The Paradox of Vacant Houses in India

Ahmedabad City Report

Dhaval Monani

Sharadbala Joshi

Zeeshan

Anant Centre for Sustainability

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https://drive.google.com/file/d/19tQbrslCJyibUunxYsZeV6nqkoFZ5Fom/
view?usp=sharing

Acknowledgement

About Anant Centre for Sustainability

We are a think-teach-do tank established within Anant National University that focuses on affordable housing, indigenous models of circular economy, and building sustainable education campuses in India. We publish research reports and multimedia products, create and teach relevant course work, and implement projects.

Preface

Dear Readers,

The estimated housing shortage in India is close to 20 million and heavily skewed towards the country's poorest socio-economic group. Going by the last census in 2011, 56.18 percent of the shortage pertains to households with annual incomes of Rs 100,000, and 39.44 percent is for those with annual incomes of less than Rs 200,000. It is indeed the poorest in India who have inadequate shelter.

The situation is even more dismal when one considers the tragic case of 11 - 18 million children in India who live on the streets everyday with or without their families. It was equally unfortunate when we witnessed the fate of approximately 26 lakh migrants who upon the outbreak of COVID-19 were recently stranded across the country where their mass exodus out of cities was primarily due to lack of livelihood and inadequate shelter.

Homelessness in India is grave in magnitude, and also diverse in the socio-economic factors causing it, as much as it is complex to solve. However, I believe that one solution is to tap on the large numbers of vacant houses in India, especially in the affordable housing segment. According to the last census in India, 7.5% of residential buildings in the country are lying vacant. There has been no further primary data collection on this baffling trend, and neither do we know the reasons for which the abundant numbers of houses in India are lying vacant. Gathering data on numbers and reasons for vacant houses in India is an excruciating and complex task, essentially because the individuals who need to be questioned are the missing homeowners of those vacant houses. However, I believe that with greater clarity on numbers and reasons - which often vary even across districts of the same town - reducing the numbers of vacant homes in India can be a credible solution to shrink the housing shortage in India.

This is why, at the Anant Centre for Sustainability - a think-teach-do tank that I established 2 years ago within Anant National University - we launched an annual report to investigate the paradox of vacant houses in India, one city at a time each year. The first report in this series of reports focuses on Ahmedabad, the capital city of the vibrant state of Gujarat where 13.7% houses are vacant such that the state is second only to Goa amongst states in India with maximum number of vacant homes.[1]

The primary survey for this report was conducted in 3 steps over the course of a year, starting with a pilot dip-stick survey of 120 Ahmedabad residents by students of Anant National University that helped us formulate the hypothesis; moving to survey close to 1000 residents of 35 societies in Ahmedabad; and finally conducting in-depth interviews and focus group discussions with residents of 498 apartments across 50 housing societies built for Economically Weaker Sections, Lower Income Groups, and Middle Income Groups in Ahmedabad where large numbers of homes were found vacant. This survey of residents was accompanied by interviews with

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1   Source: Census of India 2011

subject matter experts, resident associations, brokers, private sector builders, government officials. I hope you find the findings of this in-depth report useful and the proposed solutions helpful to implement.

While embarking upon conducting this study, we had never imagined that we would implement some of the solutions even before the report would be published. In April 2020, at the time when India had only about 2,543 cases of COVID-19, the authors of this report submitted a detailed proposal to the Prime Minister's Office about how to transform vacant community halls, marriage halls, office spaces, and residential buildings into temporary hospitals and quarantine facilities for COVID-19 patients in an effective yet highly affordable way. In our proposal to the PMO, we included intricate details about the vacant spaces that were suited for specific COVID-19 conditions, room layouts, list of equipment required, costs, vendors, as well as a financing structure that did not require the government to pay for the costs to set up COVID-19 recovery facilities in vacant buildings.

Before the end of that week, the authors of this report heard back from the Ministry of Commerce. But by that time, we already had a vacant hall in Thiruvananthapuram and a vacant building in south Mumbai that we were converting in to temporary hospitals for COVID-19 patients. These 2 projects would be designed, implemented, and funded by AnantU. Within the same fortnight we had transformed three more facilities totalling 700 beds in Mumbai in to quarantine facilities, at one tenth of the cost of traditional quarantine centres. Dhaval Monani, Director of Affordable Housing at AnantU came up with an incredibly ingenious design of making hospital furniture out of laminated corrugated cardboard that were durable, waterproof, priced at 10% of the cost of a steel bed. The rest if the equipment is at manufacturing cost and the cheapest in the market. Due to the relentless efforts of Professor Monani and the team, within three days we built up the capacity of manufacturing 2,500 beds, tables, room separators every week, and transporting them to any place in India. In the subsequent weeks, the authors of this report were setting up new COVID recovery facilities across India within vacant buildings every week.

Measures for reducing the numbers of vacant houses in India as well as leveraging them for use, must start with taking stock of the location and reasons for vacancy of these homes across the country. Thereafter, the solutions enlisted in this report must be the responsibility of both the government and the private sector. Universities in India such as Anant National University are beginning to step up as sources of innovative solutions such that they are becoming important partners in research and implementation of projects for India's development.

