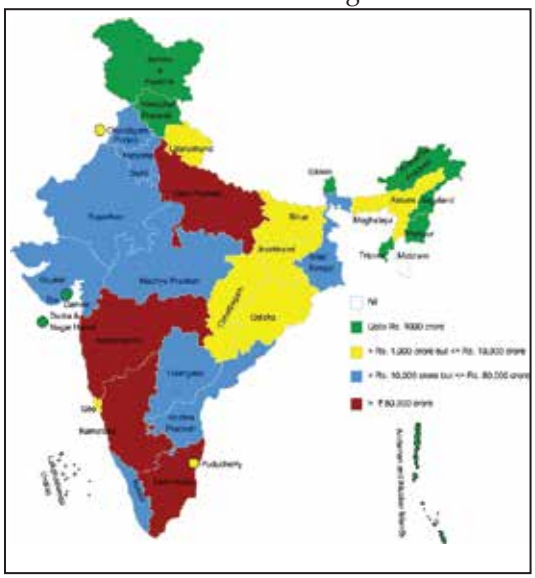
Graph 4.11: State/UT wise housing loan disbursement and outstanding of HFCs to Individuals

A. Disbursement



Source: Off-site Returns, NHB

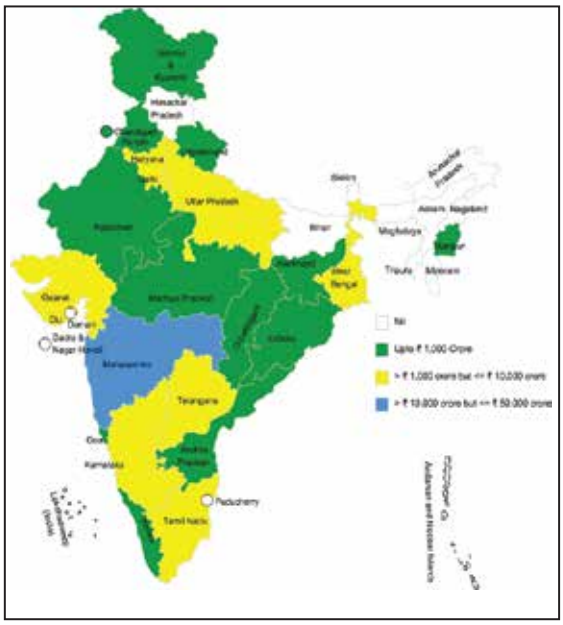
B. Outstanding



Source: Off-site Returns, NHB

Graph 4.12: State/UT wise housing loan disbursement and outstanding of HFCs to Builders

A. Disbursement



Source: Off-site Returns, NHB

B. Outstanding

Source: Off-site Returns, NHB

Graph 4.13: State/UT wise Trend in HFCs disbursement of housing loans for acquisition/ construction of new houses to individuals

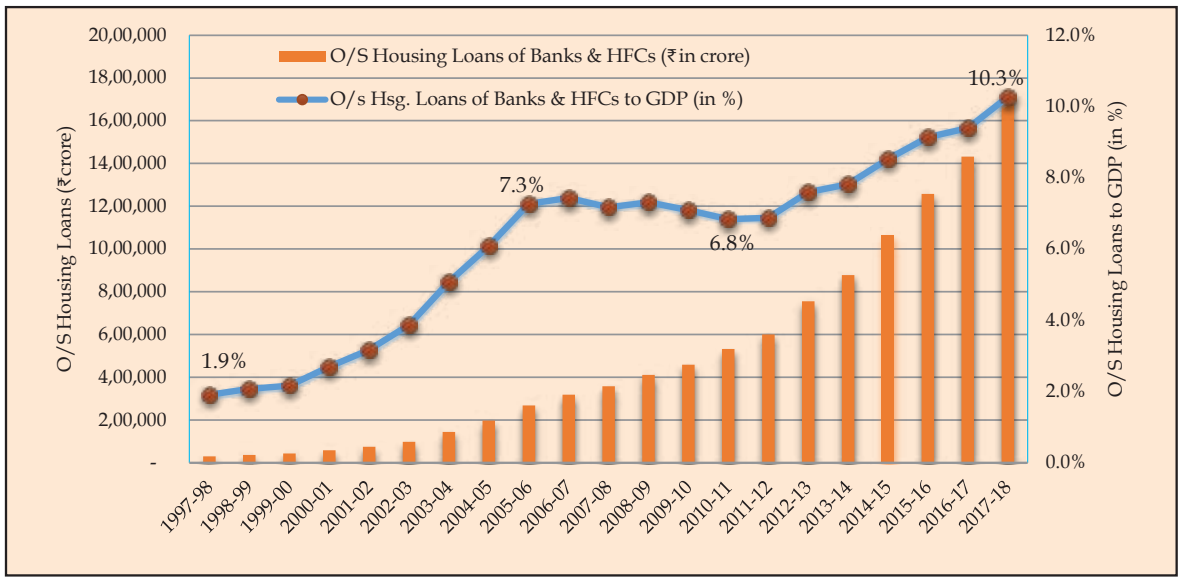
Source: Off-site Returns, NHB

4.5 Scheduled Commercial Banks

The Scheduled Commercial Banks have always been offering housing loans to their customers, but it was not until the late 1990s and early 2000s, when they forayed into this industry in a concerted manner. The market gathered momentum as the number of entities offering housing finance grew fast. This helped in deepening the existing markets and expansion into newer markets, particularly the tier 2 and 3 cities of the country. In that period of late 1990s and early 2000s, the country also witnessed good economic growth that fuelled the growth of the housing industry and in-turn the housing finance sector. This growth of economy and within that the growth of housing stock through private builders becoming active in urban centres, led to overall growth of the housing finance industry in the country. Over the years, supported by the policies of the Government of India and interventions by the Reserve Bank of India and National Housing Bank, the housing loan portfolio of both the SCBs and the HFCs has grown significantly. The RBI's monetary policy measures in terms of reserve requirements, credit growth limits, liquidity requirements, and policy rates, among others have had a direct impact on housing finance credit. RBI has prescribed prudential norms for housing finance and so has NHB along similar lines. These regulations are aimed at ensuring that the housing finance portfolio that is being built is healthy and resilient to systemic risks which may arise in the economy due to any global and / or local disruptions.

In this backdrop and a fairly stable economic growth witnessed by the country, the institutional housing finance mechanism consisting of Banks, HFCs and Cooperative institutions has expanded considerably. The growth of the housing loans portfolio created by Banks and HFCs over the years is depicted in the Graph 4.14. The Graph also shows the growing contribution of outstanding housing loans to GDP.

Graph 4.14: Outstanding Housing Loans of Banks and HFCs

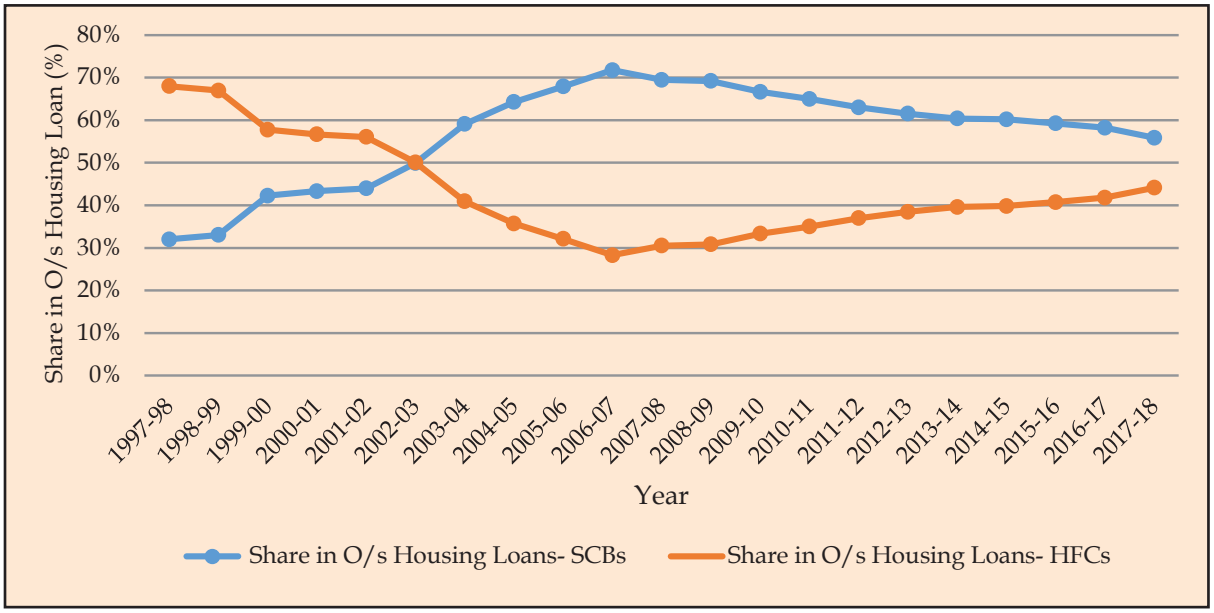


Source: RBI and NHB

The outstanding housing loans as a percentage of the GDP have increased from 1.9% in 1997–98 to 10% in 2017–18. The outstanding housing loans of Banks and HFCs have grown from less than ₹ 30,000 crore in 1997-98 to more than ₹17,00,000 crore in 2017-18.

In the early stages of the development of the housing market, the HFCs had a much larger share of the overall market, with the SCBs playing a smaller role. This was also an important factor in the slow growth of the market, owing to the limited network and reach which the HFCs had at that time. With the increased participation of the SCBs from 2003–04 onwards, the housing finance market started to grow at a much faster pace, with the SCBs occupying a major market share for the next few years. However, gradually, the HFCs also increased their disbursement, leading to redistribution in the market share. The distribution of the housing finance market between the SCBs and the HFCs over the past two decades is shown in Graph 4.15 below.

Graph 4.15: Housing Loans Market Share between Banks and HFCs



Source: RBI and NHB

4.6 Performance of Public Sector Banks (PSBs) on Individuals Housing Loans

In the case of PSBs, the credit for housing loans increased significantly in 2017–18. The individual housing loan data from the PSBs on a yearly basis in five different slabs—up to ₹2 lakh, above ₹2 lakh to ₹5 lakh, above ₹5 lakh to ₹10 lakh, above ₹10 lakh to ₹25 lakh and above ₹25 lakh is shown in Table 4.12.

Table 4.12: Performance of PSBs on Individual Housing Loans

(Amount in ₹ crore)

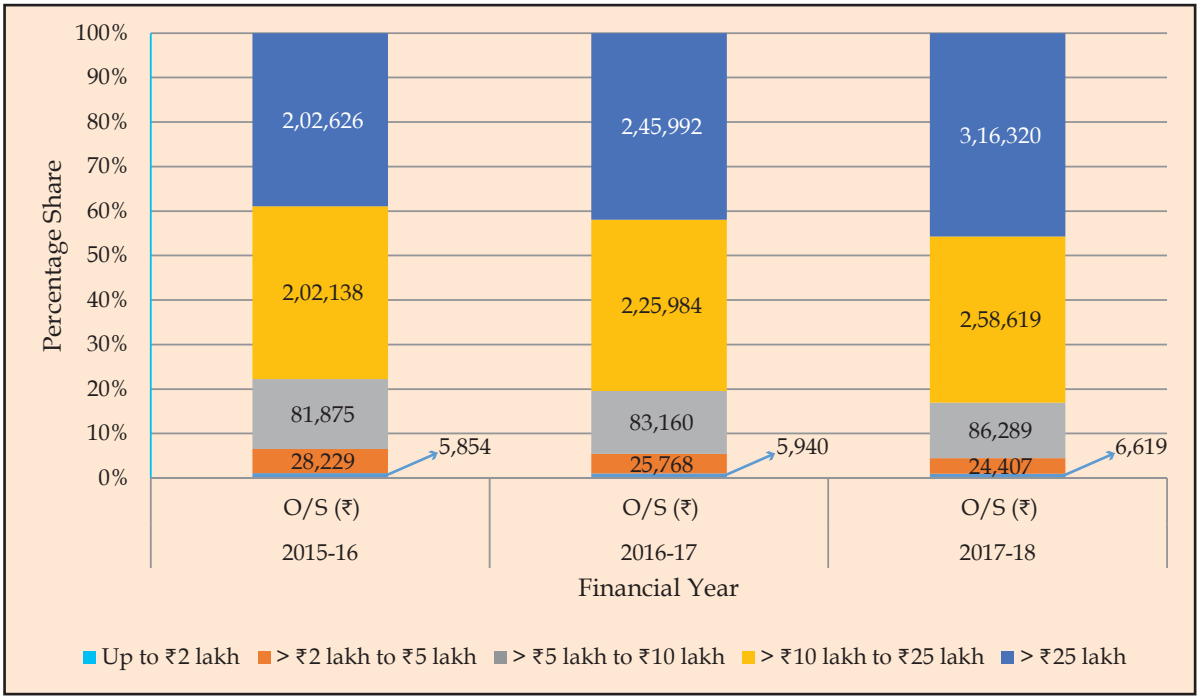
Housing Loan Slabs (₹)	2016-17			2017-18				
	Disbursement	Outstanding	GNPA (%)	Disbursement	Growth Y-o-Y (%)	Outstanding	Growth Y-o-Y (%)	GNPA (%)
Up to 2 lakh	1,224	5,940	11.55	995	-18.71	6,619	+11.43	11.33
> 2 lakh to 5 lakh	4,868	25,768	3.22	3,206	-34.14	24,407	-5.28	3.51
> 5 lakh to 10 lakh	17,173	83,160	1.82	14,740	-14.17	86,289	+3.76	1.99
> 10 lakh to 25 lakh	52,149	2,25,984	1.14	59,193	+13.51	2,58,619	+14.44	1.34
> 25 lakh	67,926	2,45,992	1.21	1,04,965	+54.53	3,16,320	+28.59	1.44
Total	**1,43,340**	**5,86,844**	**1.46**	**1,83,098**	**+27.74**	**6,92,254**	**+17.96**	**1.64**

Source: Based on compilation of data submitted by Public Sector Banks

The total individual outstanding housing loans of the PSBs stood at ₹6,92,254 crore as on March 31, 2018. The individual housing loans disbursement during 2017–18 by the PSBs was ₹1,83,098 crore. This marks a 28% increase in disbursement and an 18% increase in the total outstanding over the last financial year. In terms of disbursements, majority of the growth was witnessed in the slabs of above ₹10 lakh to ₹25 lakh and above ₹25 lakh.

Graph 4.16 Slab Wise Outstanding Individual Housing Loan of PSBs

(Amount in ₹ crore)



Source: Based on compilation of data submitted by Public Sector Banks

4.7 Co-operative Sector Institutions in Housing Finance

The co-operative housing structure consists of primary housing co-operatives at the grass-roots level and Apex Cooperative Housing Federations (ACHFs) at the national level. As per the data provided by National Co-operative Housing Federation of India, ACHFs have disbursed ₹12,876 crore to primary housing co-operatives for the construction of DUs for their members till the end of FY 2017-18. The outstanding loan portfolio of ACHFs at the end of FY 2017-18 was ₹1,546 crore. The state wise housing loan disbursed and units constructed by ACHFs is provided in Annexure A4.

5.1 Introduction

In terms of the regulatory powers vested in it under the National Housing Bank Act, 1987, the NHB determines the policy and give directions to the HFCs and their auditors. The Directions and Guidelines issued by the NHB from time to time, *inter-alia*, include prudential norms with regard to capital adequacy, asset classification, concentration of credit, income recognition, provisioning for bad and doubtful debts, Directions on corporate governance, acquisition or transfer of control of HFCs, issuance of Non-Convertible Debentures on private placement basis by HFCs, Guidelines on KYC & AML Measures, Fair Practices Code, IT framework, Asset-Liability Management, etc. Directions to Auditors of HFCs have also been issued with reference to status of compliance by the HFCs with the NHB Directions.The regulatory measures of NHB are aimed to protect and enhance the stability of the housing finance system and building market confidence.

5.2 Key Regulatory Developments for Housing Finance Companies

The major regulatory provisions introduced by the NHB for HFCs during 2017-18 are as under:

(i) Rationalization of risk-weights & Loan to Value (LTV) Ratios – Individual housing loans

The Reserve Bank of India (RBI) in its Statement on Developmental and Regulatory dated June 07, 2017 had, *inter-alia*, announced that considering the importance of the housing sector and given its forward and backward linkages to the economy, RBI had decided, as a countercyclical measure, to reduce the risk weight on certain categories of housing loans sanctioned on and after June 07, 2017. The standard asset provisioning rate on such loans was also reduced by the RBI.

NHB also issued notification on August 02, 2017 towards rationalising the loan-to-value ratio (LTV) and risk weights norms for individual housing loans of HFCs, in line with the norms made applicable by the RBI to Banks. Further, the assignment of risk-weights on these loans was made applicable with reference to the loan amount outstanding rather than the amount of sanction as per the earlier regulations.

Recognizing that correct and realistic valuation of immovable properties/fixed assets accepted by the HFCs as collateral for the lending being done by HFCs is an important aspect in the measurement of capital adequacy position of HFCs, NHB has advised HFCs vide the Circular dated August 31, 2017 (certain revisions to the same effected vide the follow-up Circular dated December 29, 2017) to have in place a Board approved policy on valuation of properties and empanelment of valuers.

(ii) Indian Accounting Standards (Ind-AS)

In accordance with its commitment to G20, India is converging to International Financial Reporting Standards (IFRS) in a phased manner starting from the annual periods beginning on or after April 01, 2016. The Ministry of Corporate Affairs (MCA) has notified a phase-wise convergence to Ind-AS by the companies. In terms of the same, Ind-AS has been made applicable, inter-alia, to

HFCs having net worth of rupees five hundred crore or more for accounting periods beginning on or after April 01, 2018.

NHB has issued Circular dated April 16, 2018, *inter-alia*, advising HFCs to be guided by the extant provisions of Ind-AS, including the date of implementation. As a follow-up to the above Circular, NHB has issued another Circular dated June 14, 2018, reiterating that HFCs are required to comply with the provisions of Ind-AS, as notified by the MCA from time to time, including the date of implementation. However, for regulatory & supervisory purposes, including various kinds of reporting to the NHB, HFCs shall continue to follow the extant regulations issued by the NHB including framework on Prudential Norms, and other related Circulars etc., issued in this regard by the NHB from time to time. HFCs are required to provide adequate disclosures/statements for furnishing compliance in the aforesaid matter in the notes forming part of their financial statements.

(iii) Pre-mature repayment of deposits within 3 months of the date of acceptance

NHB has allowed normally run HFCs to repay public deposits, on incidental basis, to individual depositors, within three months of acceptance of such deposit, if so requested by the depositor, to meet certain expenses as specified in the notification.

The notification was issued in order to enable customers of HFCs to meet certain expenses of an emergent nature like hospitalization, surgery expenses or expenses caused due to natural calamities like floods, earthquakes etc.

