

# Role of Real Estate Developers in Affordable Housing and Climate Change

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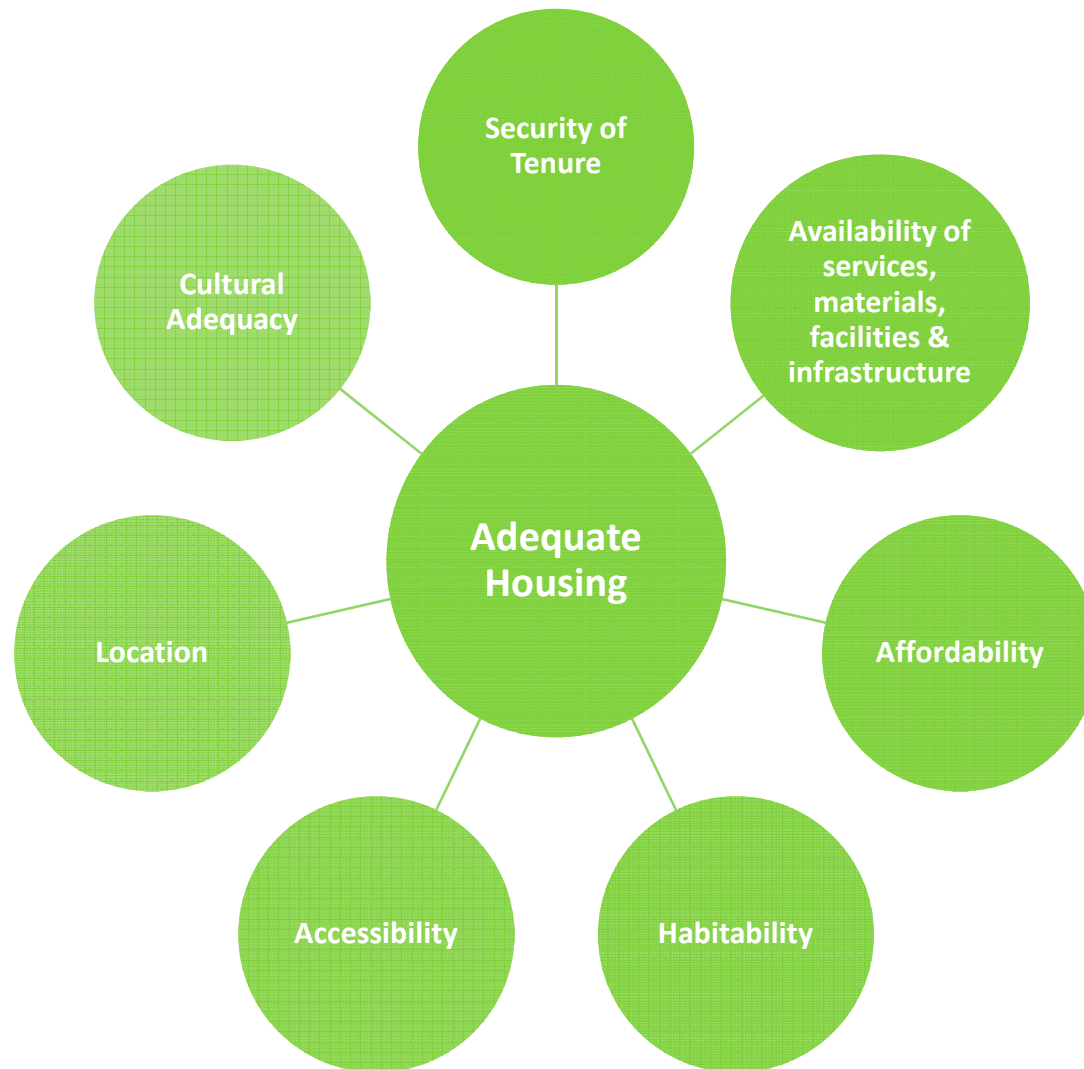


# **PRESENTATION OVERVIEW**

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- *Introduction*
- *Housing Scenario in India*
- *Affordable Housing in India*
- *Affordable Housing Perception of Real Estate Industry*
- *Issues and Barriers in Providing Affordable Housing*
- *Various Affordable Housing Policies*
- *Climate Change Impact*
- *Way Forward*

# COMPONENTS OF ADEQUATE HOUSING...



# DEFINITION OF AFFORDABLE HOUSING

Definition of Affordable Housing by MoHUPA (2011)		
Income Group	Area	EMI or Rent
EWS	-Minimum Carpet Area = 269 sq.ft.	not exceeding 30%-40% of gross monthly income of buyer
	-Minimum Super Builtup Area = 300 sq.ft.	
LIG	-Maximum Carpet Area = 517 sq.ft.	
	-Minimum Super Builtup Area = 500 sq.ft.	
MIG	-Maximum Carpet Area = 861 sq.ft.	
	-Super Builtup Area = 600-1200 sq.ft.	

Source : Report of the Task Force on Affordable Housing

Definition of Affordable Housing by KPMG (2011)			
Income Group	Income Level	Size of Dwelling Unit	Affordability
EWS	Less than Rs. 1.5 lakhs/annum	Upto 300 sq.ft.	EMI to monthly income: 30% to 40%
LIG	Rs. 1.5-3.0 Lakhs/annum	300-600 sq.ft.	House price to annual income ratio: Less than 5.1
MIG	Rs. 3-10 Lakhs/annum	600-1200 sq.ft.	

Source : Bridging the Urban Housing Shortage in India – KPMG 2011

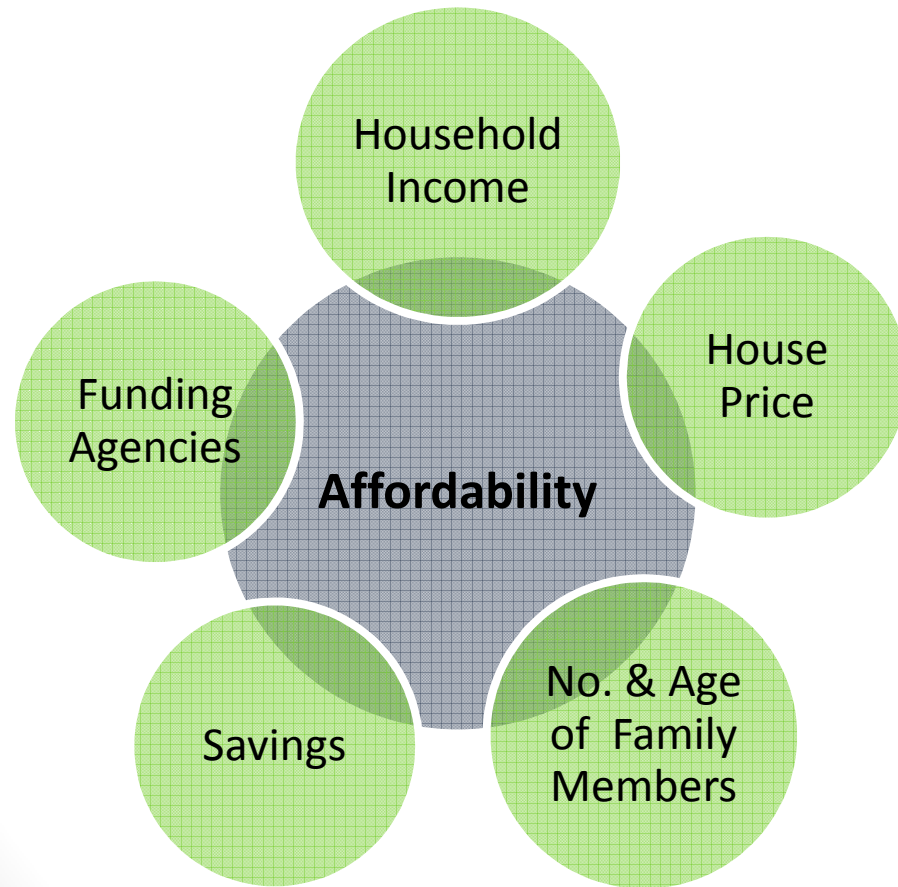
### Definition of Affordable Housing by JLL (2012)

	Minimum Volume of Habitation	Provision of Basic Amenities	Cost of the House	Location of the House
EWS	-Minimum Carpet Area = 250 sq.ft.	-sanitation, adequate water supply and Power.	-Reasonable maintenance costs	- located within 20 km of a major workplace hub (could be suburban hubs as well) in the city.
	-Minimum Internal Volume = 2250 cu.ft.	-provision of community spaces and amenities such as parks, schools and healthcare facilities, either within the project or in the neighbourhood, depending upon the size and location of the housing project.		
LIG	-Carpet Area = 300-600 sq.ft.		-cost of the house such that EMI does not exceed 30–40% of gross monthly income of the buyer.	
	-Internal Volume = 2700-5400 cu.ft.			
MIG	-Carpet Area = 600-1200 sq.ft.	-adequately connected to major public transit hubs.		
	-Minimum Internal Volume = 5400-10800 cu.ft			

Source : Affordable Housing in India – JLL 2012

# AFFORDABILITY

Affordability is dependent on five broad parameters viz.