Dr. Miniya Chatterji
Director, Anant Centre for Sustainability

Content

Abbreviations

AMC	Ahmedabad Municipal Corporation
AUDA	Ahmedabad Urban Development Authority
BBMP	Bruhat Bengaluru Mahanagara Palike/ Greater Bengaluru Municipal Corporation
BHK	Bedroom, Hall and Kitchen
BRTS	Bus Rapid Transit System
CBOs	Community Based Organizations
EWS	Economically Weaker Section
FAR	Floor Area Ratio
FSI	Floor Space Index
GDCR	General Development Control Regulations
GHB	Gujarat Housing Board
GoI	Government of India
HIG	Higher Income Group
HNIs	High Net Worth Individuals
LIG	Low Income Group
MIG	Middle Income Group
MoHUPA now MoHUA	Minister of Housing and Urban Poverty Alleviation now Ministry of Housing and Urban Affairs
NCT of Delhi	National Capital Territory of Delhi
OECD	Organization for Economic Cooperation and Development
OLS	Ordinary Least Squares
PMAY-U	Pradhan Mantri Awas Yojana (Housing for all – Urban)
R-AH Zone	Residential – Affordable Housing Zone
RERA	Real Estate Regulatory Authority
RK	Room and Kitchen
RWA	Resident Welfare Association

Paradox of Vacant Houses in India

Definitions of key terms

House

The term 'House' in India covers a diversity of dwellings. The 2011 census defined 'House' as "a building or part of a building used or recognized as a separate unit because of having a separate main entrance from the road or common courtyard or staircase etc. It may be occupied or vacant. It may be used for a residential or non-residential purpose or both." Further, a building having a number of flats or blocks that are independent of one another and have separate entrances from the road or a common staircase or a common courtyard that leads to a main gate are also considered as separate Census houses.[1]

Housing shortage

The shortfall in the number of houses needed to accommodate the population of an area is referred to as 'housing shortage'. It can be defined as the difference between the households of an area and the housing available to accommodate this population.

Housing Shortage = Households of an area - housing available in that area

Vacant housing

As per the instruction manual of house listing and housing census, vacant housing is defined as a census house that is found vacant at the time of house listing; that is, no person is living in it, and it is not being used for any other non-residential purpose(s). The enumerator identifies any house, which is not being used for any other non-residential purpose(s) but is vacant at the time of house listing as being vacant together with the reason of vacancy, such as dilapidated, in want of or under repair, under construction, for letting, or awaiting demolition. If the Census as house was found locked because the occupants were travelling, then it was not identified as a 'vacant' that was locked because the 'occupants on journey/pilgrimage'.

Primary data on numbers of vacant housing mostly at a city level is available from the Census data, but the reasons noted by the enumerator are considered as part of methodology, not Census findings, and therefore not published.

Income categories in India

People who are not covered under the Scheduled Castes, Scheduled Tribes and Other Backward Classes reserved categories for affirmative actions are identified by four income categories based on annual income limits. They are: Economically Weaker Sections (EWS), Low-Income Groups (LIGs), Middle Income Groups (MIGs) and Higher Income Groups (HIGs).

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1   Census of India 2011. Instruction Manual for House listing and Housing Census, GoI. Accessed from: https://www. censusindia.gov.in/2011-Documents/Houselisting%20English.pdf

Table 0.1 : Income categories of households

Category	Jawaharlal Nehru National Urban Renewal Mission (JNNURM)		Rajiv Rinn Yojana with revised household income effective March 2013[2]
	Interest Subsidy Scheme for Housing the Urban Poor (ISHUP) in 2009	Rajiv Awas Yojana, launched in 2011	
	Monthly Income limit		Income per annum
Economically Weaker Section (EWS)	Up to INR 3,300	INR 5000	INR 100,000
Low Income Group (LIG)	INR 3,301 to 7,300	INR 5001 to 10,000	INR 100,001 to 200,000
Middle Income Group (MIG)	INR 7,301 to 14,500	Not revised/ specified	Addresses housing needs of EWS and LIG groups in urban areas through enhanced credit flow.[3]
High Income Group (HIG)	More than INR 14,500	Not revised/ specified	

The current limits for annual income and carpet area of houses for the different groups under the Pradhan Mantri Awas Yojana (Housing for All - Urban) are as given below.

Table 0.2 : Details of PMAY[4]

Category	Carpet Area in Sqm Economically Weaker (Effective June 2018 for Credit Linked Subsidy Scheme)	Area in Sq.Ft.	Income criteria under Housing for All Mission/ PMAY-U
Economically Weaker Sections (EWS)	Up to 30 Sqm within municipal limits of 4 metropolitan cities. Up to 60 Sqm. for the rest of the country, including in peripheral areas of metros.	323	Up to INR 300,000
Low Income Group (LIG)	up to 60 Sqm.	646	Between INR 300,001 - 600,000
Middle Income Group I (MIG I)	up to 160 Sqm (upgraded from original 90 Sqm to 120 Sqm and 160 Sqm)	1292	Between INR 600,001 – 1,200,000
Middle Income Group II (MIG II)	up to 200 Sqm (upgraded from original 120 Sqm to 150 Sqm to 200 Sqm)	1615	Between INR 1,200,001 - 18,00,000
Higher Income Group (HIG)	NA	NA	Above INR 1,800,001

2   MoHUPA, (2015). Pradhan Mantri Awas Yojana-Housing for All (Urban), Scheme Guidelines 2015. Accessed from: https://pmaymis.gov.in/PDF/HFA_Guidelines/hfa_Guidelines.pdf

3   MoHUPA, (2013). Rajiv Rinn Yojana (RRY) Guidelines. Accessed from: https://www.nhb.org.in/Urban_Housing/RRY-Guidelines.pdf

4   MoHUPA, (2015). Pradhan Mantri Awas Yojana: Housing for All (Urban), Scheme Guidelines. Accessed from: https://pmaymis.gov.in/PDF/HFA_Guidelines/hfa_Guidelines.pdf

Economically Weaker Sections (EWS)

Households with an annual income of up to INR 300,000 are defined as EWS. However, under the Rajiv Rinn Yojana, launched in 2013, which provides an interest subsidy for housing the urban poor, households with an annual income of up to INR 100,000 are defined as EWS.