(iv) Submission of information to Information Utilities set up under IBBI (IUs) Regulations, 2017

The Insolvency and Bankruptcy Code, 2016 (IBC) enacted in May 2016 is considered a watershed towards improving the credit culture in the country. The IBC provides for a single window, time-bound process for resolution of assets with an explicit emphasis on promotion of entrepreneurship, maximization of value of assets, and balancing the interests of all stakeholders. The Insolvency and Bankruptcy Board of India (IBBI) has been set up as the apex authority for implementation of the IBC. IBBI issued the Insolvency and Bankruptcy Board of India (Information Utilities) Regulations, 2017 vide the notification dated March 31, 2017. These regulations provide a framework for registration and regulation of information utilities (IUs) and applicable with effect from April 01, 2017.

National E-Governance Services Limited (NeSL) has been set up as the first IU under the IBBI (IUs) Regulations, 2017. All HFCs have been advised to adhere to the relevant provisions of IBC and IBBI (IUs) Regulations, 2017 and put in place appropriate systems and procedures to ensure compliance to the provisions of the Code and Regulations.

(v) Guidelines on Information Technology Framework

As the housing finance industry matures and achieves scale, its Information Technology/ Information Security (IT/IS) framework, Business continuity planning (BCP), Disaster Recovery (DR) Management, IT audit, etc. must be benchmarked to best practices.

Accordingly, NHB issued Guidelines on Information Technology Framework for the HFC sector that are expected to enhance safety, security, efficiency in processes leading to benefits for HFCs and their customers. The Guidelines have been issued by the NHB, in two parts viz. those which are applicable to public deposit accepting HFCs and HFCs not accepting public deposit with asset size of 100 crore and above, as per the last audited balance sheet, and those for HFCs not accepting public deposits with asset size below 100 crore. HFCs falling in the first category are required to comply with the Guidelines by June 30, 2019 and the other HFCs by September 30, 2019.

(vi) Notification of HFCs as "Financial Institution" under SARFAESI

The criteria for recommendation and notification of HFCs under section 2(1)(m)(iv) of the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 (SARFAESI) as "Financial Institution" , based on certain benchmarks in terms of asset size, quality of supervisory compliance, loan size etc. was specified by the NHB. The criteria required to be fulfilled/complied by the HFCs already notified as "Financial Institution" under the said Act was also specified.

Exposures of the HFCs to loans against property, project financing, movement of non-performing loans and outsourcing risks are certain areas of supervisory focus. Measures for enhanced customer protections also continue to engage the attention of the NHB. The list of notifications / circulars issued by the NHB during the financial year ended June 30, 2018 is placed at Appendix A 5.

Box 5.1: Key Regulatory Developments - Banks & NBFCs

Some of the recent regulatory initiatives, including circulars, directions and other policy announcements by the RBI for Banks and NBFC sector are listed as under:

- RBI introduced tri-party repos as an alternate repo instrument to Government securities repo to improve the liquidity in the corporate bond repo market and issued guidelines in this respect.
- A cap of 10% on Bank's shareholding in a deposit taking NBFC (with the exception of equity investment in HFCs) was prescribed. Further, bank's investment in the unit capital of a real estate investment trust (ReIT) or an infrastructure investment trust (InvIT) was restricted to 10% subject to overall ceiling of 20% of its net worth.
- Guidelines with respect to Non-Banking Financial Company- Peer to Peer Lending Platform (NBFC-P2P) was prescribed. Peer to Peer Lending Platform (P2P) is an intermediary providing the services of loan facilitation via online medium or otherwise to participants entering into an arrangement with an NBFC-P2P.
- Guidelines on managing risks in outsourcing of financial services for NBFCs were issued.
- All the financial creditors regulated by the RBI were directed to put in place appropriate systems and procedures to ensure compliance to the provisions of IBC and IBBI (IUs) Regulations, 2017.

- In order to align the resolution process with the IBC, the framework for resolution of stressed assets for Banks was revised and the previous schemes were withdrawn.
- An Ombudsman Scheme for deposit taking NBFCs was introduced for effective and timely redressal of grievances of customers of NBFCs.
- In order to bring about ownership-neutral regulations, Government-owned NBFCs were advised to adhere to the Bank's prudential regulations in a phased manner.
- The limits for housing loans extended under priority sector lending by Urban Cooperative Banks were raised from ₹ 25 lakh to ₹ 28 lakh. Further, the loans sanctioned for LIG/EWS housing projects where the total cost does not exceed ₹ 10 lakh per dwelling unit, were also included under PSL.
- Housing loan limit for eligibility under PSL was increased from ₹28 lakh to ₹35 lakh in metropolitan centres and from ₹20 lakh to ₹25 lakh in other centres. The ceiling on cost of eligible dwelling units was also revised from ₹ 35 lakh to ₹ 45 lakh in metropolitan areas and from ₹ 25 lakh to ₹ 30 lakh in other areas. The limits were revised in order to bring convergence between PSL guidelines for housing loans and the affordable housing scheme under the Pradhan Mantri Awas Yojana (PMAY).

  Reference: RBI Circulars

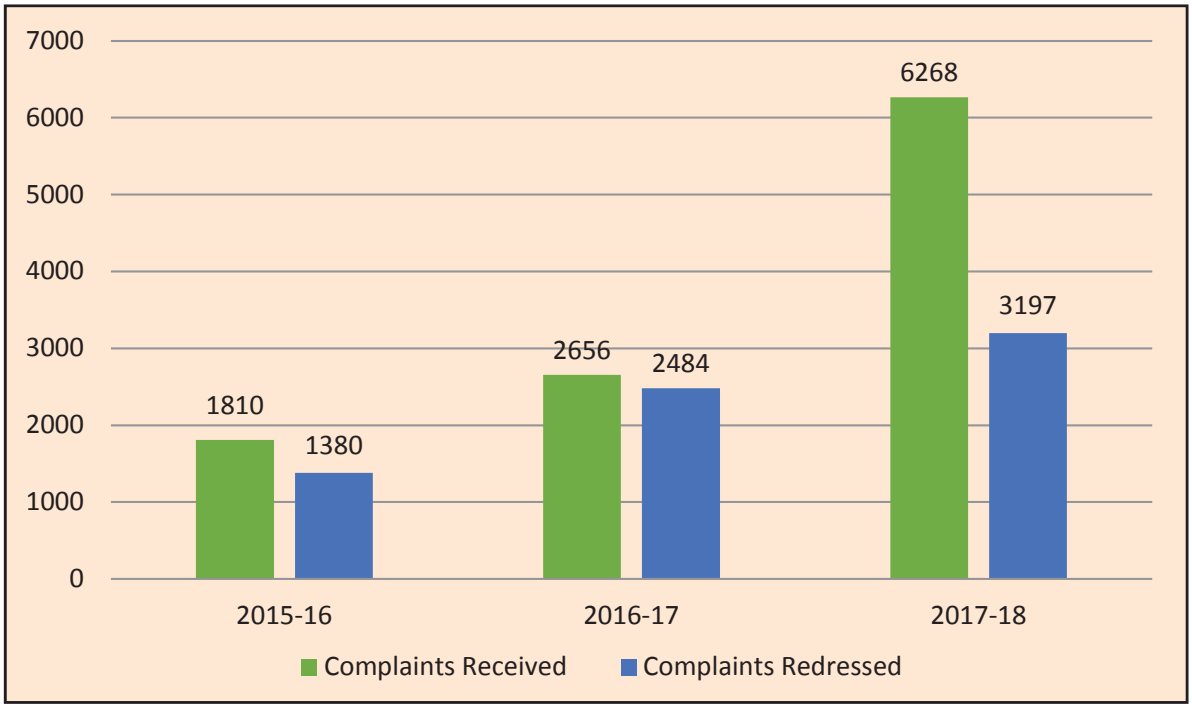
5.3 Grievance Redressal Mechanism of NHB

As the regulator of HFCs, one of the endeavours of the NHB is to provide efficient service to all its constituents, including customers of HFCs. Grievance redressal mechanism of an institution is the gauge to measure its efficiency and effectiveness as it provides important feedback on the working of the institution and the entities regulated by it.

NHB has launched an online Grievance Redressal and Information Database System (GRIDS) in 2014 with an objective to provide an efficient and effective grievance redressal mechanism to the complaints against NHB and also against HFCs regulated by it. Being the Central Nodal Agency of PMAY-CLSS, NHB also receives PMAY-CLSS related complaints.

GRIDS is an on-line database system, developed in-house by NHB, which facilitates the customer of HFC/NHB to lodge a complaint, and also tracks its status. GRIDS enables instant on-line updating of response to a complaint by HFC/NHB and also provides the latest status view at any time by the Complainant/HFC/NHB from a centralized database. The trend of complaints received and redressed by NHB during last three years is shown in Graph 5.1.

Graph 5.1 Trend of complaints received and redressed by NHB during last three years



Source: NHB

NHB, in line with Government's Digital India programme which emphasizes on transformation of e-governance into m-governance (mobile governance), launched its mobile App whereby the mobile App's lodge-complaint module is directly integrated with GRIDS.

In order to consolidate all practices and procedures, NHB has formulated the Grievance Redressal Policy and placed the same on its website. The Policy covers the grievance of the Customer of the HFC regulated by NHB, where the complainant has failed to secure resolution of his/her complaint after taking up the same directly with concerned HFC i.e. complaints which have not been redressed or have faced delays (beyond the time frame of 30 days as provided in this Policy) in redressal by the HFC.

The grievance redressal mechanism put in place by the NHB aims to provide a simple, speedy and cost effective mechanism to the aggrieved parties. The escalation provided is to sensitize that the concerned senior officials in the NHB are made aware of the grievance of the aggrieved party and take a considered view in the matter. However, this is in no way a substitute to the existing judicial or quasi-judicial forum available to the aggrieved person to get the grievance adjudicated or redressed. The complainant, therefore, is at liberty to approach the available forum/s at any stage i.e. even before reporting to the above mechanism or during the pendency of the complaint or when she/he is not satisfied with the outcome.

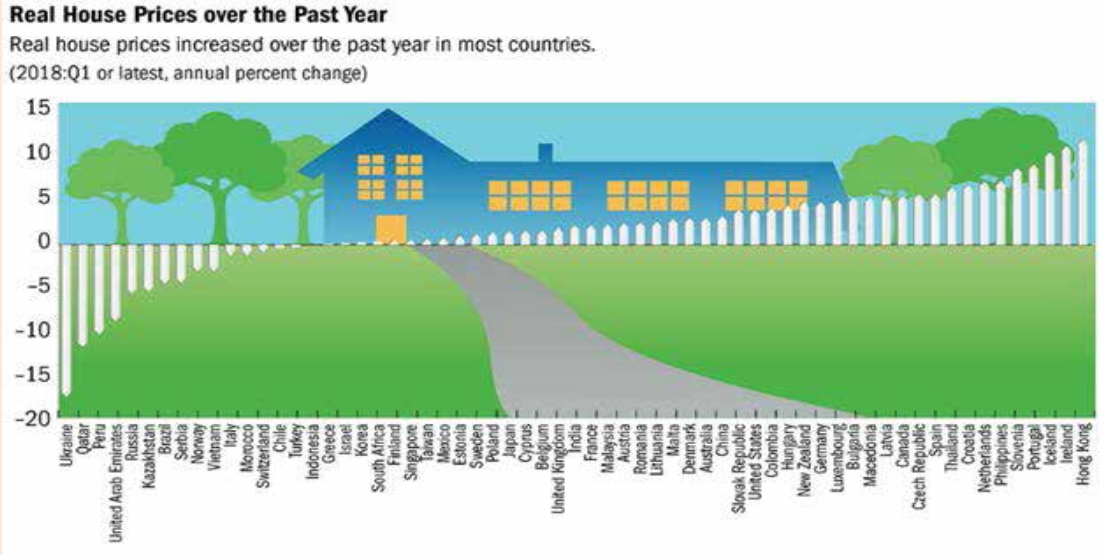
Appropriate mechanisms at the HFC level, are also accorded equal importance and complaints are effectively addressed. The complaint redressal system at HFCs is also coming under scrutiny during regulatory inspection and suitable compliance is ensured. NHB has also brought out a list of FAQs on commonly related complaints to make awareness across customers. Also, NHB has been facilitating meeting with

Grievance Redressal Officers of HFCs on one to one basis in order to sort out the grievance related matters in a more effective manner. NHB has also advised all regulated HFCs to clearly display in all their offices/branches and on their website that in case the complainant does not receive any response from the company within reasonable time or is dissatisfied with their response received, the complainant can approach NHB for grievance redressal.

Box 5.2 : Effectiveness of Policy Instruments: Canada vs India

1. Background

As per IMF, the real house prices have increased over the past year in most of the countries. Figures pertaining to 1st quarter of year 2018 show that both India and Canada have registered an increase in real house prices, however, the growth percentage of Canada is higher as compared to India.



(Source: IMF Global Housing Watch, House Prices Around the World)

2. Canada

Housing market imbalances are prominent in Canada. Such imbalances are a key source of systemic risk and can adversely affect housing affordability.

IMF working paper (WP/18/237) examines the effectiveness of macro prudential policy (LTV limit) versus property tax measures in achieving policymakers' overall objectives, including macroeconomic and financial stability, and housing affordability. The model used for assessing the effectiveness of policy instruments viz. macro prudential policy (LTV limit) and property-tax policy, has the following broad features:

- Households are divided into borrowers and savers.
- Borrowers are assumed to face credit constraints tied to their collateral—an LTV limit.
- Savers (or non-resident home buyers), on the other hand, do not face collateral constraints hence they will not be subject to LTV limits imposed by the macro prudential authority.
- There are three policy instruments set by the policy making authorities having the specified objectives:

S.No	Policy Instrument	Policy Maker	Objective
1	Interest rate (Monetary Policy)	Central Bank	Macroeconomic stability (stabilizing inflation and output)
2	LTV limit	Macro Prudential Authority	Financial stability
3	Property-transfer tax rate	Property-tax Authority	Housing affordability

The results suggest that multiple policy instruments can lead to better outcomes when policymakers face multiple policy objectives. Macro prudential policy (LTV limit) can be more effective than policies based on adjusting property-transfer taxes because property-tax policy entails excessive volatility in tax rates.

If property-transfer taxes are used, taxes targeted at a broader-set of homebuyers can be more effective than measures targeted at a smaller subset of homebuyers, such as non-resident homebuyers. The results suggest that targeting property tax rates at savers (or non-resident homebuyers) alone—instead of all homebuyers—would require greater swings in tax rates to achieve desired objectives. Recent data show that non-resident home owners represent only a small fraction of the existing housing stock in Vancouver and Toronto, potentially limiting the effectiveness of the British Columbia and Ontario property transfer taxes on non-residents. As such, the evidence presented in the working paper suggests that to the extent that speculators are found to be driving excessive house price inflation and raising housing affordability concerns, tax measures targeting the speculative demand of residents and non-residents alike would likely be more effective than targeting demand from non-residents alone.

3. India

LTV Policy versus Property Tax Policy in case of India:

LTV: Loan-to-value (LTV) ratio is one of the macro-prudential tools used by banks to control their exposure to decline in house prices. The RBI prescribed an upper limit of 80% on LTV for housing loans above ₹ 20 lakh and 90% for housing loans up to ₹ 20 lakh respectively, with effect from December 23, 2010.

Subsequently, the NHB vide its circular dated December 24, 2010 also prescribed LTV norms for HFCs which was in lines with the directions issued by RBI for banks.

The LTV norms have been subject to several revisions since then and were last revised on June 07, 2017 wherein the LTV related risk weight on certain categories of individual housing loans was relaxed. Further, the provisioning requirements on standard individual housing loans was also reduced.

The NHB, vide its notification dated August 02, 2017 rationalised the LTV ratio and risk weights norms for individual housing loans of HFCs, in line with the norms made applicable by the RBI for Banks. The present LTV norms for HFCs (for loans sanctioned on or after 01-08-2017) are as under:

Outstanding loan	LTV ratio (%)	Risk Weight (%)
Up to ₹ 30 lakh	≤ 80	35
	> 80 and ≤ 90	50
Above ₹ 30 lakh and up to ₹ 75 lakh	≤ 80	35
Above ₹ 75 lakh	≤ 75	50

The Statement on Developmental and Regulatory Policies issued by RBI on June 06, 2018, mentioned that the level of NPAs for the loan ticket size of up to ₹ 2 lakh has been high and is rising briskly. It further stated that RBI is closely monitoring this sector and will consider appropriate policy response such as a tightening of the LTV ratios and/or an increase in the risk weights, should the need arise.

The above incidences show that LTV ratio has been operating as one of the policy instrument in managing the imbalances in the Indian housing sector.

Property Tax : The Economic Survey of 2016-17 revealed that weak collection efficiency, flawed methods for property valuation, loss on account of exemptions, and poor enforcement had contributed to poor realisation from property taxes in India. Based on assessment of 36 cities, the 13th Finance Commission affirmed that by increasing the compliance to even 80%-85%, the current property tax (₹ 4,400 crore) could be increased to as much as ₹ 22,000 crore. The exercise showed that Bengaluru and Jaipur were collecting no more than 5% to 20% of the potential for property tax. Hence, property tax as a potential tool for mitigating housing market imbalances has remained largely untapped in India.

Reference:

i. IMF Country Report No. 18/221 , 18/222 on Canada

ii. IMF Working Paper WP/18/237 on Balancing Financial Stability and Housing Affordability: The Case of Canada

iii. Recent Trends in Residential Property Prices in India: An exploration using housing loan data, RBI on May 07, 2015

iv. RBI Circulars

v. NHB Circulars

vi. Economic Survey of 2016-17

6.1 Background

The rate of urbanization in India has witnessed tremendous increase in the last few decades. The phenomenal rise in population, number and size of our cities over the past few years have manifested in the acute shortage of dwelling units which has resulted in overcrowding, high rents, poor urban living conditions, and low infrastructure services. This has led to an ever increasing demand for the traditional building materials e.g. brick, wood, cement, steel, aggregates, sand etc., which are either based on natural resources which are finite in nature or energy intensive or emit greenhouse gases during production.

As a result of rapid urbanization, cities are getting extremely vulnerable to natural disaster. India is vulnerable, in varying degrees, to a large number of disasters. More than 58.6% of the landmass is prone to earthquakes of moderate to very high intensity; over 40 million hectares (12%) of its land is prone to floods and river erosion; close to 5,700 kms, out of the 7,516 kms long coastline is prone to cyclones and tsunamis; 68% of its cultivable area is vulnerable to droughts; and, its hilly areas are at risk from landslides and avalanches.

Widespread concern about energy conservation, global warming and depletion of the planet's non-renewable resources has given birth to the green building movement, with its idea of sustainable architecture that seems to be mushrooming across the world. Some people may think of a green, or sustainable building as just a building that doesn't really have as bad of an impact on the environment as another 'average' building. Other people may find it to be the type of building, and the actual surroundings of the building. A 'green' building however is a building that, in its design, construction or operation, reduces or eliminates negative impacts, and can create positive impacts, on our climate and natural environment.