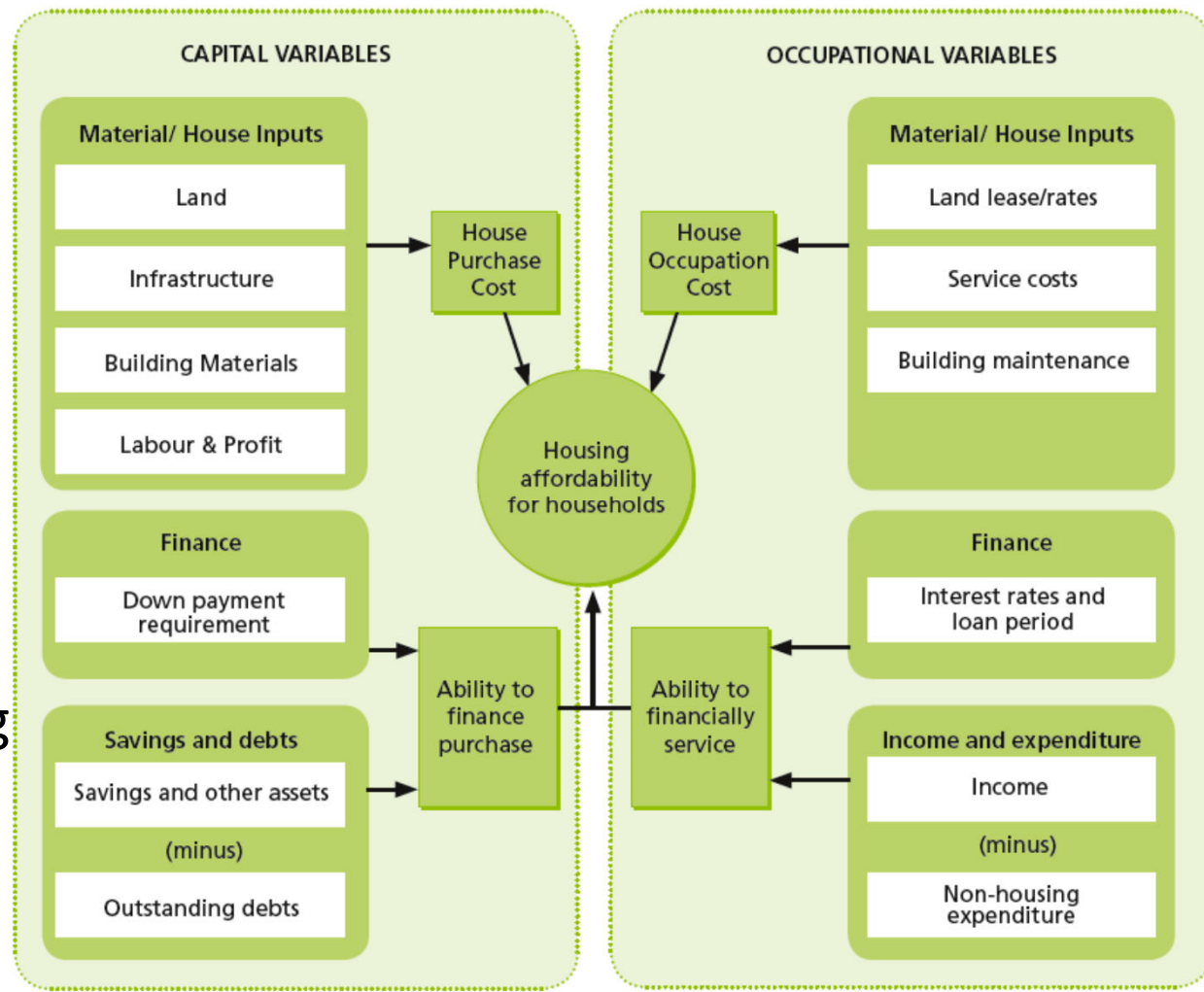


- Affordability is applicable to all income groups.
- Affordability of a person increases with increase in the monthly income.
- It has been observed that for an EMI of Rs. 3,000 to Rs.10,000, the capital cost of the house varies from Rs. 3,00,000 to Rs. 20,00,000.
- For a large number of urban households, this could be termed as the '**affordability range**'.

# AFFORDABILITY

Affordability is principally set by two main variables:

1. **Capital variables**  
(house purchase costs)
2. **Occupation variables**  
(costs associated with keeping the house).



# HOUSING SCENARIO IN INDIA

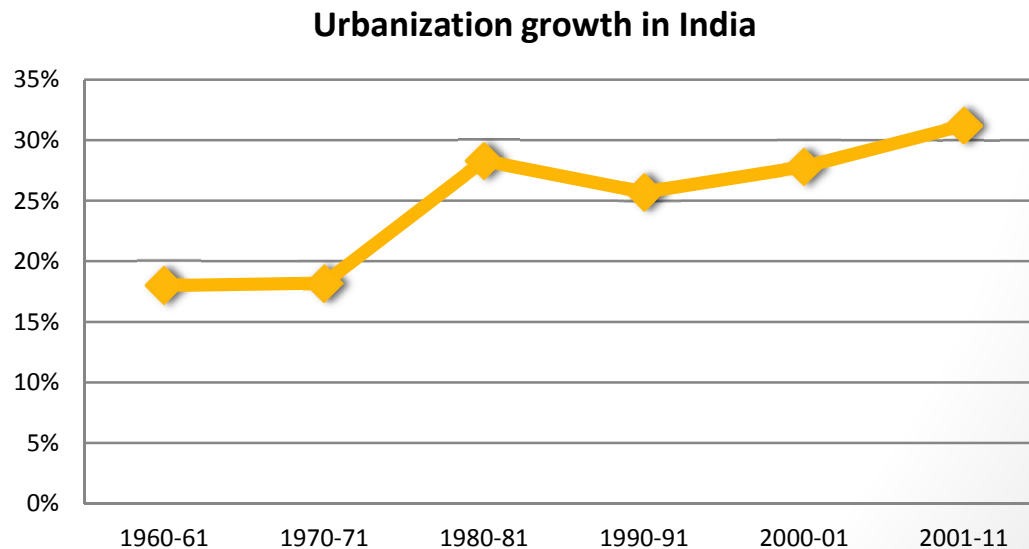
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# URBANIZATION AND HOUSING SHORTAGE

## As per 2011 census

- India's population is 1,210.98 million.
- Urban Population is 377.10 million (31.16%).
- The urban population growth during 2001-2011 was 2.8%.
- Level of urbanization during 2001-11 has increased from 27.81% to 31.16%.
- This growing concentration of people in urban areas has led to problems of land shortage and housing shortfall.

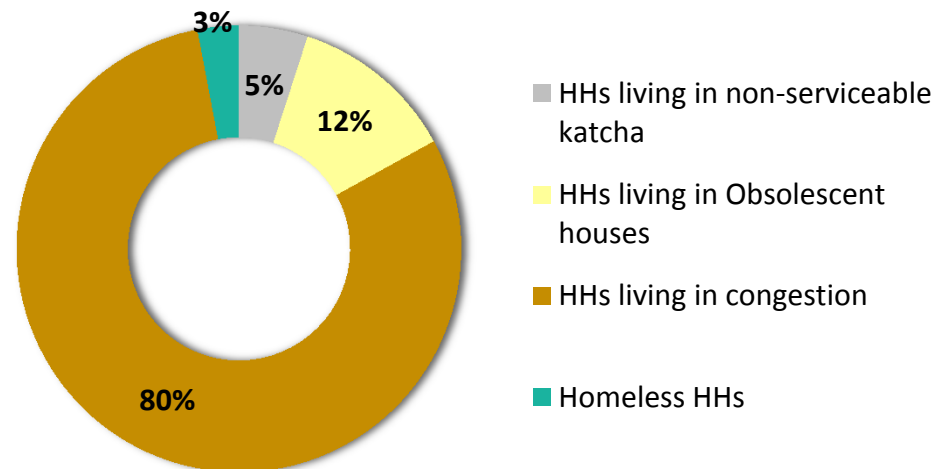


# HOUSING SHORTAGE IN URBAN INDIA

According to Technical Committee report submitted to the Ministry of Housing and Urban Poverty Alleviation (MHUPA):

- India's urban housing shortage is estimated at nearly 18.78 million households in 2012.
- Besides those living in obsolescent houses, 80 percent of these households are living in congested houses and are in requirement of new houses.