Low Income Group (LIG)

Following from above, under the Rajiv Rinn Yojana, households with an annual income between INR 100,001 and INR 200,000 are defined as LIG.

Middle Income Group (MIG)

Households with a monthly income of INR 7,301 to INR 14,500 come under the category of MIG.

Circle rate

The circle rate is the minimum value at which the sale or transfer of a plot, built-up house, apartment, or commercial property can occur. This rate is set by the state government's revenue department or the local development authorities.

Abstract

In India, there is a mismatch between the shortage of housing and the presence of a large stock of vacant houses, especially in the affordable housing segment. The estimated housing shortage in India is 18.78 million and heavily skewed towards the country's poorest socio-economic group. On the other hand, according to Census 2011, the percentage of vacant houses in the country increased from 6.3 in 2001 to 7.5 percent in 2011. The percentage of vacant houses in the country increased from 6.3 in 2001 to 7.5 percent in 2011.

In order to explore the reasons for this mismatch between vacant houses and shortage of houses, the Anant Centre for Sustainability is committed to undertaking research on the 'Paradox of Vacant Houses in India' in selected cities in the country. The first research was undertaken in schemes for the Economically Weaker Section (EWS), Low Income Groups (LIG) and Middle Income Group (MIGs) in Ahmedabad during 2019 to determine the reasons for vacant houses in the city.

Our primary research in Ahmedabad involved in-depth interviews and focus group discussions with residents of 498 apartments across 50 housing societies built by the private sector and government after year 2010, besides interviews with Resident Welfare Associations, brokers, and developers in the city.

The findings from the research reveal that some reasons for vacant houses in Ahmedabad are specific to the dynamics of the city and some to the development of housing schemes by the government of India and the private sector. The findings are summarised below.

Distribution of vacant houses across the city

- There are more vacant houses in government schemes than in privately constructed schemes. Overall, vacant houses in government schemes (17.7 percent) is more than 3 times higher as compared to private schemes (5.6 percent).
- There are more vacant houses in the south-east than in the south-west areas of Ahmedabad. Whereas, south-east and north-east areas seem similar in vacant houses. While the overall vacant house rate in the south-east is about 14.2 percent; the rate of vacant houses in government constructed schemes at 20 percent is almost double that of privately constructed schemes (10.7 percent). Similarly, in North-East Ahmedabad, rate of vacant houses in government schemes (18.9 percent) is almost four times higher as compared to privately developed schemes (5 percent). The South-West of the city, which has the lowest vacancy rate at 3.7 percent, has higher vacancy rates in privately developed schemes (5.2 percent) compared to government developed schemes (1.2 percent).

Road Connectivity and Vacant Houses

- The type of road access to a housing scheme is taken as proxy for the connectivity of that area to the rest of the city. Societies associated with a main road reported the least percentage share (6.25 percent) in the critical vacancy category (societies greater than 30 percent vacancy rate). These societies were located in economically upscale areas and with access to basic amenities such as schools, garden, mall, hospital. Schemes located on interior roads reported the highest percentage share (22.47 percent) in the critical vacancy category.

Rate of vacant houses and value appreciation overtime

- The study compared the 2019 value of vacant houses with its value before 3 years as well as growth of value appreciation. This revealed negative appreciation in some schemes and value appreciation from 4.4 percent to 49.2 percent. The direct and positive relationship between appreciation values and the number of vacant houses shows an indication of investment being a driver for keeping houses vacant.

Determinants of vacant houses

- One of the key reasons for vacant houses in government developed schemes includes problems related to documentation (23.41 percent), that is, there is delay in registry or issue of possession papers because a potential occupant/ allottee is unable pay the required down payment on time. This is often because her/ his home loan has not been approved due to incomplete documents. The other reasons include the allottee/ buyer having purchased for investment purpose (23.08 percent) or the poor infrastructure (19.04 percent) in the scheme area. The category of poor infrastructure includes factors such as no play areas for children, non-availability of good schools in close proximty, peripheral location of the scheme, inadequate parking space, and lack of regular water supply. The other two reasons given for the vacant houses included distance from the workplace (10.03 percent) and shifting soon (9.7 percent).

Recommendations based on findings from Ahmedabad

Rental

- Second homes that are vacant should be taxed at a higher rate than occupied units to discourage owners from keeping the homes vacant. Specifically, homes that are owned by individual owners and not occupied for more than 6 months a year should be taxed higher property tax and notional rent.
- Availability of efficient and affordable public transport, as well as distance or location of home from the workplace are important factors in decision-making for purchase of houses. There is a significant trade-off between the size/quality of the house and proximity to the workplace. Thus, good public transport can contribute greatly to families deciding to live further from their workplaces.
- Rental yields in India remain very low – ranging between 1 to 3 percent annually, which is more than 50 percent lower than the risk-free rate. This can be addressed by not taxing rental income from housing up to a threshold that is determined by the type of urban area (Tier I, II and III city) and type of housing (EWS, LIG, MIG, or HIG). The benefit is that this would ensure declaration of income and reduce cash transactions that are the norm in many rental housing deals.
- Make eviction easier, most housing rental contracts are structured for 11 months to cope with the challenge of evicting tenants. However the 11 month contract brings uncertainty both to the tenant and property owner. Making eviction easier will remove some of this pressure. From the tenant's point of view, longer tenancy will entail investment in the rented property and from the property owner's perspective it will bring in more visible cash flows.
- To make rental housing returns closer to market returns and thus incentivise rental housing, affordable housing projects that have at least 30 to 50 percent units that are to be rented should be part of priority sector lending. These projects should be made exempt from income tax and other taxes.
- Housing projects that have 30 to 50 percent rental units should be able to access higher FSI.