6.2 Current Practice

Pre-dominantly the construction technologies being practiced in India, is cast-in-situ RCC beam-column construction which is primarily slow track and is subjected to time & cost overruns. These constructions are labour intensive, which further hamper fast delivery, as there is acute paucity of unskilled labour force in cities. Therefore, it is prudent to take a paradigm shift from brick & stick approach and look for alternate systems which overcome these limitations.

6.3 Alternate Building Materials

Since the past few decades, there has been a rising concern over the inefficient use of resources for building construction in most countries leading to the need for the use of Alternate Building Materials (ABMs). The United Nations Commission on Human Settlements' report for instance, emphasized the need to promote 'appropriate technology' in the construction industry in developing countries (UNCHS, 1993) as one of the ways of promoting sustainable construction. "Alternative building" refers to construction methods that differ from mainstream modern architecture. They often use natural building materials, with a strong emphasis on sustainable design. The strategies aim to employ simple building blocks manufacturing technology which will not only reduce the building costs but also curb the environmental effects. Alternative buildings more often depend on traditional designs (reflecting wisdom which has evolved over many generations) and creative use of locally available

materials and limited resources. Some of the alternate building materials are as under:

a) FOUNDATION

Under Reamed Pile Foundation: The basic principle of under reamed pile is to anchor the structure at a depth where ground movement are negligible due to moisture variation or other reasons. Simple tools are required for construction of under-reamed piles like spiral auger, under reaming tool and boring guide.

Brick Arch Foundation: Such type of foundation is of much use where the bearing capacity of soil is good and there exists some loose/filled up soil pockets in between. The arches can be built by avoiding the pressure on such loose pockets and transferring the load to the isolated footings built to support the arches. In order to resist the lateral forces buttresses at the corner or at the end are built. With the use of such foundation there is a considerable saving in the masonry and concrete between the two footings.

b) WALLING

Clay Flyash Burnt Bricks are produced from flyash and clay and are stronger than conventional burnt clay bricks, consume less energy, provide better thermal insulation and solve the environmental problem through utilization of the flyash (an industrial waste). Another variant is produced from flyash or sand with lime as binder, which makes it strong, superior in water absorption and crushing strength.

Lato Blocks are improved bricks made from lateritic soil and cement or lime and are mostly found in South-West India as large soft rock masses. The blocks are moulded under pressure to produce strong and good quality blocks which consume lesser energy than conventional bricks and hence are cheaper. They are available in pleasing hues of colors ranging from cream to light crimson.

Precast Stone Blocks of larger size than normal bricks are manufactured by using waste stone pieces of various sizes with lean cement concrete and enable a rationalized use of natural locally available materials. Shaping stones in this manner, enables speedy construction, saves on cement, reduces thickness of stone walls and effects overall saving by eliminating plasters on internal/external wall surface. Appropriate architectural rendering on exterior surfaces can also be given.

Precast Aerated/ Cellular Concrete Walling Blocks and Roofing are manufactured through aerated cellular concrete manufacturing process. When used in multistoried structures they reduce weight, resulting in economic design of structure. These components can also be worked and handled easily, have high fire resistance rating and provide better insulation.

c) ROOFS

Guna Tile Roof: Such type of roof is very useful for villages. Its construction is possible only with use of Terra-cotta cones made by village potter and village artisans with nominal cost. Appropriate water resistant treatment can be given on top.

Pyramidal Brick Roof: In coastal areas where corrosion of reinforcement is possible construction of such roof is useful. There is no reinforcement in such roof. It is cast with ordinary bricks used with cement mortar/concrete in the form of pyramid. A ring beam is used along the periphery over walls. Such roofs are also useful in cyclone prone areas.

Cement Bonded Fiber Roofing Sheets are made by profitably utilizing coir waste, coconut pith, wood wool or sisal fiber, in combination with cement as binder for production of corrugated or plain roofing sheets. These sheets use lesser cement, are cheaper, light weight, fire resistant, water proof and can be used for sloping roof option.

Stone Patti Roofing is a flat roofing system with sand stone slab (patties) resting over steel or slender RCC section beams. The slabs are laid over with terracing for insulation. It is appropriate where (sand) stone slabs are available and is more economical than RCC slabs. Where larger granite stone patties are available like in Rajasthan, Madhya Pradesh, Andra Pradesh the beams are not needed and can rest on walls.

Filler Slabs are normal RCC slabs where bottom half (tension) concrete portions are replaced by filler materials such as bricks, tiles, cellular concrete blocks, etc. These filler materials replace unwanted and nonfunctional tension concrete and are therefore economical. These are safe, sound and provide aesthetically pleasing pattern ceilings and also do not require plaster.

6.4 Technology Sub-Mission under Pradhan Mantri Awas Yojana

A Technology Sub-mission under the Pradhan Mantri Awas Yojana Mission has been set up to facilitate adoption of modern, innovative and green technologies and building material for faster and quality construction of houses. A brief overview of the PMAY Technology Sub mission is mentioned in box item 6.1.

Box 6.1 PMAY Technology Sub Mission

PMAY Technology Sub-Mission will facilitate preparation and adoption of layout designs and building plans suitable for various geo-climatic zones. It will also assist States/ Cities in deploying disaster resistant and environment friendly technologies. The Sub-mission will coordinate with various regulatory and administrative bodies for mainstreaming and up scaling the deployment of modern construction technologies and material in place of conventional construction. Technology sub-mission will also coordinate with other agencies working in green and energy efficient technologies, climate changes etc. The Sub-Mission will work on following aspects:

- Design & Planning
- Innovative technologies & materials
- Green buildings using natural resources and
- Earthquake and other disaster resistant technologies and designs. Simple concept of designs ensuring adequate sunlight and air should be adopted.

Centre and State would also partner with willing IITs, NITs and Planning & Architecture institutes for developing technical solutions, capacity building and handholding of States and Cities. State or region specific needs of technologies and designs would also be supported under this Sub-Mission. A technical cell has been setup in the Building Materials and Technology Promotion Council (BMTPC) under the Ministry of Housing and Urban Affairs (MoHUA) to support the Sub-mission.

Reference: MoHUA website

Similarly, the PMAY-G has a strong focus on providing credible assistance and support to the beneficiaries in making informed choices with regard to the construction of her/his house. As a major step in this direction, the Ministry of Rural Development, in partnership with United Nations Development programme (UNDP) and Indian Institute of Technology (IIT) Delhi, has undertaken detailed exercise in 18 states so far, to provide a menu of technically validated options for design, construction materials and technologies to the beneficiaries. More than 130 design typologies have now been developed as part of this engagement and validation of the range of materials and technologies proposed through the housing typologies is being undertaken by Central Building Research Institute (CBRI), Roorkee. Designs have been validated through State-level consultations with concerned stakeholders including Government officials, engineers, local architects, masons and especially rural communities. A case study for the state of Assam has been described in detail in Appendix A 6.

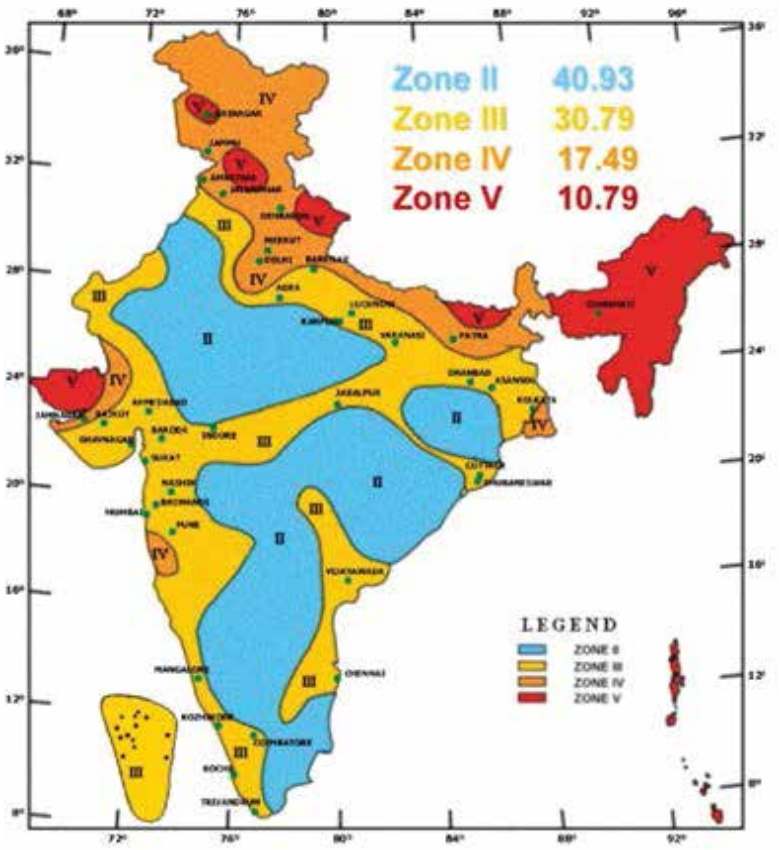
Recently BMTPC has released the Third Edition of Prospective Emerging Building Technologies for Mass Housing which contains 24 innovative construction systems, developed within the country and from abroad. These emerging technologies have low life cycle cost and are therefore, resource efficient and environmentally responsible. These systems are recommended for use by the public and private agencies based on their technical suitability and certification. The emerging technologies have been discussed in detail in Appendix A 7.

6.5 Need for Disaster Resilient Technologies

Earthquake - prone areas of the country have been identified on the basis of scientific inputs relating to seismicity, earthquakes occurred in the past and tectonic setup of the region. Based on these inputs, Bureau of Indian Standards [IS 1893 (Part I):2002], has grouped the country into four seismic zones, viz. Zone II, III, IV and V. Indian sub-continent is exposed to nearly 10% of the world's Tropical Cyclones. Of the 7,516 km long coastline, close to 5,700 km is prone to cyclones and tsunamis. There are 13 coastal states/UTs encompassing 84 coastal districts which are affected by cyclones. Four States (Andhra Pradesh, Odisha, Tamil Nadu and West Bengal) and one UT (Pondicherry) on the East Coast and one State (Gujarat) on the West Coast are more vulnerable to cyclone disasters. Approximately 40% of the total population lives within 100 km of coastline.

Disasters can thus make a huge impact on the built environment and the failure of which can create significant impacts on social and economic activities of the entire nation. Thus, when moving towards safer cities, it is important to develop the built environment in such a way that it can adapt to threats posed by natural disasters.

Graph 6.1: Seismic zonation and intensity map of India



Zone	Intensity
Zone V	Very High Risk Zone Area liable to shaking Intensity IX (and above)
Zone IV	High Risk Zone Intensity VIII
Zone III	Moderate Risk Zone Intensity VII
Zone II	Low Risk Zone VI (and lower)

Source: National Institute of Disaster Management

6.6 Conventional Disaster Resilient Designs

As a conventional design for earthquake resistant construction, it is better to avoid hillside slopes and areas having sensitive and clayey soil. It is preferable to have several blocks on terraces rather than one large block with footings at different clusters. The building as a whole should be kept almost symmetrical. Simple rectangular shapes behave better in an earthquake than shapes with multiple projections. Separation of a large building into several blocks is required for symmetry and rectangularity of each block.

In case of cyclones, structures should be erected in areas, which provide a protective shield from high winds with natural firm level foundation. Flat roof arrangement should be avoided and so should be the projecting elements like antennas and chimneys, sunshades etc. The construction should have adequate diagonal bracing, reinforced machinery, thicker plate glass, and anchoring of purlins to gable ends.

As far as flood resistant housing is concerned, prohibited zones should be totally avoided. Layout of the buildings/ houses should be such that they do not block free flow of water. Waterproofing treatment, adequate bracing, afforestation in catchment areas are required for flood- prone areas.

6.7 Recent Advancements and Developments in Disaster Resilient Building Technologies

Some of the emerging disaster resilient technologies are as below:

Base Isolation Technology: Reducing the forces transmitted to the building from the ground by placing the building atop a mechanical system of isolators, sliders and dampers is called base isolation technology. By using isolators and dampers, the building is 'decoupled' from the ground motion of any earthquake and the transmission of seismic energy to the building is dampened.

Reinforcing Concrete: Reinforcing concrete to keep it from cracking is nothing new. There are records to show that ancient civilizations used to make use of natural fibres to inhibit cracking in structures. Currently, the most widely accepted form of reinforcement is Welded Wire Fabric (WWF), it is a mesh of thick steel wires that is placed in concrete. However, synthetic fibre reinforcement avoids the increased labour costs and difficulty in placement that are associated with WWF. Small diameter synthetic fibres (nylon and polypropylene) are now being added to concrete in order reduce shrinkage and cracking by more than 80%. Reducing the cracks lowers concrete permeability, increases its toughness and long-term exposure to weather.

Cyclone Resistant Dwelling Construction: The new technology has been developed by the National Building Construction Corporation (NBCC). It involves the use of pyramidal roofs so that the thrust area is reduced and tiles are used to give roof the required shape. The walls and foundation have been well-spaced to allow for flexibility when a building is buffeted by strong winds.

Disaster Resistant Pier Systems: A good foundation of the house is of immense help in making it disaster resistant. For manufactured houses, one option is a disaster resistant pier system, with stout members rigidly connecting the house's chassis to a slab, grade beam, or array of pads. Though often referred to as Earthquake Resistant Bracing (ERB) systems, these also resist high winds, frost heaves and floods. Not only are these systems cost-effective in reducing structural movement (compared to conventionally manufactured housing foundations); they can even save lives and property. The anchors are usually located on the longer sides of the house, which bear the greatest wind loads. However, earthquake loads can occur in any direction and additional anchors on the short sides can be used to mitigate the same.

6.8 Green Building Technologies

In addition to energy efficiency and better conservation of resources new trends and innovative materials will be an important factor in the development of sustainable construction. New materials and methods are developed as smart, sustainable upgrades of traditional materials, as they effectively deal with the natural elements. Today, technology and practices used to construct green buildings have evolved multifold.

Though the concept of 'green buildings' has been around for some years, most constructions in the city are conventional. Sustainable building practices are becoming more mainstream, but there is still the assumption that using green methods costs more than traditional methods. But this is not the case if green methods are incorporated from the start. It really does not cost extra to develop a green building. It is simple application of conventional wisdom, orientation of the building, concern for our neighbourhood and application of mind to minimize use of materials, best described by reduce, reuse and recycle.

At times, simple and cost effective interventions are the best practices viz:

- Proper orientation of a building so as to make the best use of nature. Using sun

path diagrams for natural lighting and utilizing the wind direction and speed for proper ventilation in order to reduce energy consumption;

- Having appropriate fenestration, roofing and wall systems for insulation and ventilation as per the demand of the climatic zone;
- Incorporating passive cooling and heating design strategies, rather than depending on active systems.

Some of the emerging trends and technologies in green buildings are as below:

Green or living roofs: A green roof is a roof of a building that is partially or completely covered with vegetation and soil, or a growing medium, planted over a waterproofing membrane. Covering roofs with vegetation moderates heat and keep the building cool. Plants do not allow direct sunlight to hit the building's roof, hence temperature in the building is maintained.

Living walls or Vertical garden Living walls: Growing plants in a vertical manner is a practice that is gaining momentum today. These walls attempt to make use of bio-filtration and phytoremediation to draw air through the root system of the wall. Beneficial microbes actively degrade the pollutants in the air before returning the new, fresh air back to the building's interior.

Cradle-to-cradle design: Cradle-to-cradle design is based on the closed-loop nutrient cycles found in nature, in which there is no waste, as opposed to cradle to-grave design which sees materials as a waste management problem. For example, these buildings would use materials designed as biological nutrients that could biodegrade safely and restore soil after use.

Low-emittance windows and smart glass: A green version of windows is low-emittance windows, which are coated with metallic oxide to block the sun's harsh rays during summer and keep the heat inside in the winter. A more advanced version of this, which has yet to be widely and commercially available, is smart glass, also known as electro chromic glass. Using a small amount of electricity, the smart glass charges ions to control the amount of light it reflects. In effect, this glass tints during the sun's peak hours and returns to transparent at night.

Passive building: The expression passive building refers to a construction standard that guarantees an interior climate as comfortable in summer as it is in winter without a conventional heating system. The purpose is to reduce energy consumption in residential buildings by capturing a passive solar energy contribution, reinforcing building insulation, using renewable energies and recuperating heat. The passive building mark includes many specific and technical elements concerning windows, insulation and facade seals, air renewal, etc.

Building Management System (BMS): BMS is a computer-based control system installed in buildings that controls and monitor building's mechanical and electrical equipment such as Illumination control, Electric power control, Heating, ventilation and air-conditioning (HVAC), Security and observation, Access control, Fire alarm system, lifts, elevators , etc. A fully optimized BMS can save energy to the cost extent of 15% to 20% as compared to a building without BMS.

Rain Gardens: Rain gardens are a technique to reduce the amount of rainwater runoff. Permeable membranes are installed along driveways, pathways, and lawns to allow maximum water to seep through. This way the rain water gets collected and can be recycled.

Box 6.2: NHB & DFID's Pilot Project on "Demonstration Housing Project with Emerging & Green Technology at Bhubaneswar, Odisha"

To promote implementation of emerging & green technologies NHB has entered into a collaboration with DFID (Department for International Development , UK) for a project namely "Making affordable housing market work for faster and sustained economic growth" in eight low income states in the country viz., West Bengal, Odisha, Bihar, Jharkhand, Uttar Pradesh, Madhya Pradesh, Chhattisgarh and Rajasthan. Under this project, DFID has sanctioned a financial assistance of £50 million comprising of two component namely, £40 million as loan and £10 million as grant which further comprises of £5 million as Technical Assistance (TA) and £5 million for piloting innovative approaches to support State Governments.

NHB is a partner in the demonstration housing project initiated by BMTPC in Bhubaneswar, to promote implementation of emerging & green technologies, under NHB-DFID partnership programme, through sharing in project cost. DFID's contribution through NHB shall be 80% of the project cost and the total shall not exceed ₹2.5 crore.

The housing project comprises of 32 dwelling units. The total number of floors are 4 and each floor has 8 dwelling units. Apart from the cost effectiveness the other objective of the project is to complete it in minimum time duration. Thus, the EPS core panel system is selected as a technology for this project. R.C.C framed structure is used as a structural system whereas EPS panels are used as an infill material for walls (both external and internal) and for floor slabs.

EPS panels are factory made panels, consisting of self-extinguishing expanded polystyrene sheet with minimum density of 15 Kg/m^3, thickness not less than 60 mm, sandwiched between two engineered sheet of welded wire fabric mesh, made of high strength galvanized wire of 2.5 mm to 3 mm diameter. A 3 mm to 4 mm diameter galvanized steel truss wire is pierced completely through the polystyrene core, and welded to each of the outer layer sheet of steel welded wire fabric mesh. The panels are finished at the site using minimum 30 mm thick shotcrete of cement & coarse sand applied under pressure. The shotcrete coat encases the EPS Core with centrally placed steel welded wire fabric mesh.