Urban Housing Shortage 2012

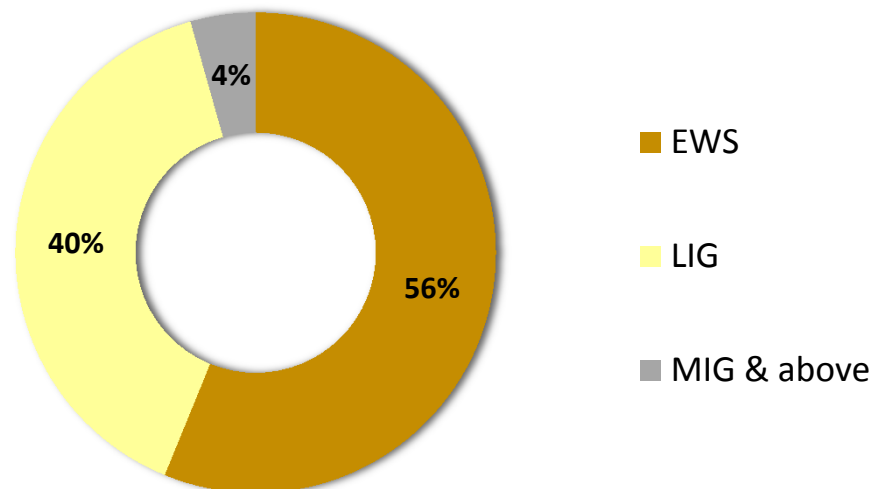


Source : Report on Urban Housing Shortage (TG 12)

## DISTRIBUTION OF HOUSING SHORTAGE AMONG ECONOMIC CATEGORY

- Urban housing shortage is prominent across the economically weaker sections (EWS) and low income groups (LIG) which together constitute over **95 percent** of the total housing shortage.
- The shortage amongst the middle income groups (MIG) and above is estimated at **4.38 percent**.

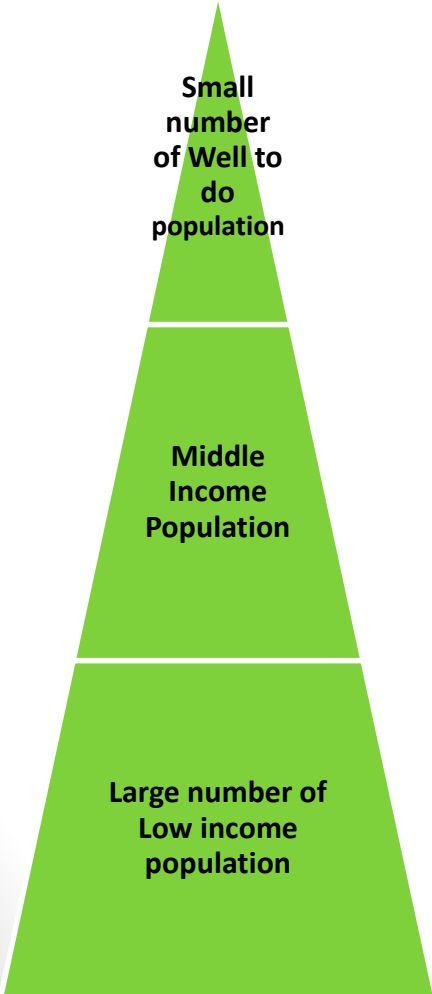
Urban Housing Shortage 2012



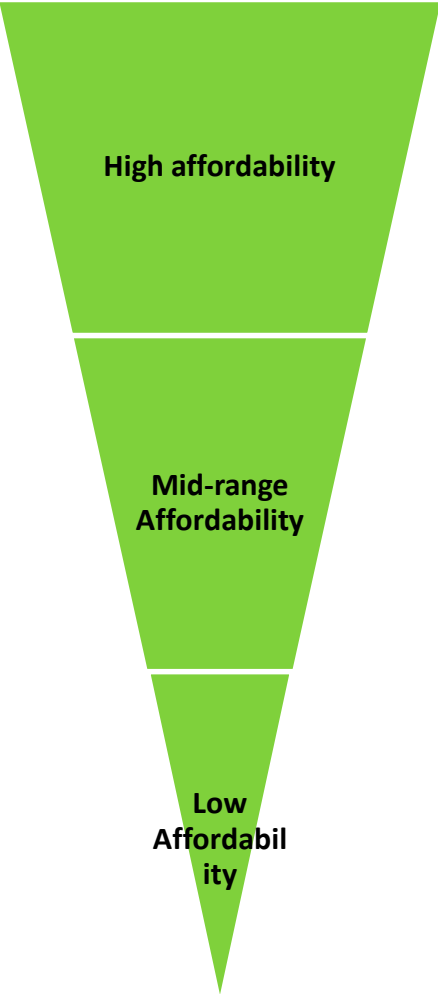
Source : Report on Urban Housing Shortage (TG 12)