Location – Infrastructure - Design

- Developers could be compensated through tax credits or tax exemptions to build trunk infrastructure to connect their projects to existing trunk infrastructure. This would include roads, water supply, drainage, and electricity.
- The government could create specifications at a national level through the National Building Code, so a minimum standard can be maintained. To reduce rent-seeking opportunities, this infrastructure can be certified by third-party inspectors.
- Put emphasis on building maintenance. Although maintenance, especially for elevators, water supply, sewerage, and garbage disposal is commonly a responsibility of the developer for a fixed number of years, it often continues only until all houses are occupied. Further, the developer often does not adequately ensure efficient functioning of services. Thus, poor maintenance is one of the critical reasons for the high vacancy, especially in buildings with higher floors.

Social constraints in housing development projects

Government projects have shown a higher than average rate of vacancy, with some projects being critically vacant (30 percent or above). The reasons for this include the fact that investors have gained access to this supply through loopholes, or that multiple individuals of a family are allotted homes in different locations through the lottery system. Further, beneficiaries vacate their homes as either they are logistically inconvenient, or the social infrastructure they need do not exist in these locations. These challenges can be addressed through the following actions:

- In certain cities such as Ahmedabad, a change in the allotment process from individual allotments in scattered locations to allotment to groups within specific scheme areas will contribute substantially to social groups being maintained.
- Government projects need to marketed better. The perception of government housing projects being substandard needs to be removed and this needs to be communicated both to beneficiaries and the public in general.
- We should have more mixed-use development in specific cities. Government projects are usually classified according to the class of beneficiaries, and thus each development is meant for only one economic class. Mixed used developments could help increase multiple development indicators and could potentially reduce class and community segregation in certain areas. This could help in reducing vacancies and possibly help property owners gain better rental incomes.
- We should have larger integrated projects with more commercial elements. Commercial activities such as shops, offices, or even government offices would create organic demand for occupancy in these developments at multiple price points and could help towards reducing vacancy.

Offer financial solutions

A large part of the vacant stock in Ahmedabad is unsold inventory. The demand exists but most likely at a price point that is 20 to 30 percent lower than what it is offered at present. Conventionally it would not be possible for a developer to correct prices by 30 percent, but the government can introduce measures to help bring down the cost. One or more of the proposed measures below can be introduced.

- Funds appropriated for priority sector lending are largely left unused. The government can earmark these funds for special mortgage loans in projects that are more than 50 percent unsold one year after completion. These loans to end users can be capped at INR 1.5 million. Over a period of 20 years this could lead to savings of nearly INR 600,000 for the end user and motivate them to consider such projects.
- The Government has given 100 percent tax exemption to projects that are less than 60 sq.m in area in metros, and 90 sq.m in area in all other cities under Sector 80 IB (A). The developer has to pay 15 percent MAT which can be adjusted against any other income tax liability over the next 8 years. This can be retrospectively applied to projects that do not qualify under the above criteria but are completed

and have more than 50 percent vacant units two years after completion.

- State government charges stamp duty at anywhere between INR 1000 for select PMAY projects. The Government of Gujarat charges 5% stamp duty for men home buyers and 4 percent of women home buyers. The state government can effectively reduce the purchase price of the housing unit by 5 percent by making projects that have been completed for two years and more than 50 percent vacant, exempt from stamp duty or by charging a token INR 1000.

- If retrospective tax exemption is given to builders and they pass on the benefits amounting to 10 percent of sale price, and further the government gives exemption on stamp duty – the total saving for the consumer would be approximately 15 percent of sale value. For a house costing INR 20,00,000 or Rs. 20 lakh, this amounts upto INR 3 lakh.

- An added incentive can be free TDR equal to the unsold inventory if the developer is able to clear the inventory within 12 months after notification. This not only incentivizes the developer to slash prices but to avail the benefit he has to develop another project, which in turn helps keep the investment cycle going. There should be a provision that any promoter can avail of this only once.

1   About the study on vacant houses by the Anant Centre for Sustainability

The Anant Centre for Sustainability, a think-teach-do tank established within Anant National University, focuses on low-income and affordable housing, indigenous models of a circular economy, and on building sustainable campuses in India. The research track on housing for low-income groups focuses on research that will throw light on the present scenario of housing available for low-income groups, including vacant houses, microfinance, and the nuances of the offering of financial products in the context of demand, as well as of the vendors engaged with the supply side of affordable housing.

Data on the housing shortage, the slow pace of construction of government subsidized housing, and a high percentage of vacant houses suggest that the government of India's (GoI) goal of achieving 'Housing for All' by 2022 is more likely to be achieved if the houses that are currently vacant come into the rental market. In order to identify the reasons for the mismatch between the shortage of housing on the one hand and the presence of a large stock of vacant houses, on the other hand, it is important to determine the reasons for vacant houses across all income groups.

The Anant Centre for Sustainability (Centre) is studying the paradox of vacant houses on a city-by-city basis. We believe that to study the so far vastly under-researched subject of the paradox of vacant houses in India, we must meaningfully investigate the reasons and solutions one city at a time. We hypothesise that many of the solutions for narrowing the gap between the demand for affordable housing and vacant affordable houses must be city specific. Solutions from the government and the private sector must be informed by and framed according to local contexts. A granular assessment of the reasons for the paradox in each city, we believe, will form the basis of the formulation and implementation of effective policy and private sector projects.