As per an evaluation report submitted to BMTPC by School of Planning & Architecture, New Delhi the structural cost that includes substructure (foundation) and superstructure (Beams & Columns) is ₹14.5 Lacs for the building made with EPS panels and ₹23.85 Lacs for the building made using conventional methods. The approximate cost difference of 39.36% is found which is quite large. It also reduces the duration of construction drastically hence the labor cost is reduced consequently. It can also be assembled where the bearing capacity of soil is low as the dead weight of the superstructure is very less compared to that of conventional reinforced concrete structure hence it needs less strength for the foundation reducing the material cost. EPS core wall-roof section also helps in reducing indoor temperatures contributing to increased hours in thermal comfort range. As the EPS is impermeable, it requires minimal long-term maintenance, especially in areas prone to extreme weather and temperature conditions; summer heat, winter snow, heavy rains and high wind. Thus expanded Polystyrene sheet is an affordable and incredibly sustainable choice throughout the industry due to its versatility and performance.

Reference: Demonstration Housing Project initiated by BMTPC at Bhubaneshwar using Housing Technology namely 'EPS Core Panel System with Wire Mesh & Chipping Concrete' w.r.t. Green & Sustainability Parameters"- Evaluation Report submitted by School of Planning and Architecture

6.9 Overall Assessment

Whereas the concept of alternative building materials and their attendant technologies have come of age, the national and international action required for their implementation is not yet common practice, especially with the magnitude of the tasks and challenges posed. Low cost building materials for housing have not been sufficiently institutionalized, unlike conventional technology whose dissemination has largely been effected through commercial organizations.

Similar is the case with Green Building Technologies where various promotion strategies and practices need to be developed so as to result in their faster adoption. Government's co-funding and incentives, policies and regulations for green development, collaboration with research institutes and firms to study the benefits of green are some of the feasible solutions. In addition, widening the coverage of incentives to include the usage of green products and technologies, developing a project management framework for green construction, educating owners on the future benefits of green buildings, organizing construction tours to educate the public about the benefits of green building, and subsidy from government for research and development (R&D) in green building systems and management have been identified strategies to promote the adoption of green building throughout the world.

Promoting a disaster resilience built environment invariably require ensuring all developments within the city are resilient to disasters. These include, resilient building codes, disaster resilient planning, construction and maintenance guidelines, hazard and risk maps, set back zones, and city development plans. It is equally essential to evolve an inspection mechanism that ensures adherence to the code and plans. Enforcement is generally the weakest part of the system, often due to lack of human and financial resources allocated to this function. Last but not the least, community support is also essential to make a resilient built environment within the local area. Therefore, it is important to interact more with the local community and raise their awareness on the need for resilient built environment.

Box 6.3: How Singapore overcame the Green Building Challenge

As is the case with Government agencies in other countries that seek to green their building sectors, the country's Building Construction Authority (BCA) deploys incentive schemes and initiatives in place. Examples include the "Green Mark Incentive Scheme for Existing Building and Premises" (GMIS-EBP), which co-funds up to 50% of the retrofitting cost of energy improvements; the "Building Retrofit Energy Efficiency Financing" scheme (BREEF), which helps to underwrite the risk of default on loans from participating financial institutions for implementing new technology; and the Green Mark Gross Floor Area scheme (GM GFA), which grants additional floor area to developers who seek to achieve at least the Green Mark Gold Plus certification. Aside from financial incentives, the BCA also promotes education through media and schools, and coordinates conferences and exhibitions.

In line with the Green Mark scheme, three strategic "Masterplans" have also been rolled out by the BCA since 2005. In 2012, the Building Control Act was updated to include legislation on the certification of buildings. It stated that newly constructed buildings must at least achieve the minimum certification qualification. In 2013, it became mandatory on building owners to submit energy consumption data to the BCA. In 2014, it became mandatory for building owners to conduct periodic energy audits, and

achieve the minimum Green Mark certification when updating or retrofitting their cooling system.

The benefits of Singapore's sectoral innovation system identified concern aspects of the four key elements: the technological regime, market demand creation, agency, and the institutional framework.

First, it was commitment by National Government that set things in motion. BCA launched the Green Mark policy scheme as an integrated strategy to spur green building innovation. In addition, many support policies were implemented and test beds were set up. A masterplan was developed to engage and educate building users, in particular tenants. Platforms were established to stimulate the exchange of best practices, expertise, and state-of-the-art knowledge. Strict regulations were issued to mandate the use of efficient equipment in new offices.

In addition, Green Mark standards were developed. To attract investors, a scheme was implemented to cope with investment risks; incentive schemes and toolkits were made available, next to the Government and the private sector running relevant renewable energy technology support programs of their own (e.g. solar panels). In addition, a certification scheme was developed. Finally, the schemes that were implemented were monitored, and evaluated regularly. In response, the Government made sure policies remained flexible and could be adjusted in time.

As a result of this integrated approach, technical and techno-economic expertise of green buildings developed rapidly. The set of (both primary and secondary) actors involved in the green building niche increased, and so did interactions between them (e.g., facilitated by knowledge platforms), also stimulating internal and external learning processes. Furthermore, economic feasibility of green building technology improved as payback periods decreased and potential investors started to take more interest in looking for equipment with long term value. As a result, the Green Buildings niche matured, and green building technology started to gain a serious foothold in the conventional domestic building market.

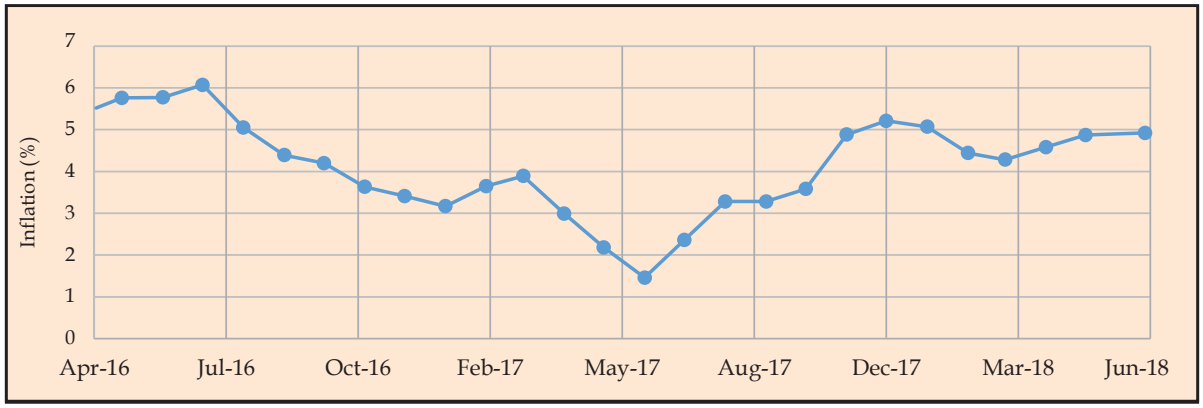
Reference: Green Buildings in Singapore; Analyzing a Frontrunner's Sectoral Innovation System by Vidushini Siva, Thomas Hoppe and Mansi Jain, May 2017

7.1 Key Trends

The Indian Economy slowed down to 6.7% during the FY 2017-18 as compared to 7.1% during FY 2016-17 and 8% in FY 2015-16. However, it remained one of the best performing nations in the World in recent period.

The average CPI-combined (CPI-C) inflation declined to 4.5% in 2016-17 from 4.9% in 2015-16. The average inflation for FY 2017-18 stood at 3.6%. The movement of inflation during the past 2 years shown in Graph 7.1.

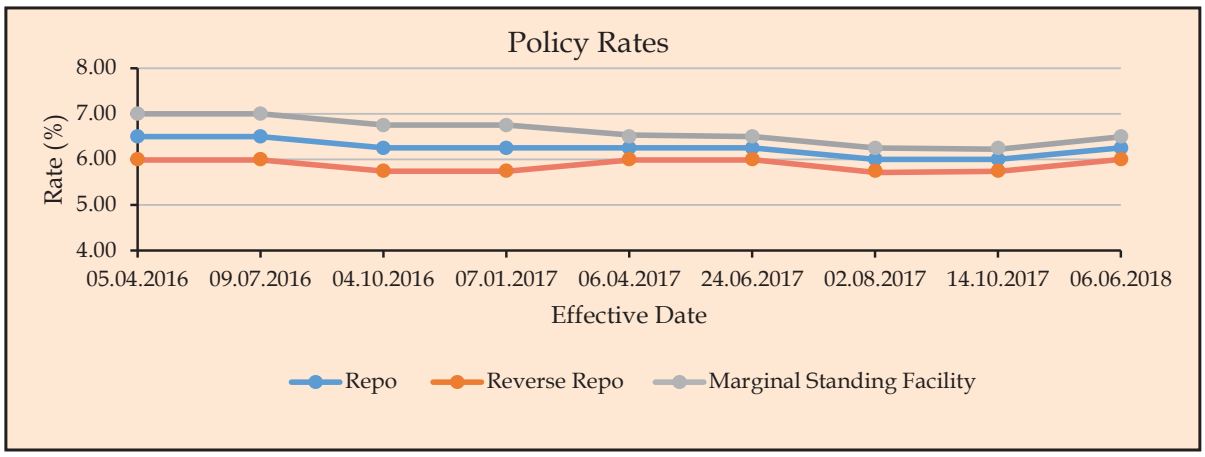
Graph 7.1 Movement of inflation during the past 2 years



Source: Database on Indian Economy (DBIE), RBI

During 2017-18, monetary policy remained steady with only one policy rate cut in August, 2017. Subsequently, during the month of June, 2018, Reserve Bank of India raised the policy rates by 25 bps in view of rise in inflation measured by the year-on-year change in the CPI which rose sharply to 4.6% in April, 2018. The tightening was necessitated to maintain the neutral stance of monetary policy in consonance with the objective of achieving the medium-term target for consumer price index (CPI) inflation of 4%.

Graph 7.2 Movement in Policy Rates during past 2 years

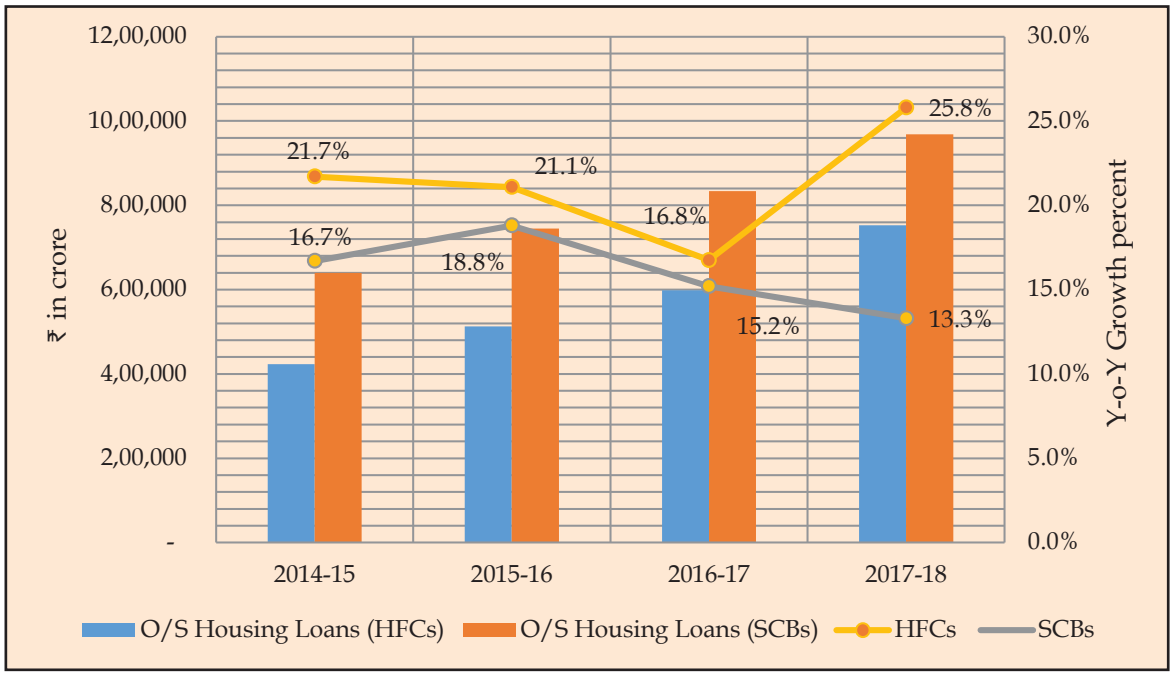


Source: Database on Indian Economy (DBIE),RBI

The real estate sector is showing signs of recovery, after the initial teething issues due to policy measures like implementation of RERA and GST, with sales of residential properties and corporate leasing picking up. The year 2018 showed a recovery for the residential sector, with both sales and new supply gradually reviving across the top 7 Indian cities - Bengaluru, National Capital Region (NCR), Mumbai Metropolitan Region (MMR), Chennai, Kolkata, Pune and Hyderabad.

The housing finance sector continued its growth during FY 2017-18 with the Housing Finance Companies continuing to play a critical role in lending to the housing sector vis-à-vis the scheduled commercial banks. The Y-o-Y credit growth of HFCs stood at 25.8% during 2017-18 as against 13.3% of the SCBs. The HFCs share in lending to housing sector increased from 41% in FY 2016-17 to 43.6% in FY 2017-18. The same can be attributed to the recent initiatives of the Government of India to boost affordable housing.

Graph 7.3 Credit to Housing Sector by HFCs and SCBs as on 31st March, 2018



Source: RBI's Report on Trend and Progress of Banking in India 2017-18.

7.2 Outlook

The Indian Economy is expected to grow in the range of 7.0% to 7.5% during 2018-19. The policy rates can be expected to remain fairly stable if the inflation rate does not deviate much from its current levels. The reform measures undertaken in 2017-18 can be expected to strengthen further in 2018-19 and reinforce growth momentum. On the other hand, downside risk to higher growth emanate from rising crude oil prices, protectionist tendencies in some of the countries and possibility of tightening of monetary conditions in the developed countries.[9]

The demand for affordable housing will remain strong on account of rapid urbanization and increasing income levels. The robust demand for affordable housing together with the fillip provided by the Government of India under PMAY

[9]*Economic Survey 2017-18*

to the sector offers good opportunity for growth to the developers as well as the financial institutions. On the demand side, the inclusion of two new middle-income categories under CLSS is likely to improve affordability for a wider set of borrowers leading to increased growth potential in the affordable housing segment. The various initiatives of Government viz. granting infrastructure status to affordable housing, establishment of a dedicated Affordable Housing Fund and National Urban Housing Fund (NUHF), incentives offered to private sector under various PPP models announced for affordable housing etc. will facilitate in creation of a sustainable market for affordable housing.

The challenges in meeting demand for affordable housing include high cost of land, absence of clear title, delay in project approval which acts as deterrent for participation by financial institutions and real estate developers. The role of State Government in facilitating the availability of land and ensuring adequate returns to the developers would remain crucial for enabling developers to provide the supply of affordable housing stock.

Another segment which offers growth potential in residential housing is Rental Housing. Rental Housing despite being the object of considerable attention and support in developed economies, has largely remained on paper/untouched as a critical component of any housing policy in India. It can act as an alternative solution to ownership housing in India where there is a large population that cannot afford to buy a home, may not qualify for a mortgage or may not want to own a home. Also there are more and more people that are living in poor, informal housing conditions. The success of rental housing would depend on the enabling environment viz. laws and regulations and the capacity to raise significant financial resources from investors and financiers. The fiscal treatment of the sector by the public authorities can also play a decisive role in expanding an affordable rental sector.

The Ministry of Housing and Urban Affairs (MoHUA) is working on a National Urban Rental Housing Policy (NURHP) in urban areas in order to create a vibrant, sustainable and inclusive rental housing market in the country to alleviate housing shortage.

The Draft Rental Policy has two components: market driven rental housing and social rental housing for urban poor. While the market-driven rental housing will maintain the demand-supply equilibrium, the social rental housing will be targeted at the economically weaker sections, low-income groups as well as the section defined as 'tenants by constraint'. This includes the urban poor belonging to scheduled castes, scheduled tribes and other backward classes, migrants, transgenders and senior citizens.

The recently announced PPP Models for Affordable Housing provides a separate model for rental housing viz. Direct Relationship Rental Housing (DRRH). In this model, the allottees would be required to make rental payments towards the usage of the housing unit directly to the developer, whereas these units continue to be owned by the developers.

It is anticipated that the new policy measures of the Government like roll out of RERA, REITS, and GST will help the industry become more organized, transparent,

and accountable, which will boost buyer sentiment in both residential and commercial segments. Thus, the real estate sector in India is expected to remain resilient in the coming years in the backdrop of continuously rising population, increasing nuclear families, rapid urbanization and government's support for the sector.

Box 7.1: Finland's approach to the problem of homelessness

Across Europe, the number of homeless people has been on the rise. In Germany, the last two years has seen an increase of 35% in the number of homeless while in France there has been an increase of 50% in the last 11 years. In the UK, the number of people sleeping rough, rose by 7% during the last year. Finland has been the only country in Europe where homelessness has decreased during recent years, despite the economic recession and social pressures. This is because Finland does not follow the traditional approach to homelessness. There are various reasons why someone ends up being homeless viz. job loss, health issues, low income etc. But most homelessness policies work on the premise that the homeless person has to sort those problems out first before they can get permanent accommodation. However, Finland does the opposite - it gives them a home first. It introduced a scheme called "Housing First" in 2007 as a solution for the most vulnerable homeless people. It is built on the principle that having a permanent home can solve health and other social problems. Increasing the supply of affordable rental housing was a critical part of the approach. Finland used its existing social housing, but also bought flats from the private market and built new housing blocks in order to provide homes. The homeless are given permanent housing on a normal lease. That can range from a self-contained apartment to a housing block with round-the-clock support. Tenants pay rent and are entitled to receive housing benefits. Depending on their income, they may contribute to the cost of the support services they receive. The rest is covered by local government. There is sufficient evidence from many countries that shows it is always more cost-effective to aim to end homelessness instead of simply trying to manage it.