# POPULATION STRUCTURE, AFFORDABILITY AND MARKET SUPPLY PYRAMID

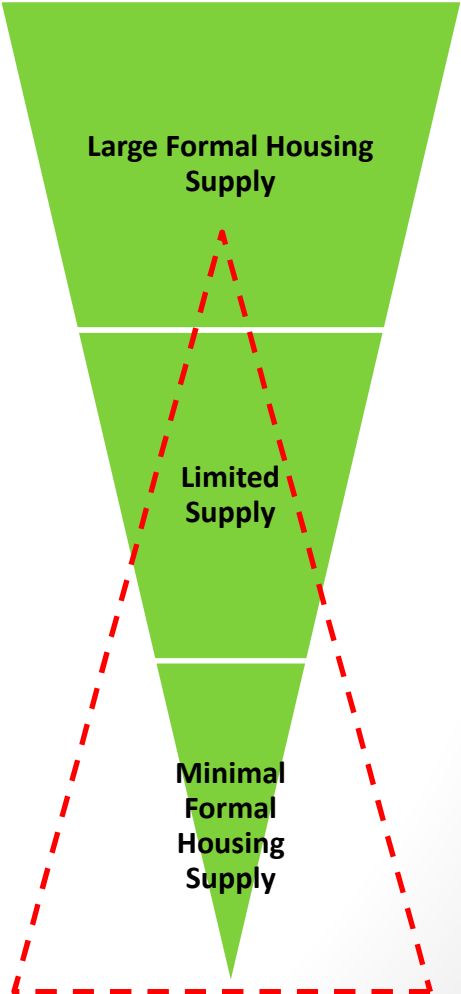
Population Structure



Affordability



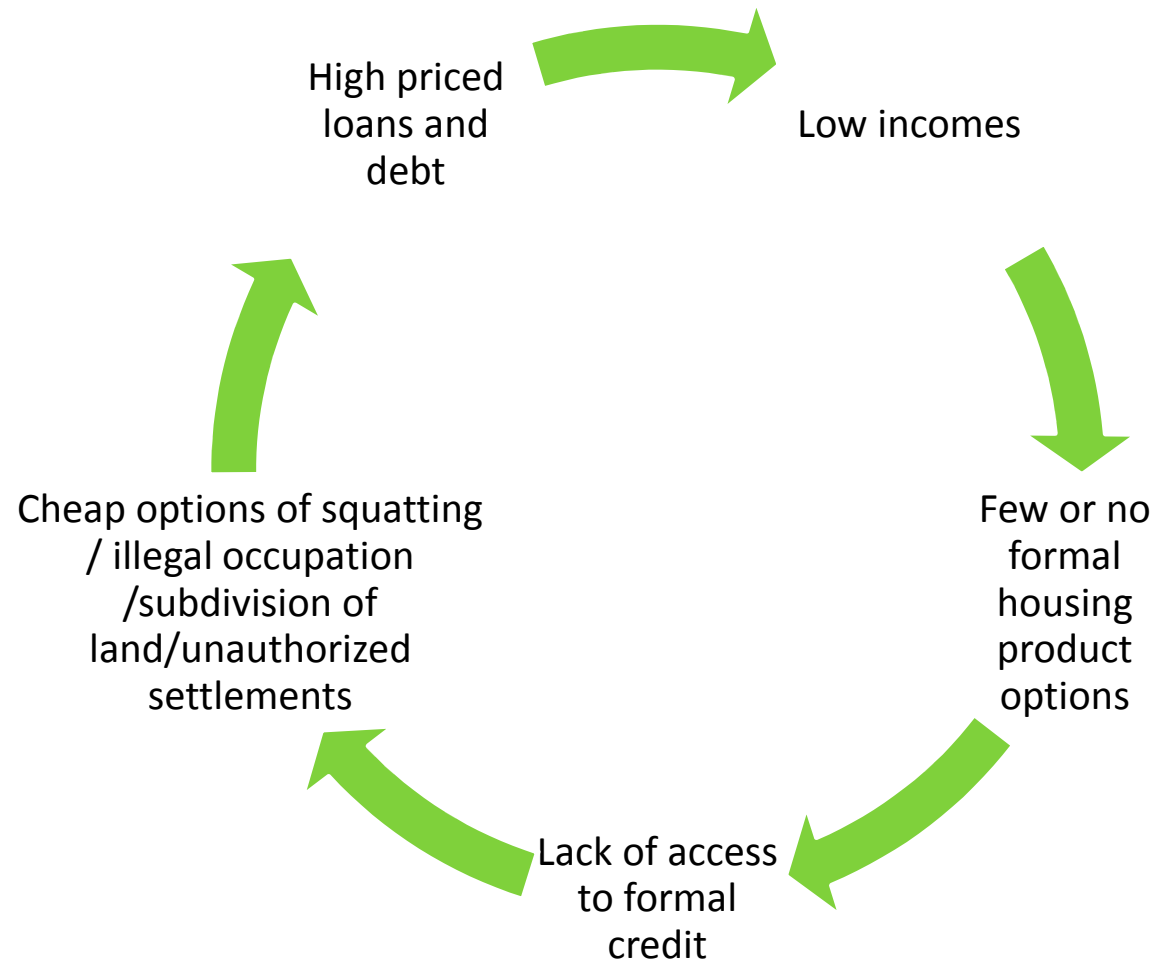
Market Supply



# STATE OF HOUSING PROVISION IN INDIA

- Little low income housing provision or affordable housing by state agencies.
- State township policies catering mostly to high income groups.
- Public Private Partnerships catering mostly to high income groups / expensive housing.
- State encouragement to real estate developers to provide for the high income groups.

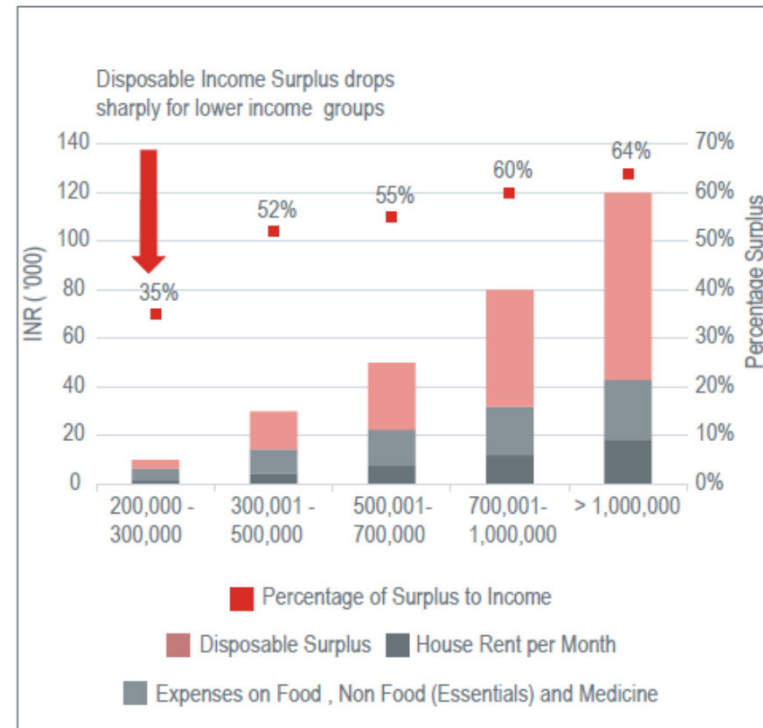
# VICIOUS CYCLE OF LOW INCOME HOUSING



# INCOME LEVEL AND HOUSING AFFORDABILITY

- The relationship between income and affordability for various income groups follows a nonlinear trend.
- **Disposable surplus income**, which is often used to purchase a new house, drops significantly at lower-income levels and is higher at higher-income levels.
- Thus, people of higher-income levels can better afford to purchase new houses, owing to higher disposable surplus incomes.

Disposable Surplus for House Purchase in Various Income Groups



Source : Jones Lang LaSalle Research

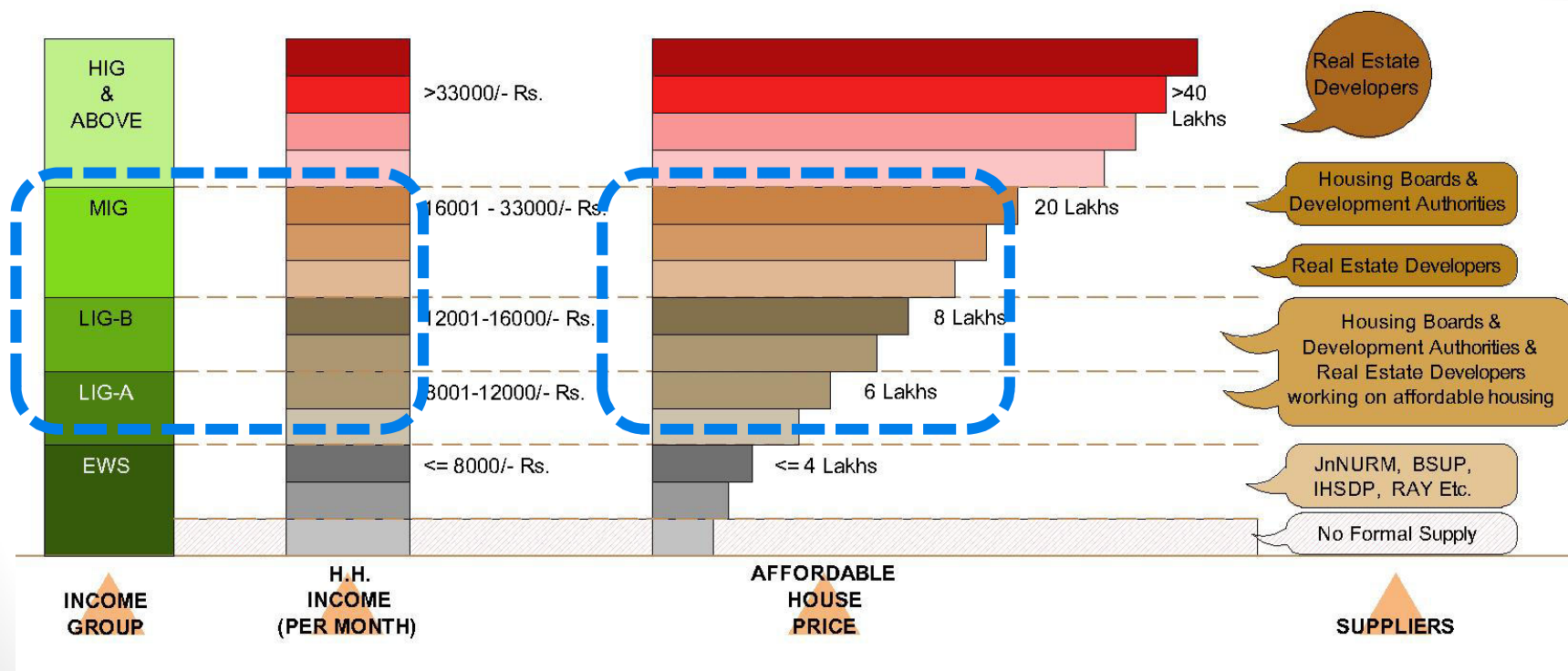
# AFFORDABLE HOUSING PERCEPTION OF REAL ESTATE INDUSTRY

- Although the purchasing capacity is lower for lower-income groups, there exists a large demand for housing amongst this segment.
- However, the present formal market is characterized by an undersupply of residential products catering to this income segment.
- **There exists a tremendous potential for housing in which residential units are priced at less than Rs. 20 Lakhs.**