Gujarat is becoming a favoured destination for interstate migrants after Delhi and Maharashtra, with most of the migrants as of 2017 coming from Maharashtra, Uttar Pradesh, Rajasthan, and Bihar.[5] A large proportion of these migrants are moving to Ahmedabad — an important economic and industrial hub with prominent pharmaceuticals, automobile and textile industries based in and around the city. Ahmedabad is also known for prestigious higher-education institutes, a significant advancement of the information technology sector, and achievement of considerable levels of infrastructural, industrial, and economic development.

The Anant Centre for Sustainability being based in Ahmedabad, and because of the high shortage of houses as well as high vacancy rates in the city, Ahmedabad was identified as the first study location of the Anant Centre for Sustainability's 'City Series Reports on the Paradox of Vacant Houses in India.'

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5   Sugandhe, A. (2017). Gujarat Becoming New Destination for Inter-State Migrants. *Journal of Economic & Social Development, 13(1).*

2   Housing shortage and vacant houses in India

In 2012, the estimated housing shortage in India was 18.78 million and heavily skewed towards the bottom of the pyramid, which is the largest but poorest socio-economic group. 56.18 percent of the shortage pertains to households with annual incomes of about INR 100,000, and 39.44 percent is for those with annual incomes of less than INR 200,000. Thus, only 4.38 percent of the estimated shortage pertains to middle- and higher-income groups. By 2050, India will have added 416 million dwellers in the country's urban pockets, where the problem of inadequate housing for all is even more acute.[6]

Figure 2.1: Distribution of housing shortage among different economic categories (in millions)

Total
18.78

07.41

10.55

00.82

● **Economically Weaker Section** ● **Low Income Group** ● **Middle Income Group and above**
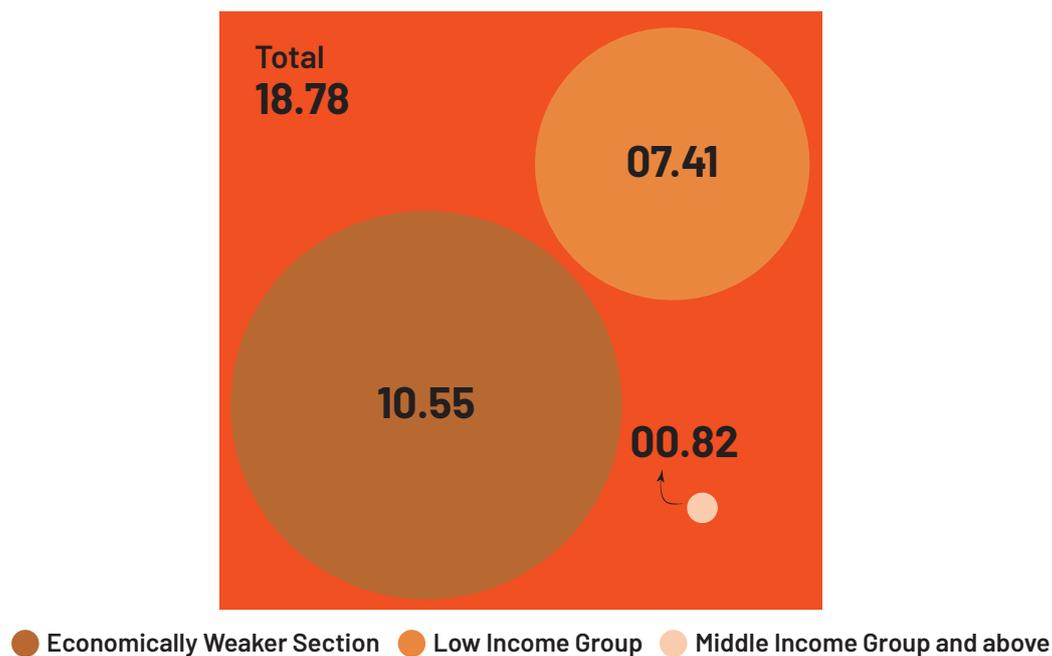
Source: MoHUPA, (2012)

Despite this evident lack of shelter in India, Census 2011 recorded 330,835,767 houses, of which about 7.45 percent (24,672,968) of the houses are vacant.[7] This problem is especially glaring in specific states. As of 2011, the top states with the highest percentage share of vacant houses are presented in the following graph. Goa has the highest percentage share of vacant houses at 21.8 percent, followed by Gujarat, with 13.7 percent. Himachal Pradesh (11.8 percent), Maharashtra (11.2 percent), NCT of Delhi (11.1 percent), Kerala (10.6 percent), and Rajasthan (10.2 percent) have similar numbers of vacant houses (see Figure 2.1).

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6   MoHUPA, (2012). Report of the Technical Urban Group (TG-12) on Urban Housing Shortage 2012-17. GoI.