Reference: Here's how Finland solved its homelessness problem, Feb'2018 World Economic Forum

APPENDIX

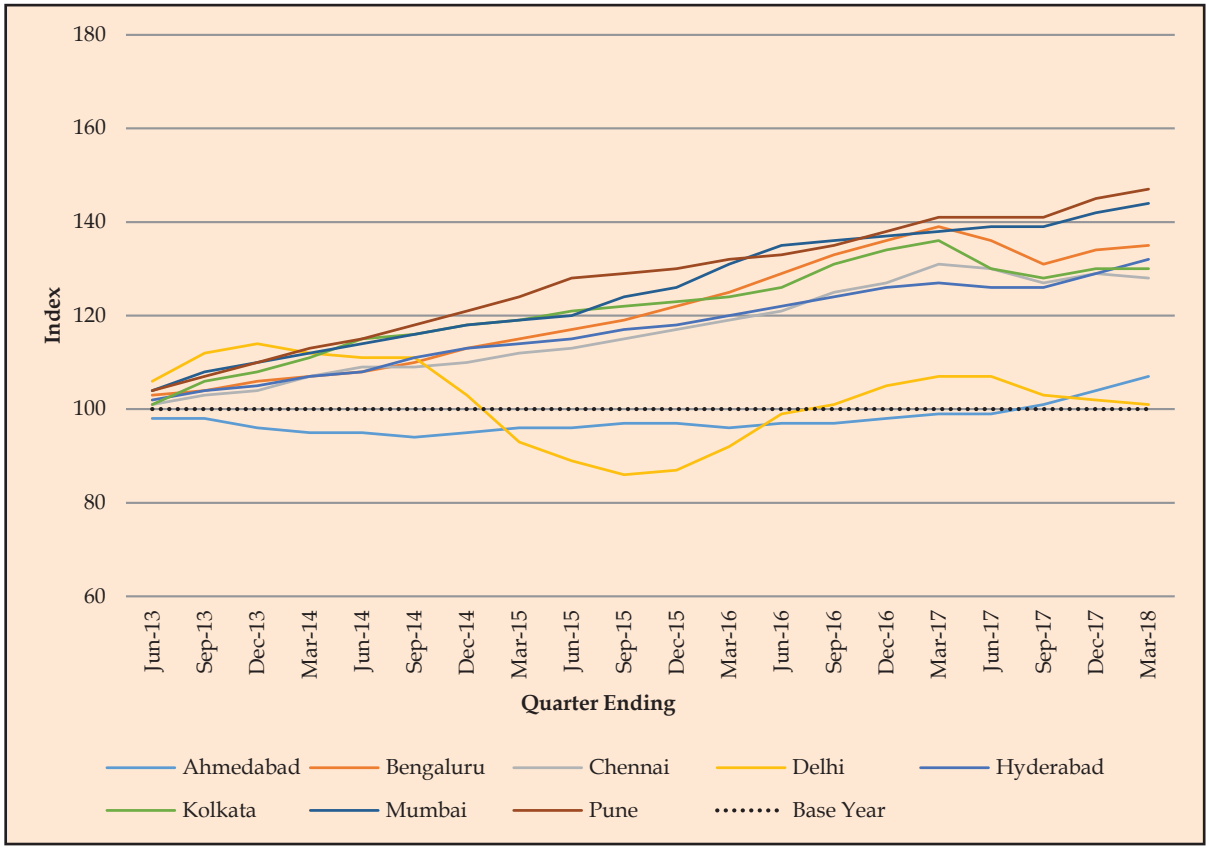
A 1: NHB RESIDEX

1.1 Tier-wise movement of Index (HPI@Assessment Prices) in Cities

Tier-1 Cities: Among the 8 Tier-1 cities, Ahmedabad witnessed maximum increase at 8.1% on Y-o-Y basis as at the end of March, 2018 followed by Mumbai and Pune at 4.3% and Hyderabad at 3.9%. Chennai, Bengaluru, Kolkata and Delhi witnessed a fall in index by (-) 2.3%, (-) 2.9%, (-) 4.4% and (-) 5.6% respectively.

Graph: HPI@Assessment Prices for Tier 1 cities

(Base Year FY 2012-13 = 100)

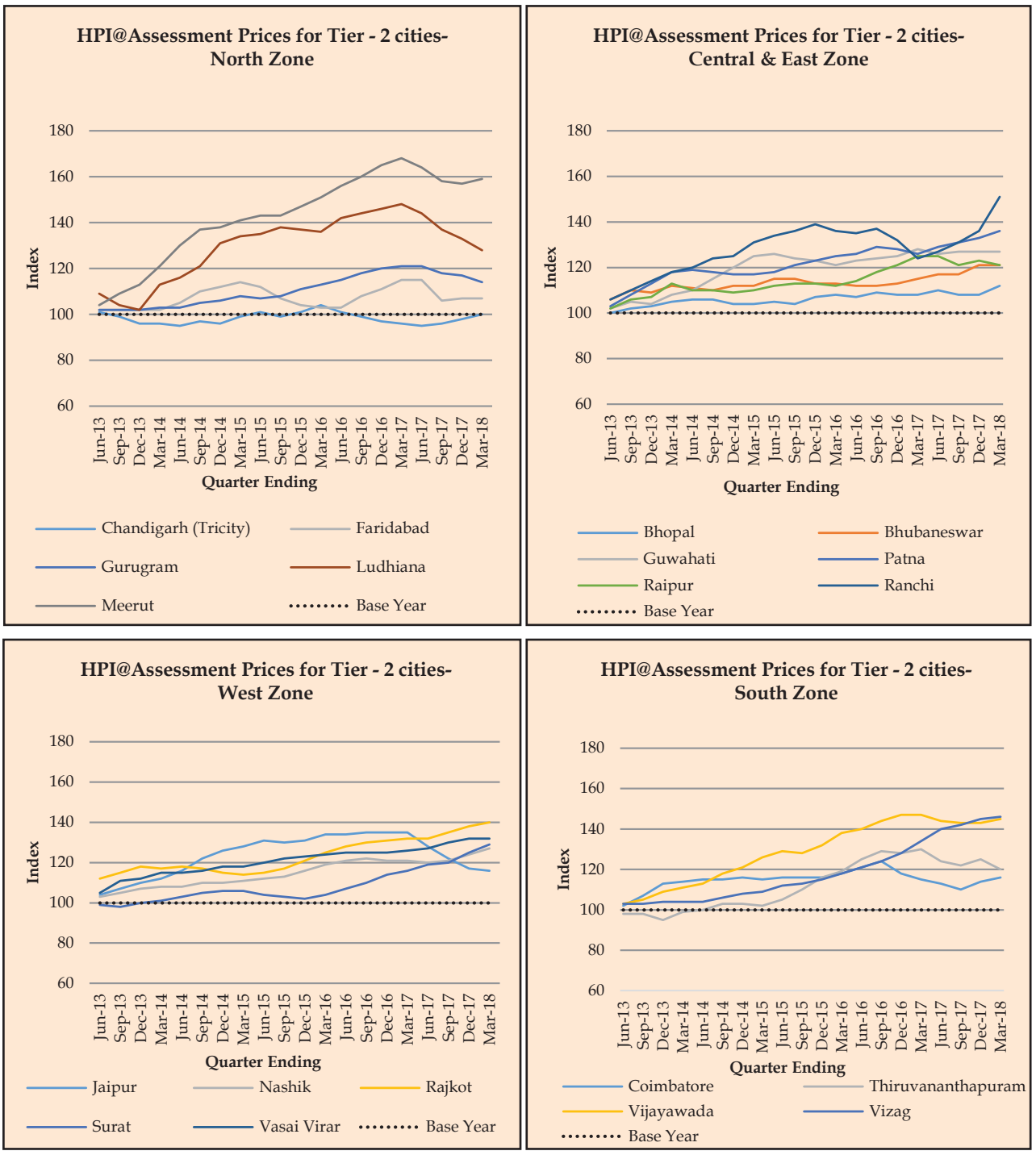


Source: NHB

Tier-2 Cities: Of the 29 Tier-2 cities being covered, significant rise in indices was seen in Ranchi (21.8%) followed by Surat (11.2%), while significant fall in indices was seen in Jaipur (-14.1%) and Ludhiana (-13.5%) as at the end of March, 2018 on Y-o-Y basis.

Graph: HPI@ Assessment Prices for Tier 2 cities classified as per geographic location

(Base Year FY 2012-13 = 100)

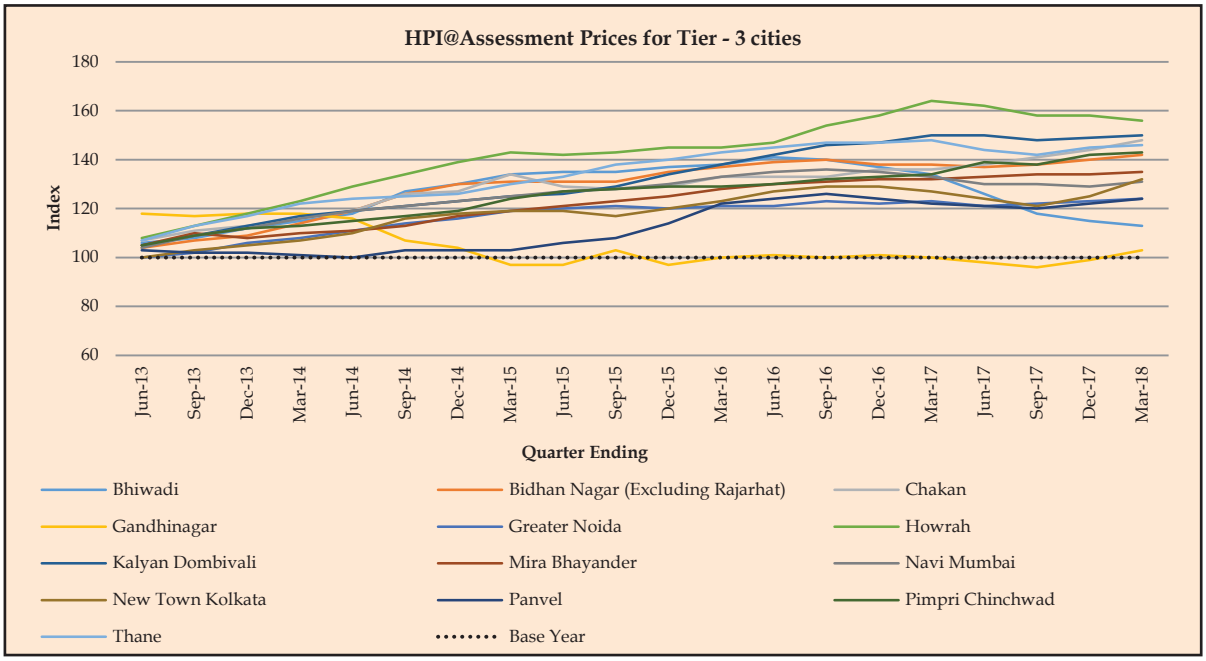


Source: NHB

Tier-3 Cities: Among the 13 Tier-3 cities, Chakan (8.8%) and Pimpri Chinchwad (6.7%) showed maximum increase in indices while Bhiwadi (-15.7%) showed maximum decrease on Y-o-Y basis as at the end of March, 2018.

Graph: HPI@ Assessment Prices for Tier 3 cities classified as per geographic location

(Base Year FY 2012-13 = 100)



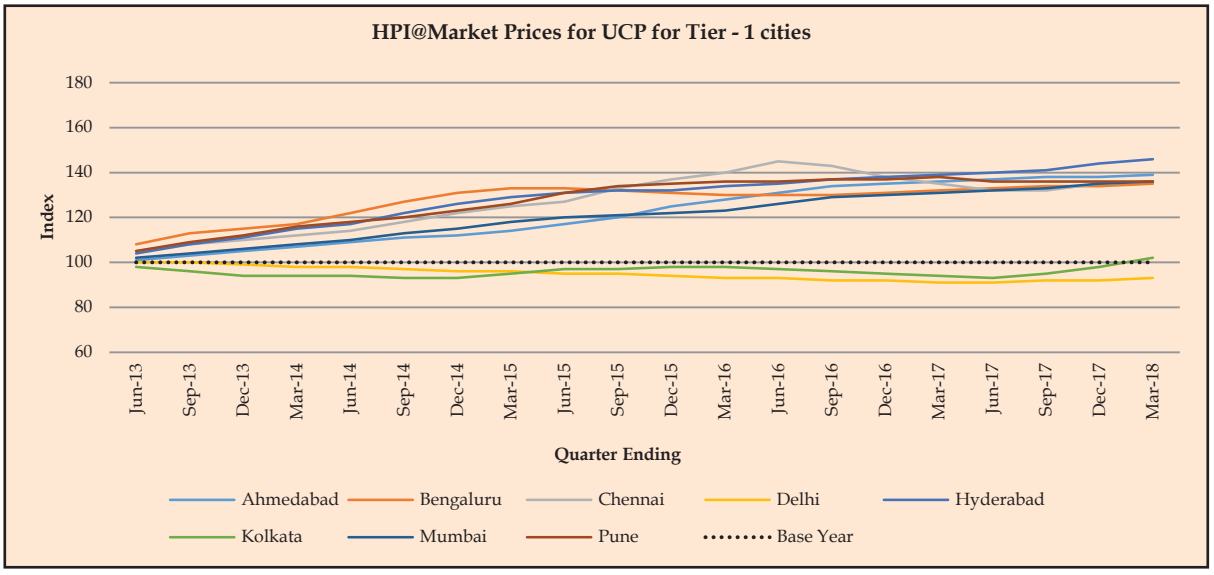
Source: NHB

1.2 Tier-wise movement of Index (HPI@Market Prices for Under Construction Properties) in Cities

Tier-1 Cities: Among Tier-1 Cities, Kolkata (8.5%) witnessed maximum growth on Y-o-Y basis as at the end of March, 2018 followed by Hyderabad (5.0%), Mumbai (3.8%) while Pune registered a fall of 1.4%.

Graph: HPI@Market Prices for Under Construction Properties for Tier-1 cities

(Base Year FY 2012-13 = 100)

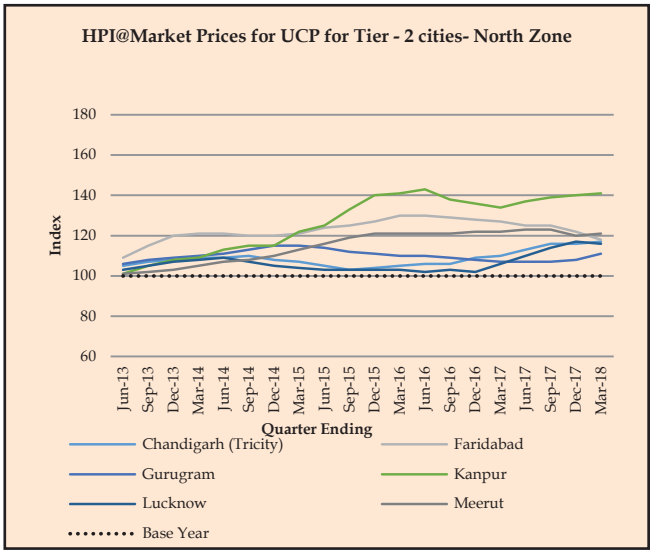


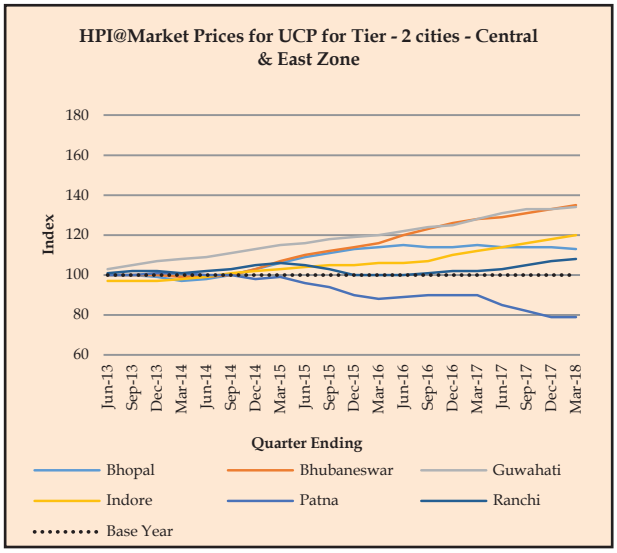
Source: NHB

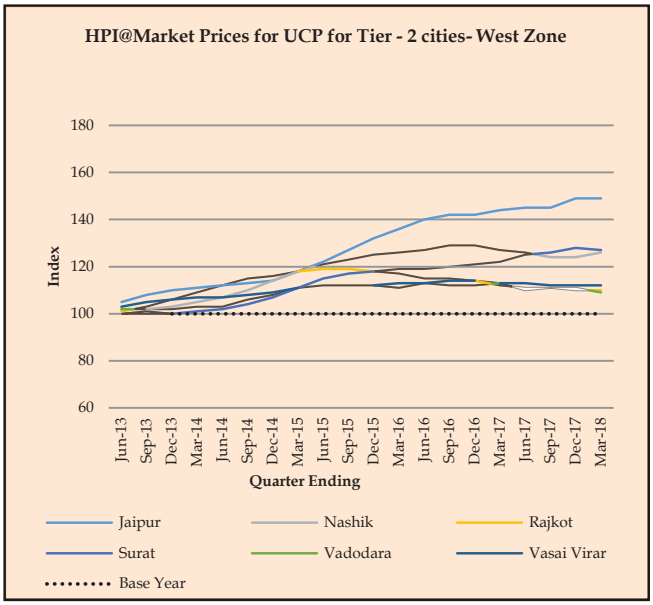
Tier-2 Cities: Of the 29 Tier-2 cities being covered, maximum increase in indices was seen in Lucknow (9.4%) followed by Indore (7.1%) and Chandigarh (6.4%), while maximum decrease in indices was seen in Patna (-12.2%), Faridabad (-7.1%) and Vadodara (-3.5%), as at the end of March, 2018 on Y-o-Y basis.

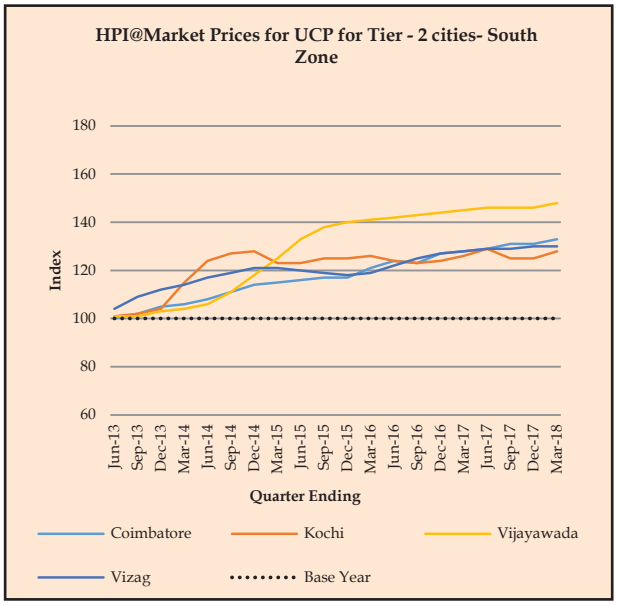
Graph: HPI@ Market Prices for Under Construction Properties for Tier-2 cities

(Base Year FY 2012-13 = 100)







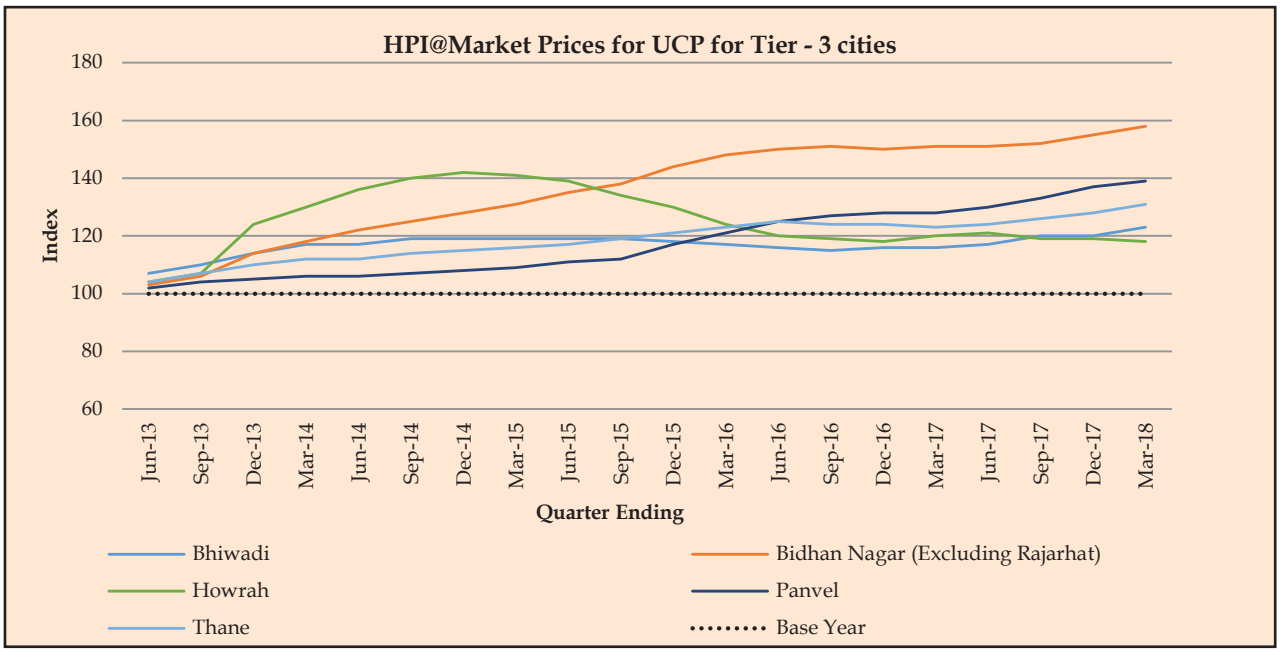


Source: NHB

Tier-3 Cities: Among the 13 Tier-3 cities, Panvel witnessed maximum growth at 8.6% while Howrah showed maximum decrease of 1.7% as at the end of March, 2018 on Y-o-Y basis.