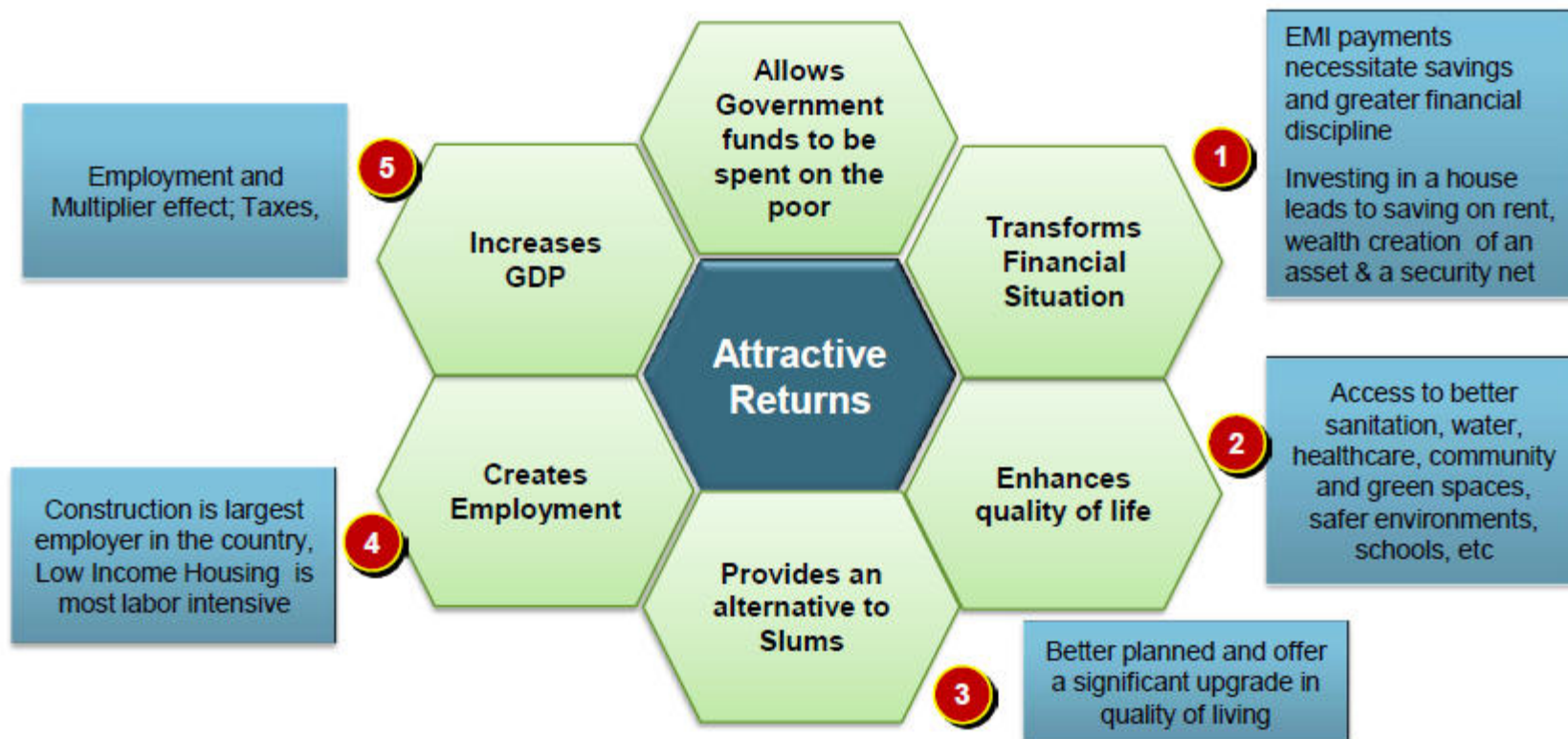


# AFFORDABLE HOUSING PERCEPTION OF REAL ESTATE INDUSTRY

- Housing supply by different Housing suppliers to the different income groups in India.



# Affordable Housing - A Unique Opportunity for Social Change and Attractive Returns



Source : Building Houses Financing Homes – Monitor Group 2010

# Facilitating Affordable Housing in Urban India

## Developing a Broader Ecosystem

Increased Access to Housing Finance

Creating Customer Education Modules

Increased Sustainability Elements in LIH

Strengthening Supply of Housing



Effective Architectural designs and layouts

Addressing Unintended Consequences

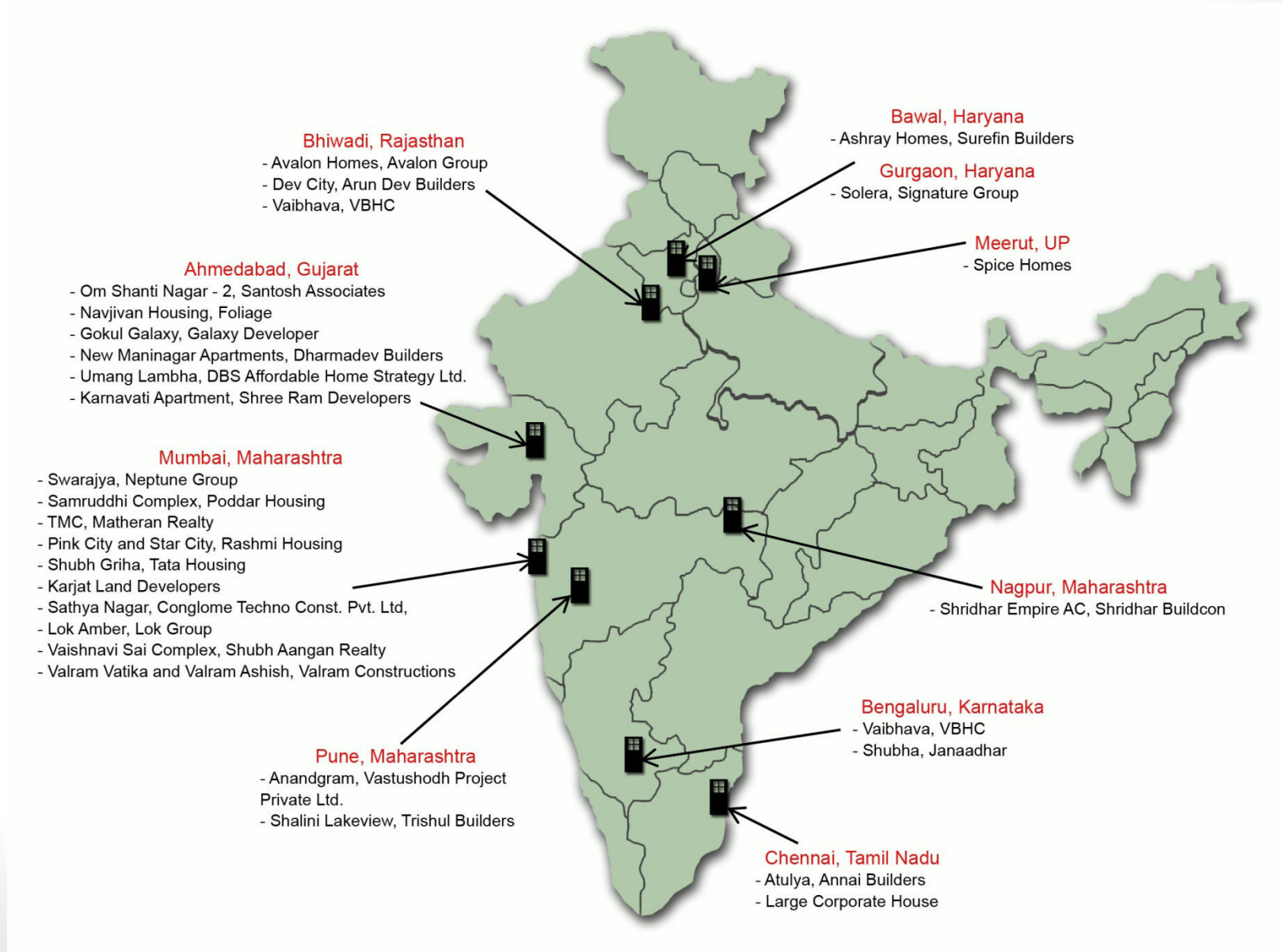
Supporting Government

Source : Building Houses Financing Homes – Monitor Group 2010

## **Supply of Affordable Housing by Real Estate Developers**

- More than 25 developers in urban areas across India building (or about to build) housing units in the Rs. 4 lakh to Rs. 20 lakh price range.