7   Census of India 2011

Figure 2.2: Distribution of vacant houses in the Indian states

Population in millions
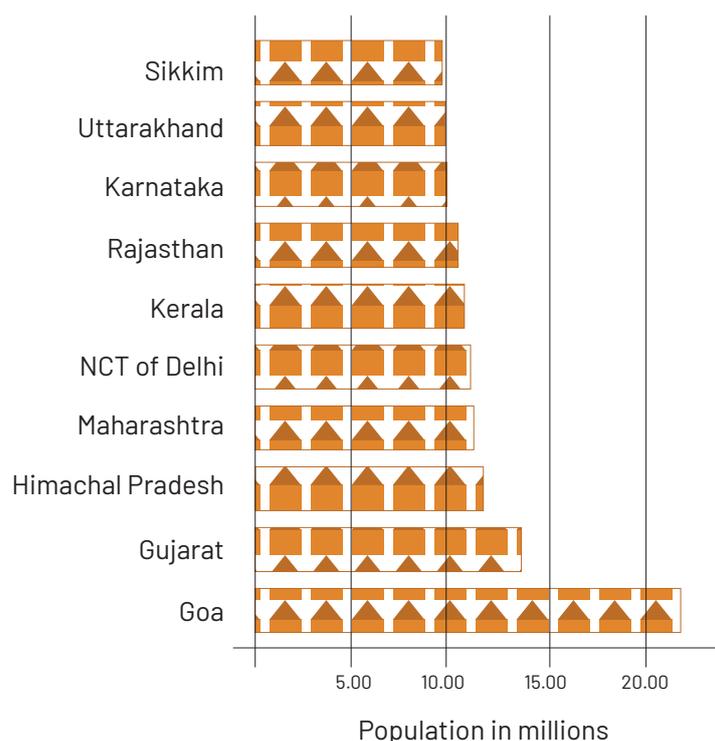
Source: Census of India 2011

The same paradox holds for 17.4 percent of the urban households living in slum zones in India in 2011, of which 38.1 percent or 5.2 million slum households were located in the million-plus cities in India.[8] On the other hand, these cities have new housing schemes developed by the private sector largely for the upper-middle and high-income groups that are either vacant or unsold.[9]

Of the eleven metropolitan regions in India, Mumbai, Bengaluru, Ahmedabad, Surat, Pune, and Jaipur have the highest numbers of vacant houses. In the Central National Capital Region (previously the Delhi Metropolitan Area), although Delhi has 9.68 percent vacant houses, Gurgaon and Ghaziabad have 21.12 and 12.58 percent vacant houses, respectively.[10] Greater Mumbai, Bengaluru, Ahmedabad, Surat, Pune, and Jaipur have more than 100,000 vacant houses.[11]

8   Census of India 2011: Tables on Housing Stock, Amenities and Assets in Slums
9   Tiwari, P & Rao, J. 2016. Housing Markets and Housing Policies in India, ADBI Working Paper Series No. 565, ADBI.
10   Central National Capital Region includes urban areas Ghaziabad (1,648,643), Noida (637,272), Faridabad (1,414,050), Gurgaon (876,969), Bahadurgarh (170,767), Kundli (21,633) and Sonipat (289,333).
11   Census of India 2011

Figure 2.3: Distribution of population in metropolitan cities of India

Population in millions
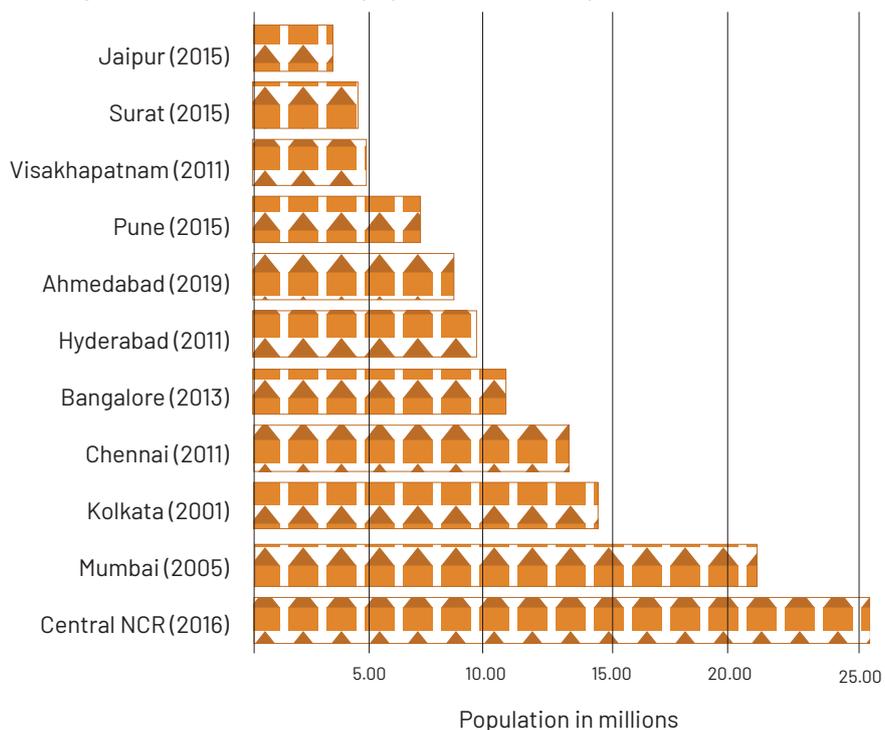
Source: Census of India 2011