Graph: HPI@Market Prices for Under Construction Properties for Tier-3 cities

(Base Year FY2012-13 = 100)



Source: NHB

CITY-WISE GROWTH OF HPI@ASSESSMENT PRICES

(Base Year FY2012-13 = 100)

Cities	Jun-17 vs Mar-17 (Q-o-Q)	Sep-17 vs Jun-17 (Q-o-Q)	Dec-17 vs Sep -17 (Q-o-Q)	Mar-18 vs Dec - 17 (Q-o-Q)	Mar-18 vs Mar-17 (Y-o-Y)
	% Change in Index				
Ahmedabad	0.0	2.0	3.0	2.9	8.1
Bengaluru	-2.2	-3.7	2.3	0.7	-2.9
Bhiwadi	-6.0	-6.3	-2.5	-1.7	-15.7
Bhopal	1.9	-1.8	0.0	3.7	3.7
Bhubaneswar	1.7	0.0	3.4	0.0	5.2
Bidhan Nagar (Excluding Rajarhat)	-0.7	0.7	1.4	1.4	2.9
Chakan	1.5	2.2	2.1	2.8	8.8
Chandigarh (Tricity)	-1.0	1.1	2.1	2.0	4.2
Chennai	-0.8	-2.3	1.6	-0.8	-2.3
Coimbatore	-1.7	-2.7	3.6	1.8	0.9
Dehradun	0.0	-0.9	-0.9	0.9	-0.9
Delhi	0.0	-3.7	-1.0	-1.0	-5.6
Faridabad	0.0	-7.8	0.9	0.0	-7.0
Gandhinagar	-2.0	-2.0	3.1	4.0	3.0
Ghaziabad	1.8	0.0	-2.6	-2.7	-3.5
Greater Noida	-1.6	0.8	0.8	0.8	0.8

Gurugram	0.0	-2.5	-0.8	-2.6	-5.8
Guwahati	-1.6	0.8	0.0	0.0	-0.8
Howrah	-1.2	-2.5	0.0	-1.3	-4.9
Hyderabad	-0.8	0.0	2.4	2.3	3.9
Indore	-1.6	-1.6	2.4	1.6	0.8
Jaipur	-5.2	-4.7	-4.1	-0.9	-14.1
Kalyan Dombivali	0.0	-1.3	0.7	0.7	0.0
Kanpur	-1.9	-1.3	3.3	-3.2	-3.2
Kochi	3.7	-2.8	1.5	-2.2	0.0
Kolkata	-4.4	-1.5	1.6	0.0	-4.4
Lucknow	0.7	-2.2	-1.5	2.3	-0.7
Ludhiana	-2.7	-4.9	-2.9	-3.8	-13.5
Meerut	-2.4	-3.7	-0.6	1.3	-5.4
Mira Bhayander	0.8	0.8	0.0	0.7	2.3
Mumbai	0.7	0.0	2.2	1.4	4.3
Nagpur	0.0	-2.3	2.4	0.8	0.8
Nashik	-0.8	0.8	2.5	2.4	5.0
Navi Mumbai	-2.3	0.0	-0.8	1.6	-1.5
New Town Kolkata	-2.4	-2.4	3.3	5.6	3.9
Noida	-0.9	-1.7	0.9	-1.8	-3.4
Panvel	-0.8	-0.8	1.7	1.6	1.6
Patna	2.4	1.6	1.5	2.3	7.9
Pimpri Chinchwad	3.7	-0.7	2.9	0.7	6.7
Pune	0.0	0.0	2.8	1.4	4.3
Raipur	0.0	-3.2	1.7	-1.6	-3.2
Rajkot	0.0	2.3	2.2	1.4	6.1
Ranchi	2.4	3.1	3.8	11.0	21.8
Surat	2.6	0.8	4.2	3.2	11.2
Thane	-2.7	-1.4	2.1	0.7	-1.4
Thiruvananthapuram	-4.6	-1.6	2.5	-4.0	-7.7
Vadodara	-0.9	0.0	2.7	0.9	2.7
Vasai Virar	0.8	2.4	1.5	0.0	4.8
Vijayawada	-2.0	-0.7	0.0	1.4	-1.4
Vizag	4.5	1.4	2.1	0.7	9.0

Source: NHB

CITY-WISE GROWTH OF HPI@ MARKET PRICES FOR UNDER CONSTRUCTION PROPERTIES

(Base Year FY2012-13 = 100)

Cities	Jun-17 vs Mar-17 (Q-o-Q)	Sep-17 vs Jun-17 (Q-o-Q)	Dec-17 vs Sep-17 (Q-o-Q)	Mar-18 vs Dec-17 (Q-o-Q)	Mar-18 vs Mar-17 (Y-o-Y)
	% Change in Index				
Ahmedabad	0.7	0.7	0.0	0.7	2.2
Bengaluru	0.8	0.8	0.0	0.7	2.3
Bhiwadi	0.9	2.6	0.0	2.5	6.0
Bhopal	-0.9	0.0	0.0	-0.9	-1.7
Bhubaneswar	0.8	1.6	1.5	1.5	5.5
Bidhan Nagar (Excluding Rajarhat)	0.0	0.7	2.0	1.9	4.6
Chakan	0.7	0.7	0.0	-0.7	0.7
Chandigarh (Tricity)	2.7	2.7	0.0	0.9	6.4
Chennai	-2.2	0.0	2.3	0.7	0.7
Coimbatore	0.8	1.6	0.0	1.5	3.9
Dehradun	0.7	0.0	0.0	2.6	3.3
Delhi	0.0	1.1	0.0	2.2	3.3
Faridabad	-1.6	0.0	-2.4	-3.3	-7.1
Gandhinagar	-0.9	0.0	0.0	0.9	0.0
Ghaziabad	0.0	0.0	0.8	0.8	1.7
Greater Noida	0.9	0.0	0.9	0.9	2.8
Gurugram	0.0	0.0	0.9	2.8	3.7
Guwahati	2.3	1.5	0.0	0.8	4.7
Howrah	0.8	-1.7	0.0	-0.8	-1.7
Hyderabad	0.7	0.7	2.1	1.4	5.0
Indore	1.8	1.8	1.7	1.7	7.1
Jaipur	0.7	0.0	2.8	0.0	3.5
Kalyan Dombivali	0.0	0.0	0.8	0.8	1.5
Kanpur	2.2	1.5	0.7	0.7	5.2
Kochi	2.4	-3.1	0.0	2.4	1.6
Kolkata	-1.1	2.2	3.2	4.1	8.5
Lucknow	3.8	3.6	2.6	-0.9	9.4
Ludhiana	0.6	0.6	1.1	1.1	3.4
Meerut	0.8	0.0	-2.4	0.8	-0.8
Mira Bhayander	0.0	0.0	1.6	0.0	1.6
Mumbai	0.8	0.8	1.5	0.7	3.8
Nagpur	-0.8	0.0	0.0	2.4	1.6
Nashik	-0.8	-1.6	0.0	1.6	-0.8
Navi Mumbai	0.0	0.0	0.0	1.7	1.7
New Town Kolkata	1.7	0.8	0.8	0.8	4.3
Noida	-0.9	0.9	0.0	1.8	1.8
Panvel	1.6	2.3	3.0	1.5	8.6

Patna	-5.6	-3.5	-3.7	0.0	-12.2
Pimpri Chinchwad	0.8	0.8	0.8	0.8	3.1
Pune	-1.4	0.0	0.0	0.0	-1.4
Raipur	1.6	0.0	0.0	0.0	1.6
Rajkot	-0.9	0.0	-0.9	0.0	-1.8
Ranchi	1.0	1.9	1.9	0.9	5.9
Surat	2.5	0.8	1.6	-0.8	4.1
Thane	0.8	1.6	1.6	2.3	6.5
Thiruvananthapuram	0.0	-1.5	5.2	-2.8	0.7
Vadodara	-2.7	0.9	0.0	-1.8	-3.5
Vasai Virar	0.0	-0.9	0.0	0.0	-0.9
Vijayawada	0.7	0.0	0.0	1.4	2.1
Vizag	0.8	0.0	0.8	0.0	1.6

Source: NHB

A 2: State Housing Initiatives and Schemes

I. Assam

Housing Schemes

Apun Ghar: Apun Ghar is a new home loan scheme for Assam Government employees under which home loans will be provided to the State Government employees at subsidized interest rates. The Scheme was announced at the Budget Speech in the FY 2016-17. The Assam Government has signed a MoU with the State Bank of India to provide home loans at subsidized interest rates to its employees. Under the Apun Ghar scheme, the State Government would provide housing loans at a subsidized rate of 5% for its women employees and 5.05% for men employees. The loan would be provided without collateral security and processing fee. The main objective of Apun Ghar housing loan scheme is to provide housing to all state residents. Under the Apun Ghar scheme, the State Government employees can avail a loan of up to ₹ 15 lakh with an interest subsidy of 3.5%. The subsidy on interest rates would benefit State Government employees in terms of lower interest rates and lower EMIs.

II. Bihar

State Housing Policies and Programmes[10]

Distribution of Homestead Land (Abhiyan Basera): The State Government has been distributing 5 decimals of residential land to landless households, belonging to Mahadalits, other Scheduled Castes, Scheduled Tribes, extremely backward castes and backward castes. There were three schemes for this purpose — Mahadalit Vikas Yojana, Grihsthal Yojana and Tribal Sub-Plan. The details of these three programmes relating to the year 2015-16 are presented in table below. From the table, it is observed that 47 thousand landless households have benefitted by the Scheme for homestead land. The financial achievement has been the highest for Grihsthal Yojana (85.7%), followed by Mahadalit Vikas Yojana (52.7%). From 2015-16, these three Schemes for providing homestead land have been merged into a single Scheme of 'Abhiyan Basera'.

Name of Scheme	Financial Achievement (%)	Physical Achievement (No. of Units)
Mahadalit Vikas Yojana	52.7	40,982
Grihsthal Yojana	85.7	4,735
Tribal Sub-Plan	5.5	1,637
Total	**59.3**	**47,354**

Affordable Housing and Slum Rehabilitation and Redevelopment Housing Policy – 2017 [11] **:** The Cabinet of Bihar approved the Affordable Housing and Slum Rehabilitation and Redevelopment Housing Policy – 2017 in May 2018.

[10] Economic Survey 2016 – 17, Govt. of Bihar
[11] Urban Development and Housing Department, Govt. of Bihar

III. Gujarat

Housing Schemes

Mukhyamantri Gruh Yojana: The State Government has launched the Mukhya Mantri Gruh Yojana from the year 2013-14, with the noble objective to make the cities slum free and to provide houses at an affordable price to economically weaker section, lower income group and medium income group people of urban as well as rural areas of Gujarat. In order to extend Mukhya Mantri Gruh Yojana, State Government has declared revised Mukhya Mantri Gruh Yojana integrated with Prime Minister Awas Yojana - Housing for All. Central Government releases assistance under various components as per the revised Housing Policy. In addition to Central assistance, State Government releases State assistance equal to or in excess of Central assistance for the Scheme.

Other Initiatives of the State Government

- A Residential Affordable Housing Zone has been created in Ahmedabad and planning norms specific to affordable housing have been laid down for inclusive planning. Building bye laws and Zoning Regulations include relaxation of height restriction are offered to boost this sector
- The land for affordable housing to be constructed by Gujarat Housing Board, ULBs and Urban authorities is provided at nominal / concessional rates. Land bank created from ULC surplus land, reserved land for EWS housing in Town Planning Schemes and Government lands are being utilized for this purpose.
- The scope of Affordable housing is increased by Central Government and it has been decided to include private developers who can build affordable housing (upto 40 sq m) on their land. Central Government assists them with ₹ 1.50 lakh per house and State Government assists them with FSI and exemption from the Municipal tax.
- So far 1.58 lakh houses are sanctioned under AHP component of Pradhan Mantri Awas Yojana (Urban). Cities covered under AHP are Corporation area as well as Municipalities area.
- According to Swaksh Swarvekshan 2017, an annual survey of Ministry of Housing & Urban Affairs, Gujarat is the cleanest state with 12 cleanest cities in India's top 50 clean cities.

Rural Housing Schemes

i. **Sardar Patel Awas Yojana:** The subsidy scheme for housing came in effect from 1976. Sardar Patel Awas Yojana was implemented since 1st April 1997, for BPL houseless families. In this scheme assistance of ₹45,000 against the unit cost of ₹ 54,500 (₹47,200 subsidy+₹7,300 share of beneficiary) is given to beneficiaries. During the year 2016-17, total 4,701 houses have been completed and during the year 2017-18 (upto November 2017) total 1,288 houses have been completed. Total 8,91,921 houses have been completed from April 1997 to November 2017.

ii. **Sardar Patel Awas Yojana II:** Most of the BPL families as well as the families with the Kutcha houses have been covered, so as to provide pucca house in place of Kutcha house to APL families Sardar Patel Awas Yojana II was

launched. In this Scheme subsidy of ₹40,000 is given against the unit cost of ₹1.00 lakhs per unit. During the year 2016-17 total 1,15,433 have been completed and during the year 2017-18 (upto November 2017) total 25,413 houses have been completed. Total 2,56,367 houses have been completed from the beginning of the Sardar Patel Awas Yojana II Scheme (April 1997 to November 2017).

iii. **Dr.Ambedkar Safai Kamadar Awas Yojana:** The State Government has implemented a scheme named Dr.Ambedkar Safai Kamadar Awas Yojana, for housing to Safai kamdars and their dependents. Under the Scheme, there is a provision of ₹70,000 subsidy and interest free loan of ₹60,000 in urban areas and ₹30,000 in rural areas for construction of house per beneficiary, who are employees of local bodies. Total cost of construction should not exceed ₹1.5 lakh in rural areas and ₹4 lakh in urban areas. During the year 2016-17, 1,917 beneficiaries have been provided ₹526.12 lakh as subsidy and loan and while during the year 2017-18 (upto November 2017), 342 beneficiaries have been provided 111.14 lakh as subsidy and loan for constructing the house.

iv. **Swarnajyanti Mukhyamantri Saheri Vikas Yojana:** The State Government has launched the Swarnajyanti Mukhyamantri Saheri Vikas Yojana (SJMMSSY) from the year 2009. Subsequently a total outlay of ₹7,000 crore was provided in the first phase from 2009-10 to 2012-13, an outlay of ₹15,000 crore has been provided for this Scheme under its second phase from the year 2012-13 to 2016-17 and budget provision of ₹4,026 crore was made in the year 2017-18. Under this Scheme, in the year 2017-18, total 45,912 houses were approved out of which 13,511 dwelling units have been completed by Gujarat Housing Board and work of 15,880 units have been completed by Urban Local Bodies. In addition, State Government has declared the interest subsidy scheme on home loan for middle income group with a view to help them acquire a house as per their choice with greater carpet area.

Source: Socio Economic Review 2011-12 Govt. of Gujarat

Source: Socio Economic Review 2017-18 Govt. of Gujarat

Source: Affordable Housing Mission - Govt. of Gujarat

IV. Haryana

The State endeavours to provide Housing for All by 2022 through efficient implementation of existing Schemes, such as PMAY, Priyadarshani Awas Yojana (PAY) and Ashiyana. The Housing Board Haryana (HBH), HUDA and the Town & Country Planning Department have devised various schemes/policies for the creation of housing stock for BPL households, economically weaker sections and lower income groups.

Housing Schemes

a) **Mahatma Gandhi Gramin Basti Yojana:** Free residential plots of 100 sq. yards each are being allotted to eligible SCs, BCs and BPL families.

b) **Priyadarshini Awaas Yojana:** Financial assistance of ₹81,000 is provided to each beneficiary household for the construction of a house and ₹9,100 for toilet construction.

c) **Deen Dayal Jan Awas Yojana 2016:** The State Government established the Affordable Plotted Housing Policy for Low and Medium Potential Towns, known as the Deen Dayal Jan Awas Yojana. Under the scheme, colonies are to be developed within area limits of 5 to 15 acres, where 65% of the licensed area is permissible for sale. To encourage the development of these colonies by private builders, license fees and external development charges have been reduced substantially, while conversion charges and infrastructural development charges have been waived entirely. This policy has contributed significantly to the Housing for All by 2022 campaign. Through this Scheme, the State Government shall be able to provide shelter to approximately 6 lakh people in low and medium potential towns, as per applicable density norms.

d) **The New Integrated Licensing Policy (NILP) 2015:** This Policy has been designed for the development of hyper and high-potential urban complexes such as Gurugram, Manesar, Faridabad, Ballabhgarh, Sohna, Sonipat Kundli, Panipat and Panchkula Kalka, Pinjore. The Policy enables small landowners to voluntarily monetize their land by participating in the process of licensing, real estate development, marketing and sale of their transferable development rights. Through this framework, real estate developers are now able to establish projects in areas of less than 100 acres.

e) **Haryana Affordable Housing Policy 2018:** The State Government has approved a comprehensive Affordable Housing Policy namely, Housing for All-2018 for core areas of municipalities. Accordingly, an affordable housing policy for core areas i.e. thickly built-up area of the old town, laldora or phirni of village are included in the municipalities or area shown as existing town in the Development Plan of the town, would be provided to the identified beneficiaries under Central Government's Pradhan Mantri Awas Yojana. According to features of this Housing for All – 2018 Policy for core areas, the project would be allowed in core areas of municipal towns with project area of minimum 1 acre and maximum 5 acres, the Floor Area Ratio (FAR) should be 250 for 1 to 2.5 acres and 275 for 2.5 to 5 acres. The carpet area of the apartment should be of 50 sq. m. Maximum 6% of the net planned area at 175 FAR has been provided under the policy for commercial use. The project would be completed in two years. The identified beneficiaries would be provided financial assistance of ₹ 2.5 lakh (₹ 1.5 lakh Centre share and ₹ 1 lakh State share). Keeping in account the fact that a limited number of projects shall be allowed under this Policy and the sale is to be affected at a predetermined rate, the license fees and Internal Development Charges (IDC) shall stand waived off. The Housing Policy also includes Slum-In-Situ Policy, Affordable Housing Policy under PMAY-2018 (1-5 acre) and Draft Land Pooling Policy – Haryana.