# Affordable Housing Developers across India



# Increased Access To Affordable Housing Loans

Along with new Housing Finance companies, and increasing number of established financial services institutions and banks are entering/ exploring low income housing finance Market.

**NHB** has been proactively supporting Housing Finance companies that are catering to low income housing customers.

Pre 2008	2009-2010	2010 - 2011
<ul style="list-style-type: none"> <li>- DHFL</li> <li>- GRUH Finance Ltd.</li> </ul>	<ul style="list-style-type: none"> <li>- DHFL</li> <li>- GRUH Finance Ltd.</li> <li>- Aptus</li> <li>- Mahindra finance</li> <li>- Muthoot</li> <li>- Micro Housing Finance</li> </ul>	<ul style="list-style-type: none"> <li>- Aptus</li> <li>- Mahindra finance</li> <li>- Muthoot</li> <li>- Micro Housing Finance</li> <li>- DHFL</li> <li>- GRUH Finance Ltd.</li> <li>- HDFC</li> <li>- ICICI</li> <li>- AXIS</li> <li>- Central Bank of India</li> <li>- SREI</li> <li>- MAGMA</li> </ul>

# **ISSUES AND BARRIERS IN PROVISION OF AFFORDABLE HOUSING**

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# ISSUES – In The Development of Affordable Housing

- Developing affordable housing in Indian cities faces significant challenges due to several economic, regulatory and urban issues.

*High Cost of Land for Affordable Housing Projects*

*Lack of Availability of Urban Land*

*Excessive Control on Development of Land Creates Artificial Shortage*

*Lack of Marketable Land Parcels*

*Titling Issues and Lack of Information*

*Rising Threshold Costs of Construction*



*Limited Access to Home Finance for Low-Income Groups*

*Regulatory Constraints*

*Lengthy Approval and Land Use Conversion Process*

*Lack of Clarity in Building Bylaws and Guidelines*

## **POLICY LEVEL BARRIERS – In Providing Affordable Housing**

- ***Profit seeking private industry players*** find it more lucrative to operate in the higher end of the market than the middle or lower end of the market.
- ***Few statutory provisions*** making it mandatory for private players to compulsorily provide affordable housing.
- ***Inadequate OR No incentives*** to make it attractive for private players to enter this segment.

## **FINANCIAL BARRIERS – In Providing Affordable Housing**

- Barriers to entry for informal sector
- High cost of capital
- Leveraging capital by developers
- Inability of commercial banks/ HFIs to lend to the low income segment
- Unaffordable EMIs

## **TECHNICAL BARRIERS – In Providing Affordable Housing**

- High land cost.
- Inadequate availability of land.
- Land litigation.
- Restrictive town planning norms viz. zoning, FAR/FSI, density, height restrictions, etc.
- Materials and technology for keeping costs to a minimum.
- Infrastructure issues.

# **VARIOUS AFFORDABLE HOUSING POLICIES**

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# MODEL STATE AFFORDABLE HOUSING POLICY BY MoHUPA (2013)

- The aim of this policy is to create an enabling environment for providing “affordable housing for all” with special emphasis on EWS and LIG and other vulnerable sections of society such as SC/ST, Backward Classes, Minorities and senior citizens, physically challenged persons in the State and to ensure that no individual is left shelter less.
- The Policy further aims to promote Public Private People Participation (PPPP) for addressing the shortage of adequate and affordable housing.

*Source : Model State Affordable Housing Policy for Urban Areas (Draft Report by MoHUPA)*

## CENTRAL GOVERNMENT INTERVENTION

- Central Government support through National Policies, Programmes and Schemes and act as a facilitator in the creation of affordable housing stock.
- Provide for capital grants support to Affordable Housing projects.
- MoHUPA from time to time will provide inputs to the Ministry of Finance for providing **fiscal and financial incentives** to this segment.
- Strive to accord **industry status to the real estate segment**.
- **Facilitate greater flow of capital** through external sources like the External Commercial Borrowings and Foreign Direct Investment. *Source : Model State Affordable Housing Policy for Urban Areas (Draft Report by MoHUPA)*

# STATE GOVERNMENT INTERVENTION

## LAND

- At least **15% of the total project (FAR) or 35% of the total number of DUs**, whichever is higher, will be reserved for EWS category.
- Provide land for affordable housing projects.
- **Friendly land acquisition policy** created for undertaking affordable housing projects.
- Innovative ways for capturing the value of land.
- **Infrastructure services** to existing housing colonies where there is absence of such facilities will be ensured.

## FINANCE

- The State shall provide appropriate targeted **subsidies for creation of affordable housing** stock on both supply and demand side.
- **Encourage private developers** and ULBs/DAs/HBs etc. to undertake affordable housing projects under various schemes being implemented by the National Government.
- The policy seeks to **promote financial incentives** to private developers.
- The States will consider **concessions and or exemptions from State charges/taxes** for Affordable Housing Projects for EWS/LIG.

## LEGAL AND REGULATORY REFORMS

- The State shall prepare a **10 year affordable housing action plan** to ensure housing is provided for the immediate near future.
- **Fast track the building permits**, through Single Window Clearance, Issue simplified set of regulations and procedures for issue of such permits, Develop an online/e-enabled and transparent Single Window Approval System.
- **Faster conversion of agricultural land to non-agricultural land** if in compliance with the Master Plan.
- The State will **revise its Planning and Development norms** for optimal use of resources.

*Source : Model State Affordable Housing Policy for Urban Areas (Draft Report by MoHUPA)*



# **RAJASTHAN AFFORDABLE HOUSING POLICY**

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# HIGHLIGHTS OF POLICY INITIATIVES

- **Role of Public sector – Model no.1**  
RHB Schemes– 50% EWS,LIG and 20% MIG A  
Urban Local Bodies Schemes – 25% EWS,LIG and 20% MIG A
- **Role of Private Sector – 15% of Plots in any township for EWS,LIG Group Housing Project – 5% of FAR for EWS,LIG**
- **Public Private Partnership – Model no.2,3,4 and 5**

**Model No-2: Private developers on Private land : Buy back by the Govt.**

- Selected developers to take up construction of EWS/LIG/MIG-A flats (G+2/G+3 format) on minimum 40% of the total land for EWS/LIG & 12% for MIG A.
- Built up EWS/LIG/MIG-A flats to be handed over to the nodal agency (Rajasthan Avas Vikas & Infrastructure Limited) at pre-determined prices.
- Developer free to construct MIG-B/HIG flats on remaining land.

**Model No-3: Private developers on land under acquisition: Buy back by the Govt.**

- ULBs to identify private lands for acquisition and set apart for construction of houses to the developer cost of acquisition +10% shall be payable by the selected developer
- Land owners whose lands already under acquisition for residential schemes of DAs/UITs /ULBs. may be used for creation of stock under Affordable Housing Policy like in Model No.2.
- 52% of the land will be used for EWS/LIG/MIG-A as per Model No: 2 of the policy
- Remaining 48% land allowed to be used for HIG and other category of flats

**Model No-4: Private developers on Government land: Free land by Govt. in lieu of constructed houses (For Rental housing or outright sale basis)**

- The ULBs to offer Government Land for construction of EWS/LIG flats through open bidding process.
- Land is offered free of cost but the bidding parameter is the maximum number of flats offered by the bidder
- The developer offering the maximum Flats is awarded the project.

## Model No-5 : Slum Housing : on PPP Model

- To encourage PPP Model for Slum Redevelopment
- Slum Development Policy issued by the State Government on 22.08.2012..
- Slums situated on Govt. land as well as on private lands can be taken up for Redevelopment
- Several incentives – FAR 4.0 , Commercial 10% , High rise permitted on developers segment

## INCENTIVES TO THE DEVELOPERS

- FAR – Double Of The Permissible FAR,
- Facility Of TDR As Per TDR Policy
- Complete waiver of -
  - 1.EDC
  - 2.Building Plan Approval Fees,
  - 3.Conversion Charges
- Commercial Use Upto 10% Of Plot Area
- Fast track approval of the project
- Buy back of the flats by the nodal agency of the state govt. at pre-determined price i.e rs 750 /\* per sq ft on super built up area for EWS/LIG & Rs 1000/- per sq ft for MIG-A

(\*Price revised to Rs 850 per sq ft looking to extra ordinary rise in construction cost .)

*Source : Rajasthan Affordable Housing Policy (2013)*

# **HARYANA AFFORDABLE HOUSING POLICY**

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# AIM OF THE POLICY

- The development of 'Mass Housing Projects' takes place which are 'Affordable' for general public by relaxing the norms pertaining to density, FAR, siting norms etc.;
- 'Stringent Allotment Parameters' are prescribed so that the benefits get passed on the intended beneficiaries through a transparent mechanism;
- Projects get executed at a fast pace so that the benefits are passed on to the general public without much delay.