Figure 2.4: Distribution of vacant houses in different cities of India

Percentage of vacant houses
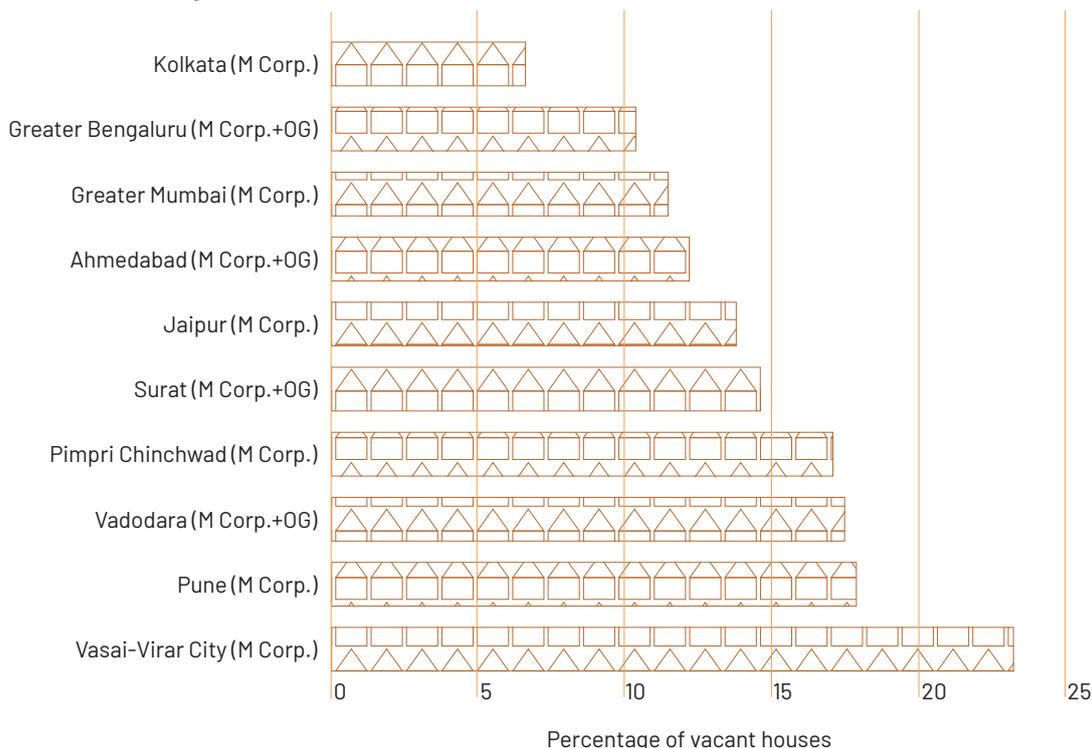
Source: Census of India 2011

This creates a dangerous paradoxical situation. On one hand a sizable population has no access to decent houses and, on the other, there is a presence of a large stock of vacant housing. This situation raises questions regarding the reasons for vacant houses, especially whether the findings can contribute to identifying solutions to ensure housing for all.

A review of literature on large stocks of vacant houses in cities across the world shows that the reasons for vacant houses are often rooted in local factors at the city level. The contribution of factors such as demographic shifts within cities occurring due to a natural or human-made crisis, socio-cultural and religious 'pockets' of residents in a city, infrastructure development and facilities available in the area, and availability of jobs in the neighbourhood, is substantial.

While national policies affect availability and vacancy of homes, factors such as the quantum of inter-state and international migration also contribute to it. Cities are not isolated from these factors. They interact extensively with surrounding regions and, increasingly, with the rest of the world.

3   Overview of vacant houses across the world

The term (residential) 'vacancy' reflects various realities across the world. The vacancy is surplus supply at a specified price in a particular marketplace.[12] A vacant dwelling is unoccupied and can be for sale or awaiting rent. It can be in a dilapidated state and not fit for habitation. It could include houses reserved for seasonal, recreational, or migrant worker use, as well as abandoned and blighted properties in old industrial centres with a high unemployment rate.[13] Therefore, economists have additionally categorized vacancy as per its degree of impact or significance, including the terms frictional, natural or short-term vacancy, and problematic, structural, or longer-term vacancy.

- **Natural, frictional, transactional, or transitional Vacancy**

  A certain percentage of vacancy, which is necessary for the housing market to operate efficiently and to allow residential mobility, is commonly referred to as natural, frictional, transactional, or transitional vacancy.[14] These different terms refer to the percentage of units that remain available or are unoccupied relative to the total number of properties at a particular time.

- **Problematic or structural vacancy**

  Problematic, structural, or longer-term vacancy, on the other hand, is frequently associated with a lack of demand, distribution, or population decrease. This could be due to a mismatch between the characteristics of this marketplace (for example, deficient homes) and the requirements of consumers (that might also be associated with an alteration in home preferences). However, such cycles might well cause the clear abandonment and decay of homes, for example, as happened during the mortgage crisis in the U.S in 2007-08.[15] In such instances, public action is usually required since owners cease to have the ability to act and place this house (often no more theirs) back at the marketplace.

- **Occasional vacancy**

  People often have occasional homes that can be classified as secondary residences. In some cases, occasional vacancy is not differentiated, and secondary or holiday and tourism-linked residences are counted as vacant houses because they were unoccupied at the time of the census survey. In 2011, more than 38 million houses in Europe were vacant or used as seasonal or secondary residences.[16]

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12   Rabianski, J. S. (2002). Vacancy in Market Analysis and Valuation. *The Appraisal Journal, 70(2), 1–9.*

13   Schilling, J., & Logan, J. (2008). Greening the rust belt: A green infrastructure model for right sizing America's shrinking cities. Journal of the American Planning Association, 74(4), 451–466. https://doi.org/10.1080/01944360802354956

14   Gentili, M. and Hoekstra, J., (2019). Houses without people and people without houses: a cultural and institutional exploration of an Italian paradox. Housing Studies, 34:3,425-447, DOI: 10.1080/02673037.2018.1447093

15   Cohen, J., (2001). Abandoned housing: Exploring lessons from Baltimore. Housing Policy Debate, 12(3), 415–448. https://www.innovations.harvard.edu/sites/default/files/hpd_1203_cohen.pdf

16   FEANTSA and FAP, (2016). Filling Vacancies – Real Estate Vacancy in Europe: Local Solutions for a Global Problem. Accessed from: https://www.feantsa.org/download/filling-vacancies-real-estate-vacancy-in-europe-local-solutions-for-a-global-problem-short-version6570491700181194618.pdf

- **Vacancy rate**

  Vacancy rates indicate the percentage of vacant units in a particular area or region. This is a general quantity and doesn't differentiate between units that have recently vacated, are being renovated or units that need to be repaired/renovated. It is also defined as the percentage of total units in a single rental property that remains uninhabited during a specific period of time.[17] The vacancy rate is frequently used to measure the condition of the real estate market.[18] The opposite concept of the vacancy rate is occupancy, which refers to the percentage of units that are already occupied by the owner or rented and thus no longer available in the market.