(Source: Department of Economic & Statistical Analysis, Govt. of Haryana)

(Source: Directorate of Information, Govt. of Haryana)

V. Jharkhand

Housing Schemes

a) **Bhimrao Ambedkar Awas Yojana:** Owing to the fact that the women headed families with a low level of income face increased vulnerabilities in finance, social life and residence, State Government launched Bhimrao Ambedkar Awas

Yojana for women in different circumstances, including widow, divorced or deserted women, female victims of atrocities and those whose husbands are missing for at least 3 years. The Scheme was launched on the occasion of the 125th anniversary of Dr. B. R. Ambedkar by the State Government. The Scheme aims at building 11,000 houses for widows in 2016-17 with the budgetary allocation of ₹ 80 crore. The beneficiaries of this Scheme are being selected on the basis of Socio-Economic Caste Census (SECC) 2011 data. It has 2 unit assistance, one for plain areas and another for hilly areas. The plain area will get an amount of ₹75,000 and the hilly areas will get ₹ 70,000 to build houses.

b) **Birsa Munda Awas Yojana:** This Scheme was started with 100% grant for providing using facilities to the primitive tribes. Under this Scheme a grant of ₹1 lakh is available for the construction of a single house. A budgetary allocation of ₹ 7 crore has been made for the same in the financial year 2016-17.

c) **Rajiv Awas Yojana (RAY):** Although RAY was discontinued by the Government of India in May, 2015, the programme is operational in 3 cities of Jharkhand. Under this programme, construction of 3931 dwelling units for the slum dwellers is under progress, out of which 1,565 dwelling units are to be constructed in Ranchi, 1,983 in Dhanbad and 383 in Chas.

d) **Jharkhand Affordable Housing Policy - 2016[12]:** The Jharkhand Cabinet in April 2016 approved the Jharkhand Affordable Housing Policy for urban poor. The State Government has taken up "Housing for All" as a priority mission at the State level. Major provisions in the policy indicated that 20% of the developed areas of any residential plan would be set aside for weaker section of the society and provided to local income group people on affordable rate. In order to meet the growing requirement for Affordable Housing (AH), Slum Rehabilitation and Re- development Housing (SRRH& RH), an initial target has been set for construction of 1,50,000 dwelling units for EWS and LIG households over the next 5 years.

VI. Madhya Pradesh

Housing Perspective

In order to harness the housing sector potential the State Government has taken following policy initiatives:

1. The Urban Land Ceiling Act has been repealed.
2. Building Bye laws have been rationalized and simplified; they have been made practical and builder-friendly.
3. Re-densification is being strongly supported by the State, wherein old dilapidated buildings of the Government are proposed to be demolished, and those areas to be re-developed. This again offers a big chance for private entrepreneurs who are willing to make attractive proposals to the Government;
4. In case these re-densified areas are used for residential purposes, an additional FAR of 0.25 is granted;
5. Emphasis on housing for weaker sections and some special concessions in Registration fee etc.

[12]Website of Govt. of Jharkhand

6. Rationalization of use of Govt. land and land declared areas under old Ceiling Act.

7. Special provisions for SC/ST/OBC class.

VII. Odisha

Housing Schemes

a) **Odisha Urban Housing Mission, AWAAS:** Recognizing the need for an effective and efficient institutional mechanism for achieving the objectives of Policy on Housing for All in Urban Areas, the State Government of Odisha launched the 'AWAAS mission 'or the 'Odisha Urban Housing Mission (OUHM)' in October 2015. It aims to create surplus housing stock through different strategic development models and ensure shelter for every identified homeless in the State including temporary migrants, through provisioning of permanent residential EWS & LIG units, as well as rental housing. Till March 31, 2017, under the Mission, 55,177 houses have been constructed/in-process.

b) **Atal Mission for Rejuvenation and Urban Transformation (AMRUT):** The AMRUT was launched in June 2015. Nine cities/ towns of Odisha with more than one lakh population i.e. Bhubaneswar, Cuttack, Berhampur, Rourkela, Sambalpur, Puri, Balasore, Baripada and Bhadrak are included under the Central Government initiative of AMRUT.

c) **Rental Housing for Migrant Labourers:** As part of the joint initiative between Government of Odisha (H&UD Department) and Construction Worker Welfare Board, a Rental Housing project have been conceived by the Department and 22 sites have been identified for the above project in 10 districts. The Construction work has been planned to be taken up by the Works Department.

d) **The Odisha Land Rights to Slum Dwellers Act, 2017[13]:** The Odisha Land Rights to Slum Dwellers Act was passed in September 2017. The Act has two interlinked objectives: one, to provide tenure security to slum dwellers against the constant threat of eviction or demolition, and two, to create a legal base for improving the liveability of slum dwellings. The Act provides for in-situ rehabilitation in general, and offsite rehabilitation in case of land important for the public interest, land unfit for human habitation, ecologically sensitive land, or heritage land. The Act creates a working title through the instrument of a Certificate of Land Right, which grants the right to occupy a particular piece of land. This right is heritable but not transferable - the right holder cannot sell, lease or gift it to someone else. It is, however, mortgageable for housing finance, and can be transferred to the relevant financial institution in case of default. The Act prevents transfer or ownership of more than one such certificate by one person. In the event of a transfer, it is declared null and void, no compensation is paid to the transferee, and the transferor can be fined up to ₹ 20,000 or subjected to one year imprisonment, or both.

VIII. Punjab

Punjab Shehri Awas Yojana – 2017

As per the Scheme, urban households with an annual income of less than ₹ 3 lakh in the first phase and ₹ 5 lakh in the second phase would be eligible to claim free housing facility. The Scheme also envisages subsidized housing through in-situ

[13]Odisha Government Press

Slum Re-development to eligible slum dwellers, besides affordable housing through concession. It also provides for elimination of stamp duty or registration charges or any other State Government cess for eligible beneficiaries or urban poor having annual income from all sources amounting to less than ₹ 3 lakh. The Scheme has provision to provide facility of cheap home loans to lower income group (LIG) families having annual income from all sources less than ₹ 6 lakh and middle income group (MIG) families having annual income from all sources less than ₹18 lakh.

Land from the departments of Rural Development, local Government or any other Department, suitable for construction of Economically Weaker Sections (EWS) houses, would be transferred free of cost to the Housing and Urban Development Department. In case the land identified for this purpose belongs to some other department of the Government, the State Level Sanctioning and Monitoring Committee (SLSMC) will be authorized to take decision to utilize this land through local Government Department (Urban Local Bodies) or Housing and Urban Development Department (Development Authorities) in their respective jurisdiction under the Scheme, with the consent of the concerned Department.

Part -1 Houseless SC/BC families with annual income less than ₹ 3 lakh shall be provided a free house subject to the fulfilment of the eligibility condition. The Scheme is applicable in all the urban areas of the State.

Part -2 Housing for Slum dwellers: Persons residing in slum which exist on land belonging to the State Government or the Central Government, Public Sector Undertakings or Urban Local Bodies or Special Development Authority shall be eligible for housing under In Situ Slum Redevelopment.

Affordable Colony Policy 2018: The Punjab Government has notified "Affordable Housing Policy 2018" in March 2018, with the objective of catering to the growing need of affordable dwelling units, especially for the lower and lower-middle strata of society, including the economically weaker sections. The policy is applicable in the entire state of Punjab outside the municipal limits. However, areas falling within the civic body limits that are served by Punjab Urban Planning and Development Authority or any development authority shall also be governed under the new policy. The salient features of the affordable housing policy include a minimum contiguous area of the colony to be five acres or as per zoning regulations of the respective master plan in the State of Punjab except in case of SAS Nagar and New Chandigarh. Further, it envisages plot size of maximum 125 sq. yard with average size not to exceed 100 sq. yard.

It is mandatory for the promoter to reserve 5% of the gross area of the colony for providing plots to economically weaker sections (EWS), which are to be sold by the developer. Further, the plot area for the EWS will not be more than 100 sq. yard and in this case clubbing of two or more plots will not be permissible.

IX. Rajasthan

Housing Schemes

Chief Minister Jan Awas Yojana: To achieve the goal of Housing for All in the State of Rajasthan Chief Minister Jan Awas Yojana was implemented in the month

of September 2015. The provisions of Jan Awas Yojana for Low Cost Affordable Housing have been framed, incorporating various incentives for developers and subsidies for beneficiaries by State Government and Central Government. The objective of the policy is to focus on creating housing stock in general and for EWS & LIG category in particular in the urban areas of Rajasthan.

X. Sikkim

State Housing Policies and Programmes[14]

Scheme of Shelter for Urban Homeless (SUH): The main objective of Scheme of SUH is to provide shelter and all other essential services to the poorest of the poor segment of urban societies. The shelters should be permanent all-weather 24x7 shelters for the urban homeless. For every one lakh urban population, provisions should be made for permanent community shelters for a minimum of one hundred persons. Depending upon local conditions each shelter could cater to between 50 and 100 persons. It will be the responsibility of the State Government to bring in land as their contribution.

XI. Tamil Nadu

Initiatives of State Government

Centre for Urbanization Buildings and Environment (CUBE): The Tamil Nadu Vision-2023 intends to make Tamil Nadu the innovation hub and knowledge capital of India, on the strength of the world class institutions in various fields and the human talent available in the state. The Tamil Nadu Vision-2023 has envisaged the establishment of Centre of Excellence in different areas including the area of construction.

Functions of CUBE:

- Capacity building in road transport sector and Public Works Department.
- Address water supply and Sewerage System related issues.
- Develop sustainable construction technologies
- Address urbanization and its problems.

The Government has accorded administrative sanction of ₹10 crore for the constitution of the CUBE at the Indian Institute of Technology – Madras. Accordingly, the CMDA and TNHB have released ₹3 crore and ₹1 crore respectively to CUBE.

XII. West Bengal

Housing Policies and Programs[15]

a) **'Geetanjali' - Housing Scheme for Economically Weaker Sections:** Housing Department is implementing a flagship programme 'Geetanjali' out of its State Plan to provide shelter to the people belonging to Economically Weaker Sections of the society (whose monthly income is ₹ 6,000 or below). Till 2016-17, Department has constructed 2,54,725 houses. In 2017-18, further 1,00,847

[14] Economic Survey 2016-17, GoI and Urban Development Department, GoI

[15] Economic Review 2017-18, Department of Planning, Statistics and Programme Monitoring, Government of West Bengal

houses will be constructed. In short term perspective action plan (from 2018-19 to 2019-20), the target is to construct 1,75,000 houses under this Scheme. For a long term perspective plan (2020-21 to 2024-25) target will be to construct 5,00,000 houses (1,00,000 in each year). For the period from 2025-26 to 2029-30 target will be to construct 6,00,000 houses (1,20,000 in each year) for this section of people. So the ultimate target is to construct more than 16 lakh dwelling units for economically weaker people at the end of 2030.

b) **'Akanksha' - Housing Scheme for Government Employees:** The Department has been entrusted with the project called 'Akanksha' for constructing ownership flats for Government employees. In this Project 50,000 ownership flats will be constructed throughout the State at 'no profit no loss' basis and without claiming the land cost. First project has been launched at Action Area - I D, New Town and Belgachia is the second one.

c) **Rental Housing Scheme (RHS) / Rental Housing Estate (RHE):** This Scheme has been adopted to provide staff quarters for State Government Employees.

Contribution of Private Sector: In order to mitigate the housing problems of the people, nine Joint Sector Companies have been formed with West Bengal Housing Board and Private Real Estate Companies as per order of Housing Department for the construction of dwelling units and to provide these units to the people at affordable price. These Joint Sector Companies have completed construction of 8,000 flats and construction of 1,000 flats are ongoing of different category (LlG, MIG & HIG) for the use of general people.

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A 3: State-wise disbursements trend of HFCs Housing Loans to Individuals

(Amount in ₹ crore)

Particulars	FY 2016-17			FY 2017-18			Y-o-Y Growth
State/UT	Urban	Rural	Total	Urban	Rural	Total	
Andaman and Nicobar	-	-	-	-	-	-	-
Andhra Pradesh	3,550	1,236	4,786	4,863	1,587	6,450	34.77%
Arunachal Pradesh	-	-	-	-	-	-	-
Assam	386	11	397	440	29	469	18.14%
Bihar	591	36	627	908	47	955	52.31%
Chandigarh	556	46	602	356	27	383	-36.38%
Chhattisgarh	1,251	196	1,447	1,738	244	1,982	36.97%
Dadra & Nagar Haveli	60	1	61	73	6	79	29.51%
Daman and Diu	14	-	14	27	3	30	114.29%
Delhi	6,886	389	7,275	9,397	1,285	10,682	46.83%
Goa	296	79	375	356	85	441	17.60%
Gujarat	10,187	3,407	13,594	16,404	4,303	20,707	52.32%
Haryana	6,452	671	7,123	8,027	1,098	9,125	28.11%
Himachal Pradesh	34	27	61	40	25	65	6.56%
Jammu and Kashmir	22	-	23	34	-	34	54.55%
Jharkhand	642	64	706	775	69	844	19.55%
Karnataka	11,996	5,390	17,386	15,885	6,520	22,405	28.87%
Kerala	2,160	2,108	4,269	2,834	2,513	5,347	25.28%
Lakshadweep	-	-	-	-	-	-	-
Madhya Pradesh	4,790	1,225	6,016	6,337	1,839	8,176	35.93%
Maharashtra	34,551	9,763	44,314	48,255	12,295	60,550	36.64%
Manipur	3	-	3	1	-	1	-66.67%
Meghalaya	-	-	-	-	-	-	-
Mizoram	1	-	1	-	-	-	-100.00%
Nagaland	-	-	-	-	-	-	-
Odisha	803	101	904	947	95	1,042	15.27%
Puducherry	282	30	312	274	40	314	0.64%
Punjab	1,791	785	2,576	2,996	1,342	4,338	68.40%

(Amount in ₹ crore)

Particulars	FY 2016-17			FY 2017-18			Y-o-Y Growth
State/UT	**Urban**	**Rural**	**Total**	**Urban**	**Rural**	**Total**	
Rajasthan	5,427	1,467	6,894	7,141	2,142	9,283	34.65%
Sikkim	204	-	204	263	1	264	29.41%
Tamil Nadu	13,657	3,434	17,092	14,715	5,676	20,391	19.31%
Telangana	8,097	1,493	9,590	12,069	2,541	14,610	52.35%
Tripura	19	25	45	9	-	9	-79.55%
Uttar Pradesh	11,476	1,037	12,513	15,814	2,219	18,033	44.11%
Uttarakhand	1,454	327	1,781	2,009	704	2,713	52.33%
West Bengal	3,255	267	3,522	4,252	318	4,570	29.76%
Total	**1,30,893**	**33,617**	**1,64,510**	**1,77,239**	**47,053**	**2,24,292**	**36.34%**

Source: Off-site Returns, NHB

A 4: Housing Loan disbursed and Units Constructed by ACHFs

(Amount in ₹ crore)

State	2015-16		2016-17		2017-18	
	Units constructed/ Financed	Amount	Units constructed/ Financed	Amount	Units constructed/ Financed	Amount
Andhra Pradesh	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Assam	-	-	-	-	n.a.	n.a.
Bihar	-	-	-	-	n.a.	n.a.
Chandigarh	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Chhattisgarh	-	-	-	-	n.a.	n.a.
Delhi	238	59.66	145	29.18	126	33.45
Goa	30	4.33	7	1.31	18	3.12
Gujarat	-	-	-	-	nil	nil
Haryana	25	1.80	14	0.38	3	0.04
Himachal Pradesh	n.a.	1.13	n.a.	0.84	n.a.	1.45
Jammu & Kashmir	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Karnataka	347	9.74	63	3.31	91	4.59
Kerala	2921	98.79	1457	54.51	1887	83.31
Madhya Pradesh	-	-	-	-	nil	nil
Maharashtra	-	-	-	-	n.a.	n.a.
Manipur	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Meghalaya	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Odisha	-	-	-	-	nil	nil
Puducherry	7	2.78	83	4.87	67	5.48
Punjab	-	-	-	-	n.a.	n.a.
Rajasthan	6	0.49	38	1.02	6	0.52
Tamil Nadu	180	9.20	461	31.24	379	27.98
Uttar Pradesh	-	-	-	-	nil	nil
West Bengal	1803	3.00	150	4.00	81	4.84
Total	**5,557**	**190.92**	**2418**	**130.66**	**2,658**	**164.78**

Source: National Co-operative Housing Federation of India

A 5: Notifications / Circulars issued by the National Housing Bank during the financial year ended June 30, 2018

Notifications

During the year, the following amendments to the Housing Finance Companies (NHB) Directions, 2010 were issued:

1. Amendment to Paragraph 27A, 28 and 30 (Notification No. NHB.HFC.DIR.18/MD &CEO/2017 dated August 02, 2017)

- Paragraph 27A was amended to specify that the Loan to Value (LTV) Ratio shall be computed as a percentage with total outstanding in the account (viz, "principal + accrued interest + other charges pertaining to the loan" without any netting) in numerator and the realizable value of the residential property mortgaged to the HFC in the denominator. Further, it was stipulated that HFCs shall be guided by the circular issued by the NHB on valuation of properties and empanelment of valuers from time to time.
- Amendment to paragraph 28 was affected whereby reduced provisioning requirement by HFCs for standard individual housing loan assets was prescribed. It was also stipulated that the above revised provisioning norms would be effective prospectively but the provisions held at present towards such loans should not be reversed. However, in future, if by applying the revised provisioning norms, any provisions are required over and above the level of provisions currently held for the standard category of such loans, these should be duly provided for. Sub-paragraph (2) of paragraph 28 was also substituted to specify that the provisions on standard assets should not be reckoned for arriving at net NPAs.
- Paragraph 30 was amended rationalising the LTV and risk weights norms for individual housing loans of HFCs, in line with the norms made applicable by the RBI to Banks as a countercyclical measure.

  Consequently, Half-Yearly Return in Schedule II to the Housing Finance Companies (NHB) Directions, 2010 was also amended in accordance with the above amendments.