All applications that are complete in all respects and are received in a specific quarter (JAN-MAR; APR-JUN; JUL-SEP; OCT-DEC) after this policy comes into effect shall be examined on the basis of certain criteria viz :

S. No.	Criteria	Corresponding weightage		
1	Completion of Development works in the sector <i>(Partcompletion by licencees or Possession offered by HUDA)</i>	75% of the sector Developed	50% of the sector Developed	Less than 50% of the Sector Developed
2	Location of site on a ROAD of at least 18 meter width.	Road Constructed & Operational	Land for Road Acquired, but yet to be constructed	Land for Road Yet to be acquired
3	Functional Water Supply and Sewerage at site from which services can be derived.	Both services Functional	One service functional	None functional
4	Any other project considered/ applied in the sector before the present application.	No	One additional application	More than one addl appln

Based on the above, Projects are approved.

*Source : Haryana Affordable Housing Policy (Draft Policy - 2013)*

- The projects under this policy shall be allowed only in the residential zone of the notified Development Plans of various towns/cities of the State.
- The maximum area for which such projects can be allowed in a Development

Plan shall be governed by the following criteria:

S. No.	Development Plan	Maximum aggregated area (acres) of Projects allowed in the urbanisable limit of a specific Development Plan
1	Gurgaon, Faridabad, Panchkula including Panchkula Extn, Pinjore Kalka	300
2	Sonipat, Panipat, Karnal, Dharuhera, Bahadurgarh & Sohna	150
3	Rest of the Development Plans	75

**Minimum and maximum area for such project:** The minimum and maximum area for such projects shall be 5 acres and 15 acres respectively irrespective of the Development Plan where such project is proposed.



# AFOORDABLE HOUSING PROJECT IN HARYANA

## Affordable HOUSING



The desire of having a home in Gurgaon was a withdrawn dream for many people until sometime back. But the dream is now being converted into a reality as people may yet have an opportunity to own a home under various offerings being launched under the Haryana's 'Affordable Housing Scheme'. Sumit Roy writes...

The maximum allotment rate for the apartment units approved under such projects would be Rs. 4,000 per sq. ft. of carpet area in the development plans of Gurgaon, Faridabad, Panchkula and Piplim-Walka, Rs. 3,000 per sq. ft. in the development plans of other high and medium potential towns.

Haryana Government in August 2013, introduced Affordable Housing Policy and invited developers to apply for the scheme, with a view of providing affordable housing to persons belonging to Economically Weaker Sections (EWS), Of the one application to the Haryana government received from Gurgaon, the Haryana government has approved it under the policy. It is now being implemented. The Haryana government has approved the project under the policy. It is now being implemented. The Haryana government has approved the project under the policy. It is now being implemented.

According to reports, the policy would also help in providing affordable housing to persons belonging to Economically Weaker Sections (EWS), Of the one application to the Haryana government received from Gurgaon, the Haryana government has approved it under the policy. It is now being implemented.

**HIGHLIGHTS**  
Carpet area is minimum for 500 sq. ft.

**1 & 2 BHK STARTS FROM Rs. 15.24 lacs**

**From 19th November 2014 to 30th December 2014**

Applications are invited from general public for booking of Residential Apartments in the Affordable Housing Project proposed to be developed as per terms and conditions of the policy prescribed by the Town & Country Planning Department, Government of Haryana vide notification no. PF-27/48921 dated 19.08.2013 (details available at the Department website, i.e. tcharyana.gov.in).



## FREE DOWN FROM HOUSE RENT

**1 BHK available for Rs. 12.53 Lakhs**  
**2 BHK available for Rs. 20.80 Lakhs onwards**

**HURRY! Only Last 5 Days Left**

**PAY JUST 5% ON APPLICATION**

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Source : Hindustan Times (3rd Nov. 2014)

## AFFORDABLE HOUSING SCHEME

Under Affordable Housing Policy of Haryana Government

### KRISHNA HOUSING SCHEME 2014

1 & 2 BHK STARTS FROM Rs. 15.24 lacs

From 19th November 2014 to 30th December 2014

Applications are invited from general public for booking of Residential Apartments in the Affordable Housing Project proposed to be developed as per terms and conditions of the policy prescribed by the Town & Country Planning Department, Government of Haryana vide notification no. PF-27/48921 dated 19.08.2013 (details available at the Department website, i.e. tcharyana.gov.in).

Project Details	
1 Project Approvals	Colours/Developer: Raheja Developers Ltd., Lic.No.: 115 of 2014, dt. 20.8.14, Building Plan : ZP-1016/AB/CR/2014/24662 dt. 12.11.14
2 Location	Sector-14, Sohna, Gurgaon
3 Provisions	Project Area: 10 acres comprising a total 1660 no. of apartments. Community Facilities: One Community Hall of 2000 sqft and One Jog/Jayant-sports area of 2000 sqft.
4 Apartment Details	Category 1 (1BHK-Type1): 1108 no. of apartments of 414.57 sq. ft. (approx.) carpet area and balcony (incl) with an aggregated area of 44.58 sq. ft. (approx.) with a two-wheeler parking. (1BHK-Type2): 452 no. of apartments of 426.06 sq. ft. (approx.) carpet area and balcony (incl) with an aggregated area of 64.58 sq. ft. (approx.) with a two-wheeler parking. Category 2 (2BHK-Type1): 80 no. of apartments of 630.85 sq. ft. (approx.) carpet area and balcony (incl) with an aggregated area of 99.61 sq. ft. (approx.) with a two-wheeler parking. Category 2 (2BHK-Type2): 40 no. of apartments of 440.61 sq. ft. (approx.) carpet area and balcony (incl) with an aggregated area of 99.61 sq. ft. (approx.) with a two-wheeler parking.
5 Allotment Rate of Apartment (all inclusive)	Category 1: (1BHK-Type1) Rs. 15.24 lacs/ apartment (approx.) Category 1: (1BHK-Type2) Rs. 15.64 lacs/ apartment (approx.) Category 2: (2BHK-Type1) Rs. 23.20 lacs/ apartment (approx.) Category 2: (2BHK-Type2) Rs. 23.54 lacs/ apartment (approx.) The above rate is on an inclusive basis of apartment as per norms prescribed under the policy notified vide no. PF-27/48921 dated 19.08.2013 (details available at the Department website, i.e. tcharyana.gov.in).
6 Payment Terms	i. With application: Booking amount, i.e. 5% of cost of flat. For Category 1 (1BHK-Type1) : Rs. 76,201 For Category 1 (1BHK-Type2) : Rs. 78,305 For Category 2 (2BHK-Type1) : Rs. 1,16,943 For Category 2 (2BHK-Type2) : Rs. 1,17,800 ii. On allotment: additional 20% of cost of flat. For Category 1 (1BHK-Type1) : Rs. 3,04,804 For Category 1 (1BHK-Type2) : Rs. 3,13,221 For Category 2 (2BHK-Type1) : Rs. 4,64,173 For Category 2 (2BHK-Type2) : Rs. 4,71,200 iii. Balance 75% of the amount is to be paid monthly installments over three year period. No interest shall be levied before the due date of payment. Any default in payment shall invite interest at the rate of 15% per annum on delayed payment.
7 Broad specifications of the apartment	Flooring: Bedrooms/Halls/Kitchen/Toilets/Balconies: Vitrified & anti-slip Ceramic Tiles, Wall Finish: Plaster with OGD, Wall Tiles: Ceramic Tiles, Kitchen: Sub platform, Single bowl SS sink, Doors: Painted Wood Frame Door, Windows: MS Section Frame, Standard Choseners & CP Fittings, Standard Switches/Sockets, Racking: M.S.
8 Applications	i. Applications can be received from: 4th Floor, Rectangle One, District Centre, Sector, New Delhi-110017 by paying an application fee of Rs.450/- starting from 19.11.2014 ii. Last Date of submission of Applications: 30.12.2014

Eligibility	Allotment Criteria
1. The applicant should not be debarred from entering into legally binding contract under any prevailing law. 2. Any person can apply but person which includes his/her spouse or his/her dependent children who do not own any flat/plot in any HUDDA developed colony/sector or any licensed colony in any of the Urban Areas in Haryana, UT of Chandigarh and NCT/Dehli shall be given first preference in allotment of flats. 3. Any applicant can make only one application. Any successful applicant under this policy shall not be eligible for allotment of any other flat under this policy in any other colony. In case, he/she is successful in more than one colony, he/she will have choice of retain only one flat.	1. The allotment of apartments shall be done through draw of lots in the presence of a committee consisting of Deputy Commissioner or his representative (at least of the cadre of Haryana Civil Services), Senior Town Planner (Circle office), DTP of the concerned district and the representative of allottee concerned. 2. After fixation of date for draw of lots, an advertisement shall be issued by the Developer informing the applicants about the details regarding date/time and venue of the draw of lots in the same newspapers in which the original advertisement was issued. 3. For detailed criteria and time-frame to be adopted for scrutiny and allotment, the applicants may also refer to the details in the Affordable Housing Policy 2013 notified vide no. PF-27/48921 dated 19.08.2013 (available at the Department website, i.e. tcharyana.gov.in).