2. Amendment to Paragraph 30 (Notification No. NHB.HFC.DIR.19/ MD&CEO/2017 dated September 28, 2017)

- Paragraph 30 was amended to rationalise the risk-weights assigned by HFCs on their exposure to domestic sovereign debts and investment in fixed deposits/ certificate of deposits/bonds of public finance institutions.

  Consequently, Half-Yearly Return in Schedule II was also amended in accordance with the above amendments.

3. Amendment to Paragraph 6 and 12 (Notification No. NHB.HFC.DIR.20/MD& CEO /2017 dated December 08, 2017)

- Paragraph 6 was amended to the effect that HFCs are required to obtain maturity instructions and details of designated bank account of the depositor(s) as part of the particulars to be specified in the application form soliciting deposits.
- Paragraph 12 was amended to allow HFCs to repay public deposits to individual depositors, within three months of acceptance of such deposit, if requested so by the depositor to meet certain emergent expenses as specified in the above notification.

Policy Circulars

1. **NHB(ND)/DRS/Policy Circular No.80/2017-18 dated July 20, 2017 on Valuation of Approved Securities held by HFCs under Section 29B (1) of National Housing Bank Act, 1987:** With a view to putting in place a uniform practice for valuation of the approved securities towards compliance of the provisions of Section 29B(1) of the National Housing Bank Act, 1987, the procedure for valuation of approved securities on a daily basis was specified by the NHB.

2. **NHB(ND)/DRS/Policy Circular No.81/2017-18 dated August 31, 2017 on Valuation of Properties – Empanelment of Valuers:** In terms of the said Circular, HFCs are required to have a Board approved policy in place for valuation of properties including collaterals accepted for their exposures in accordance with the stipulations mentioned in the Circular.

3. **NHB(ND)/DRS/Policy Circular No.82/2017-18 dated October 17, 2017 on Model Code of Conduct for Direct Selling Agents(DSAs)/Direct Marketing Agents(DMAs):** Keeping in view the extensive use of DSAs/ DMAs for business generation by HFCs, a revised Model Code of Conduct for adoption the HFCs in respect of DSAs / DMAs operating as their Agents was issued by the NHB vide the said Circular. The Code is a set of guidelines designed to ensure that DSAs / DMAs of HFCs act and conduct in conformity with the laid down policies and procedures as set in the Code.

4. **NHB(ND)/DRS/Policy Circular No.83/2017-18 dated December 05, 2017 on Submission of data related to suit-filed accounts and non-suit filed accounts of wilful defaulters of ₹25 lakh and above to Credit Information Companies:** The NHB had issued Guidelines on Wilful Defaulters, including the mechanism of reporting the information on wilful defaults by the HFCs to all Credit Information Companies (CICs) in December 2015. In terms of the said Circular, the HFCs were once again advised to ensure submission of the requisite information to all CICs on a monthly or more frequent basis, latest by 15th of the subsequent month.

5. **NHB(ND)/DRS/Policy Circular No.84/2017-18 dated December 06, 2017 on Submission of Credit Information to Credit Information Companies:** The NHB in July 2015 advised HFCs to become members of all CICs and furnish credit information collected/maintained by them regularly on a monthly basis or at such shorter intervals as may be mutually agreed upon between the HFC and the CIC. In terms of the said Circular, HFCs were once again advised to ensure submission of the requisite information to all CICs on a monthly or more frequent basis.

6. **NHB(ND)/DRS/Policy Circular No.85/2017-18 dated December 08, 2017 on Aadhaar based e-KYC through OTP / Biometric Authentication:** HFCs may provide an option to the customers for e-KYC through Aadhaar based One Time Pin (OTP). Accounts opened in terms of this proviso i.e., using Aadhaar based OTP, are subject to conditions as specified in the Circular. Further, KYC verification, through Aadhaar based biometric authentication, by the Authorised Person of the HFC was permitted to be accepted as a valid process for KYC verification subject to the satisfactions of the specified conditions.

7. **NHB(ND)/DRS/Policy Circular No.86/2017-18 dated December 29, 2017 on Valuation of Properties – Empanelment of Valuers:** Certain modifications were

issued to the earlier Circular dated August 31, 2017 issued by the National Housing Bank on the subject. HFCs were also advised to put in place the Board approved valuation policy in accordance with the provisions contained in the Circular, read along with the Circular dated August 31, 2017, by January 31, 2018.

8. **NHB(ND)/DRS/Policy Circular No.87/2017-18 dated February 06, 2018 on Submission of Financial Information to Information Utilities:** HFCs were advised to adhere to the relevant provisions of the IBC and IBBI (IUs) Regulations, 2017 immediately and put in place appropriate systems and procedures to ensure compliance to the provisions of the Code and Regulations.

9. **NHB(ND)/DRS/Policy Circular No.88/2017-18 dated April 16, 2018 on Implementation of Indian Accounting Standards (Ind-AS):** HFCs were advised to follow the extant directions on Prudential Norms, including on asset classification, provisioning etc. issued by the NHB. With regards to the implementation of Ind-AS, HFCs were advised to be guided by the extant provisions of Ind-AS, including the date of implementation.

10. **NHB(ND)/DRS/Policy Circular No.89/2017-18 dated June 14, 2018 on Implementation of Indian Accounting Standards (Ind-AS):** HFCs were once again advised that the companies are required to comply with the provisions of Ind-AS, including the date of implementation. However, for regulatory & supervisory purposes, including various kinds of reporting to the National Housing Bank, HFCs shall continue to follow the extant provisions of National Housing Bank Act, 1987 and Housing Finance Companies (NHB) Directions, 2010 including framework on Prudential Norms, and other related Circulars etc., issued in this regard by the NHB from time to time. HFCs are required to provide adequate disclosures/ statements for furnishing compliance in the aforesaid matter in the notes forming part of the financial statements of the HFC.

11. **NHB(ND)/DRS/Policy Circular No.90/2017-18 dated June 15, 2018 on Information Technology Framework for HFCs:** Guidelines on Information Technology Framework were issued in two parts viz. HFCs with asset size of ₹ 100 crore and above (deposit accepting HFCs as well as HFCs not accepting public deposit) and HFCs with asset size below ₹ 100 crore which are not accepting public deposits. HFCs falling in the first category are required to comply with the Guidelines by June 30, 2019 and the other HFCs by September 30, 2019.

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A 6: Case Study PMAY–G in the State of Assam

Across Assam, families regularly face uncertainty on account of natural disasters as the State has a long list of disasters in the past. Along with flooding and landslides, the State is vulnerable to cyclones and earthquakes. Assam lies in a region which is one of the six most seismically active in the world. Assam contains three physiographic divisions (out of the six in India) - the Northern Himalayas (Eastern Hills), the Northern Plains (Brahmaputra plain) and Deccan Plateau (Karbi Anglong). Plains in the 20-120 metre elevation range occupy most of the upper and lower Assam valley, covering almost 72% of the State's total area and constituting the most flood prone regions of Assam.

As per the report on housing topologies by the study conducted by UNDP in collaboration with Ministry of Rural Development, Government of India, Assam is divided into 5 zones depending on the type of disaster proneness and the raw material abundance. One of the zones is the upper Assam region which has high vulnerability to floods. It comprises of 50-75% flood hazard area and likelihood of flood inundation for more than 24 hours almost every year. The area has medium to high vulnerability to cyclonic storms and medium to high vulnerability to river bank erosion. Bamboo is abundantly available in the region.

Traditional Assam House (Bamboo house on stilts or "Chang Ghar"- In picture)

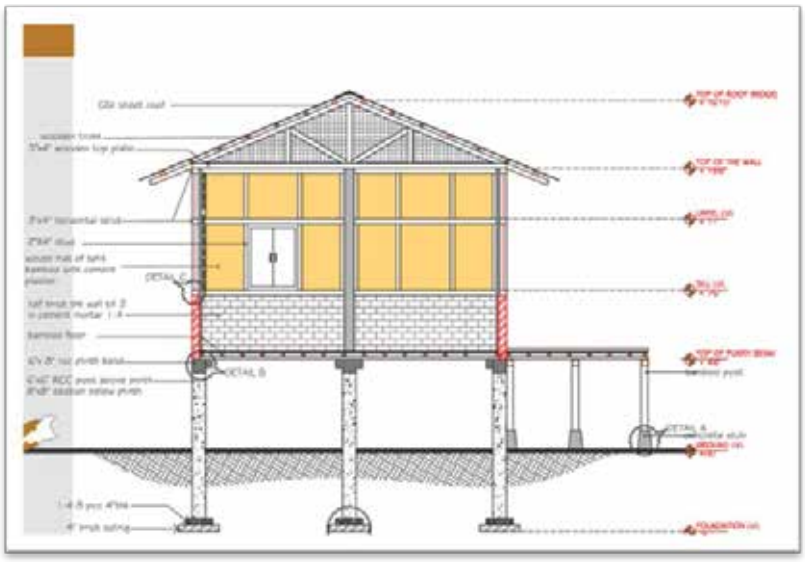
In the villages of Assam, elevated bamboo houses (Chang Ghar) are common even today. The houses are detailed out to combat the heavy monsoons. The floor of the house is a bamboo weave that allows the water of a flood to flow in, rather than keep it out. The major components of these houses are bamboo, cane and palm leaves for roofing. Bamboo is widely used for pillar, lintel, floor, roof, door etc. Though the houses have proved effective against earthquakes, the houses are vulnerable to fire because of use of untreated wood-based materials. When built on hill slope unequal length of the vertical posts leads to unsymmetrical shaking that may damage the house. Further, prolonged exposure to flood water dampens the bamboo foundation.

However, with the implementation of PMAY (G), new and better technologies has been adopted to update the traditional bamboo houses (Chang Ghar) into a much more sustainable infrastructure than the traditional bamboo house enhancing its lifespan and load bearing capabilities with the cultural and traditional values specific to the particular region.

New technologies adopted by PMAY (G) to upgrade the traditional elevated bamboo houses (Chang Ghar)

Most of the elevated bamboo houses (Chang Ghar) in Assam lie in Lakhimpur, Dhemaji, Sibsagar, Majuli and Jorhat districts. The beneficiaries of PMAY (G) belonging to this zone gets an elevated house with better RCC columns as foundations replacing bamboo and log

type foundations, hence enhancing durability of the foundations. At the plinth level, RCC stubs have been introduced as foundation for bamboo posts replacing old building techniques and hence enhancing stability at the plinth level. RCC brackets have been integrated into RCC posts to support the primary rafters for the floor. A stilted RCC frame structure with plinth beam connecting the column has been provided as the core space. There have been significant developments in regard of the walls of the house as well. The otherwise completely mud walls have now been replaced with Assam type wooden frame construction with infill of interwoven bamboo splits having cement plaster on the outside and mud plaster on the inside. Burnt brick masonry in cement mortar or fly ash brick masonry in cement mortar has been used till sill level. The floor of the house which was otherwise completely interwoven bamboo has also been upgraded. The floor remains as a bamboo split floor on bamboo primary and secondary understructure; however, parts of the floor is now 2" cement concrete with nominal 6mm reinforcement in both directions. Even the finishing of the floor has been made solid with cement plaster to increase its functionality. The total cost for building of the house stands at ₹ 1,42,091/- .



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A 7: Some Prospective Emerging Building Technologies

Monolithic Concrete Construction System – using Plastic - Aluminum /Aluminum Formwork: In this system, in place of traditional RCC framed construction of columns and beams and infill walls; all floors, slabs, columns, beams, walls, stairs, together with door and window openings are cast-in-place monolithically using appropriate grade of concrete in one operation. The specially custom designed modular formwork made up of Aluminum/Plastic/Aluminum-Plastic Composite is used for the purpose which facilitates easy handling with minimum labour & without use of any equipment. It is flexible in design and can form any architectural or structural configuration, such as stairs, windows, etc.

Modular Tunnel form is a mechanized system for cellular structures. It is based on two half shells which are placed together to form a room or cell. Several cells make an apartment. With tunnel forms, walls and slab are cast in a single day. The structure is divided into phases. Each phase consists of a section of the structure that will be cast in one day.

Structural Stay-in-Place Formwork System (Coffor Technology): This formwork system comprises of two filtering grids made of rib mesh reinforced by 'C' channel vertical stiffeners. The grids are connected by rebar which act as horizontal stiffeners and connector which act as a shear link. The grids on both faces act as sacrificial formwork in which concrete is poured in-situ. After the erection of formwork panels in alignment, corners, edges of doors and windows frame are closed with rebar positioning & concrete of required grade is poured in the panels. The concreting may be done with a pump, bucket or with a shovel loader. The inside and outside walls are finished with cement plaster of suitable grade.

Lost-in-Place Formwork System – Plaswall Panel System: Plaswall Panel System is a lost in place formwork, where two fiber cement boards (FCB) of 6mm thickness each and HIMI spacers (High Impact Molded Inserts) bonded between two sheets of FCB (in- situ) are erected to produce straight-to-finish panels. A monolithic structure is then created by filling the entire structure with M20 or higher grade of concrete as per the design. Additional load capacity can be obtained by providing extra reinforcing bars and/or by increasing grade of the concrete.

Sismo Building Technology is an insulating shuttering kit for whole building based on a three-dimensional lattice made of galvanized steel wire. The lattice is filled with materials of different nature to serve as formwork. The basic structure of the Sismo building module is steel wire lattice. At the exterior sides of the lattice, infill panels are inserted, which transform the lattice into a closed structure that can be filled with concrete. The type of infill panels used depends on the purpose of the wall load bearing or not, insulated or otherwise, etc. The steel wire also acts as armature and anchoring for the finished material and it holds reinforcement bars in place during concrete filling.

Precast Sandwich Panel Systems EPS based Systems (Rapid Panels): The Rapid Panel is a prefabricated assembly of high-strength steel wire forming a panel with a core of expanded polystyrene (EPS). During construction, Rapid Panels are installed as walls and/or slabs. Specified mixtures of mortar or concrete are applied to the surfaces of the panels to complete the structure. The basic unit of the Rapid Panel is the zig-zag truss. Steel wire is bent into a zig-zag shape to form a continuous chain of web members. This bent wire is then welded to continuous chord wires at every node to form the complete truss.

QuickBuild 3D Panels: In quick build 3 D Panel system, the panels consist of fire resistant

grade insulated polystyrene core, two engineered layers of Galvanized Steel Mesh and galvanized steel trusses. The steel trusses are pierced through the polystyrene core and welded to the outer layer sheets of Galvanized steel mesh. The wall panel is placed in position and a wythe of structural plaster is applied to both sides. The wall panel receives its strength and rigidity from the diagonal cross wires welded to the welded-wire fabric on each side. This combination produces a truss behavior, which provides rigidity and shear terms for a full composite behavior.

Glass Fibre Reinforced Gypsum (GFRG) Panel Building System: Glass Fibre Reinforced Gypsum (GFRG) Panel also known as Rapidwall is made-up of calcined gypsum plaster, reinforced with glass fibers. The panel, manufactured to a thickness of 124mm under carefully controlled conditions to a length of 12m and height of 3m, contains cavities that may be unfilled, partially filled or fully filled with reinforced concrete as per structural requirement. GFRG panel can also be used advantageously as in-fills (non-load bearing) in combination with RCC framed columns and beams (conventional framed construction of multi-storey building) without any restriction on number of storeys. Micro-beams and RCC screed (acting as T-beam) can be used as floor/ roof slab.

Prefabricated Fibre Reinforced Sandwich Panels (Aerocon): Aerocon panels are Prefabricated Fibre Reinforced Sandwich Panels, made of two fibre reinforced cement facing sheets, on either sides of a lightweight concrete core. The core is made from a mix of Portland cement, binders and silicaceous & micaceous material aggregate. These panels have a unique tongue and groove jointing system that facilitates rapid construction and are fully cured at the factory itself.

Source: *Third Edition of Compendium of Prospective Emerging Technologies for Mass Housing, BMTPC*

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A 8: Use of Shear Wall Technology in the state of Andhra Pradesh

The State of Andhra Pradesh was one of the Pioneer States to adopt Shear Wall Technology (Monolithic), the single largest new construction Technology in Houses constructed for EWS category. The Technology is one of the most reliable and proven among all approved technologies of construction by BMTPC.

Andhra Pradesh is one of the very few regions in any Developing Country of the World to have proactively implemented this technology for construction of Houses for the EWS (Economically Weaker Sections). The Government endeavors to promote Housing in a big way and in line with the same objective, the Shear Wall Technology has been promoted as a Disaster Resistant, stronger, faster, durable and low maintenance cost option.

The technology is envisaged to integrate ready to use, proprietary wall and floor systems to enable rapid constructions and offer a dependable solution to the construction industry which in turn would reduce the dependency on multi trade jobs and associated vulnerability at various stages.

The technology uses Stay in form, light weight, polymer multiwall shear wall system, enabling fast and easy installation. Without any need for form work, wall elements are temporarily braced and filled with concrete with ease and precision. The technology also provides for a solitary floor system with unique feature of near ready to use composite stone slab system which offers eco-friendly floor and rapid installation capability. With no further need for flooring, minimal guided activities make the floor a 'Distinct, Ready To Use' floor system. Composite stone slab system is time tested for leak proof and has been approved by the premier institutes. Resulting reflections are maximum efficiency of resources, minimal or no wastage, durable and endurable system. With an effective utilization of local resources, the technology spins holistic and sustainable growth to allied industries.

Advantages of Shearwall Technology (Monolithic) Construction:

- Environment friendly.
- Increased carpet area due to compact wall structure.
- High end finishing due to monolithic construction.
- Provision of superior specifications such as Vitrified flooring, 2-Track Windows, Wall putty painting etc.
- Ease of Handling and Minimum requirement of skilled labour.
- Earthquake resistant structure.
- Eliminates the process of external and internal plastering.

The benefits of the Breakthrough technology as envisaged by the Government is as follows:

- Rapid construction and early delivery of houses to people.
- Superior, faster and safer than conventional technologies.
- Durable and reliable structure with high consistency and least maintenance cost
- Providing Disaster Resistant structures in Coastal Districts of A.P as safety of homes is of prime importance.
- Orientation towards Technology oriented construction activities in both public and private sectors is anticipated to increase the Gross Value Addition to the State GDP.

A 9: Adoption of Pre-Fab Technology by Tamil Nadu Housing Board (TNHB)

Tamil Nadu Housing Board (TNHB) has been a pioneer in adopting Pre-Fab Technology in certain projects. One such project is in Sholinganallur, Chennai where 1500 flats have been constructed by TNHB using the said technology. The project has fetched TNHB the Construction Industry Development Council (CIDC) "Vishwakarma Award" for the year 2018.

The project consists of 1500 flats in Stilt + 10 floors catering to HIG,MIG1,MIG2 and LIG segments. Number of flats in the project for different categories are given below.

Sl.No	Type	No.of Flats
1.	HIG	120
2.	MIG-1	200
3.	MIG-2	300
4.	LIG	880

The main benefits of using the said technology was that faster construction can be achieved by using pre-fab technology. Also there is considerable saving in the cost for the project and time required for its completion. In addition to the benefits mentioned above use of pre – fab technology also increases the quality, fit and finish of the project.

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