Application Forms available at select branches of following banks: ICICI BANK, HDFC BANK, IDBI BANK, YES BANK, Federal Bank, etc.

For updated & detailed list, log on to www.raheja.com

**RAHEJA DEVELOPERS LTD.**  
To know more: call 011-406 11111 | log on www.raheja.com

Source : Times of India (19th Nov. 2014)

# CLIMATE CHANGE

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# CLIMATE CHANGE IMPACT

- Climate change causes vulnerability of human settlements which is related to extreme weather events and such gradual changes in the climate exceed the adaptive capacity of human systems.
- ***Climate change adds to the existing stress on the sustainability of human settlements and society.***
- Non climate sources of change like ***rapid urbanization*** are often the main source of stress.
- It has also led to deterioration in the quality of city environment. In several cities, the problems of traffic congestion, pollution, poverty, slums, crime and social unrest are assuming alarming proportions.

- Climate change is likely to ***exacerbate the existing stresses*** that these settlements already face.
- It may also impact measures that are being undertaken for sustainable development of Urban areas.
- Slum dwellers often lack secure tenure, proper shelter, water, sanitation, electricity and other services. Most have no insurance. Climate change may add to their problems.

Dealing with climate change broadly requires two sets of actions.

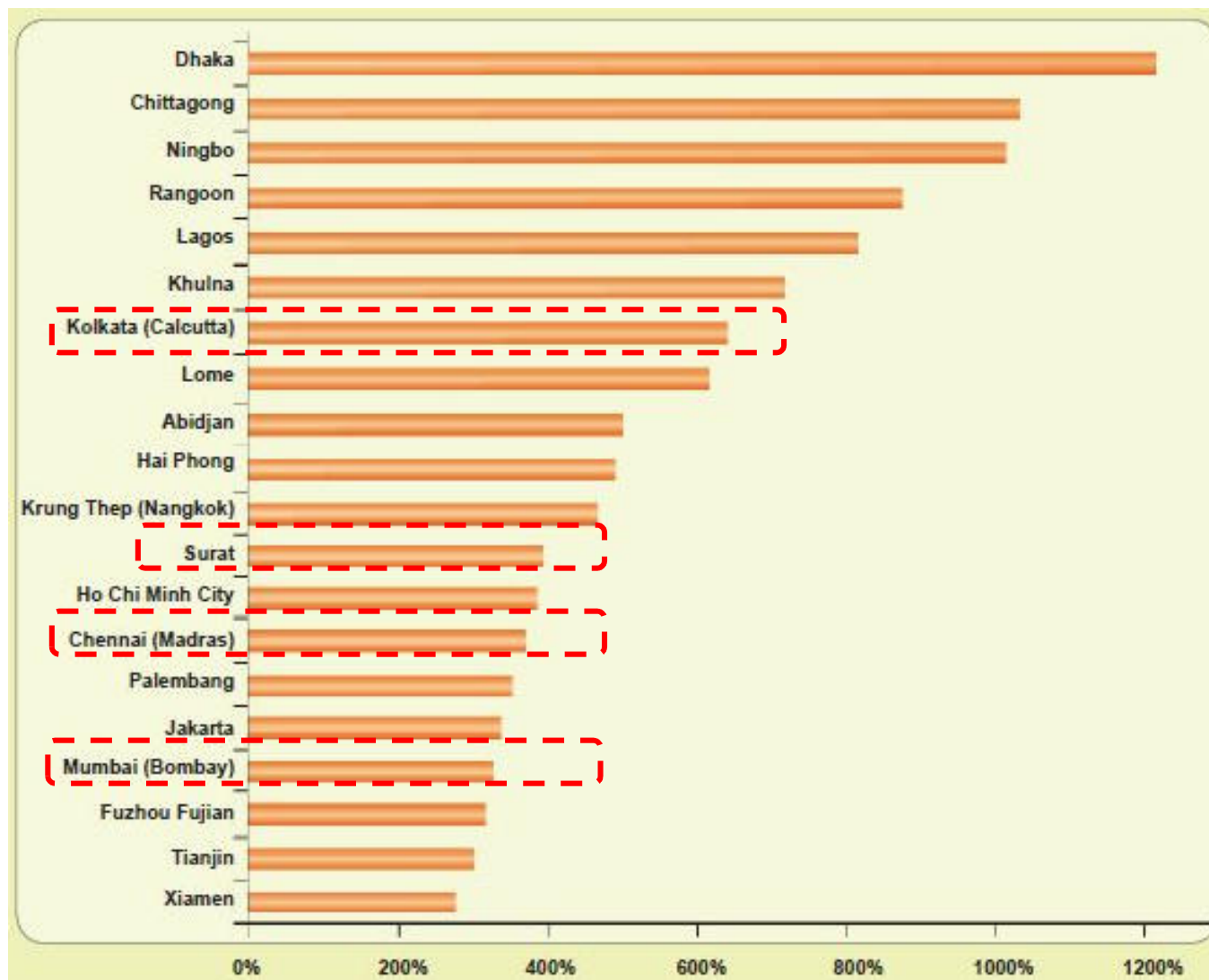
1. Relates to Mitigation and
2. Relates to Adaptation.

## Top 10 Countries by Population Currently Exposed and Vulnerable to Climate

Number of Cities	Exposed Population (000s)	Country
15	8,154	China
17	6,538	United States of America
6	5,412	India
6	3,683	Japan
2	2,725	Vietnam
2	1,591	Netherlands
3	1,540	Bangladesh
1	1,330	Egypt
1	907	Thailand
4	700	Indonesia

Source : National Mission On Sustainable Habitat Report (2014)

# Top 20 Cities by Population Currently Exposed and Vulnerable to Climate



Source : National Mission On Sustainable Habitat Report (2014)

# ENERGY EFFICIENT URBAN AREAS

- Low rise and higher density is a way to improve the overall energy efficiency of urban areas.
- General urban consolidation and more intensive mixed use of local activity centers close to public transport nodes provide opportunities to lower carbon emissions.
- The planning of housing areas can significantly affect living comfort during heat waves. Innovative cooling systems contribute to limitation of emissions.
- Planners should take into account specific effects of climate change while planning for a region.

*Source : National Mission On Sustainable Habitat Report (2014)*

- City governments should be made accountable for greenhouse gas emissions caused by poorly planned suburban sprawl.
- Some of the specific strategies could include the following:
  1. ***Comprehensive urban renewal*** – implementing master plan proposals/redevelopment plans for special areas.
  2. ***Sustainable Urban Design*** - Zonal Development Plan/Area Specific Plan/Layout Plans and implementation and enforcement of Development Control Regulation (DCR) and Building byelaws (BBL) – energy efficient design.
  3. ***Increasing tree cover*** - by mandatorily setting aside spaces for plantation at plot level.



- 4. *Orientation of buildings* - site planning.**
- 5. *Increase use of non-conventional energy sources through incentivisation and building design.***
- 6. *Better enforcement of Urban Development Plan.***

*Source : National Mission On Sustainable Habitat Report (2014)*

# **NATIONAL MISSION ON SUSTAINABLE HABITAT**

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# MAIN COMPONENTS OF THE MISSION

- **National Sustainable Habitat Standards (Legal/Regulatory Measures).**
- **Principles of sustainable Habitats to be incorporated in City Development Plans.**
- **Complimentary Actions.**
- **Capacity Building Measures.**
- **Research and Development.**



## Conclusion

- There is an ***urgent need to address various issues related to affordable housing for promoting Real estate developer participation.***
- This is a ***great opportunity for introducing new technologies for speedy*** and affordable construction.
- This is also an opportunity to introduce ***green materials and construction technologies.***

# THANK YOU.. !!

Please send your comments and suggestions to  
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