Natural vacancy varies by area, property type, tenure, and even unit type – in cities like Mumbai at any given time, the natural vacancy rates for 2-bedroom apartments in the micro-market of Bandra would be different from that of 4-bedroom apartments in Andheri West. On average, a vacancy rate of over 7 percent is considered high and is regarded as negative since it may indicate that the area or the building type is not desirable or the rents and prices are too high. In contrast, a vacancy rate of less than 4 percent is considered low and is regarded as positive since it may indicate that the area and building type are desirable, and the demand at the price point is high.

While there is consensus that 4.5 percent is a natural vacancy rate, Gabriel and Nothaft's (1988) estimate for 16 cities in the United States (1981-1985) varied from 3.9 to 10 percent using one model of natural vacancy rate determinants, and from 6.9 to 12 percent using another model.[19] Further, in a study in 2001, their estimates of natural vacancy rates for 29 metropolitan areas for the 1987–1996 period varied from 4 to 4.5 percent.[20] The context for a market vacancy rate is the equilibrium vacancy rate, that is, a stable vacancy rate that neither produces upward or downward pressure on rents or prices. Disequilibrium in housing markets is manifested by rising or falling rents and prices.[21]

France has roughly double the vacant homes than in Great Britain, Germany, or the Netherlands but lesser than Spain or Italy. These are all stable markets, and we can infer that structurally both Spain and Italy being preferred second home destinations with high tourism will have a much higher equilibrium vacancy rate than other European countries. France also has high tourism and is preferred for second homes but is significantly more expensive than both Spain and Italy. France would have a lower equilibrium vacancy rate than Italy and Spain but higher than Great Britain, Germany, and the Netherlands. The national rate of vacant houses in

17   Gupta, S., (24 May 2019). What is Vacancy Rate in Real Estate and How to Calculate It? Blog. Accessed from: https://www.linkedin.com/pulse/what-vacancy-rate-real-estate-how-calculate-sahil-gupta

18   Hagen, D and Hansen, J., (2010). Rental Housing and the Natural Vacancy Rate. *Journal of Real Estate Research, 32(4).* 413-433.

19   Gabriel, S. and Nothaft, F., (1988). Rental Housing Markets and the Natural Vacancy Rate. *Journal of the American Real Estate and Urban Economics Association, 1988, 16:4, 419–29.*

20   Gabriel, S. and Nothaft, F., (2001). Rental Housing Markets, the Incidence and Duration of Vacancy, and the Natural Vacancy Rate. *Journal of Urban Economics, 49(1),* 121–49.

21   Parli, R. and Miller, N. (2014). Revisiting the Derivation and Application of an Equilibrium Vacancy Rate. *Journal of Real Estate Literature, 20(3),* 195-208. DOI: 10.1080/10835547.2014.12090344

France has reduced from 8 percent in the 1990s to 7 percent at the beginning of the new millennium and further decreased to 6.4 percent.

However, looking further, the figures show a different reality. First, the geographical breakdown of vacant houses, studied by the national electricity supplier Électricité de France shows extensive inventories of vacant houses are in rural areas, while large metropolitan cities such as Paris, Lyon or Lille show vacancy rates below the national average. These vacant homes are most likely second homes operational only for short periods during the year. The highest vacancy rates range from 35.3 to 22.7 percent.[22]

Of the thirty-five member countries of the Organization for Economic Cooperation and Development (OECD), information on vacant houses, especially in urban areas, is available for some countries.[23] Overall, 18 percent of houses in Malta and more than 15 percent of houses in Romania and Austria are vacant. This includes vacant houses in both urban and rural areas. For the countries where information on vacancy rates is available for both rural and urban areas, vacancy rates are higher in rural areas.[24] Malta is a tourist destination and under the Residency for Investment program has a mandate for foreigners to invest Euro 270,000 in real estate (purchase) or Euro 10,000 a year in property lease. A large part of the vacancy could be explained through these two reasons. The blended vacancy rate in Austria and Romania most likely represents a higher vacancy (15 – 25%) in rural areas.

In India, primary data on vacant housing is available from the Census data. However, the Census does not provide a breakup of the characteristics of the vacant houses, such as reasons for non-occupancy.[25] The enumerator identifies any house, which is not being used for any non-residential purpose but is identified at the time of house listing as vacant with the reason of vacancy to be either dilapidated, in want of or under repair, under construction, for letting, awaiting demolition or that the house was locked during because the occupants are traveling.

3.1   Reasons for vacant houses in the existing literature

To compare and contextualise the reasons for vacant houses in India, we studied the various reasons for houses lying vacant internationally. The reasons for vacant houses differ not just across countries but also in different cities of the same country in the following ways:

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22   35.3 percent houses in Greece, 33.4 percent in Croatia, 31.9 percent in Portugal; 31.8 percent in Malta; 31.4 percent in Bulgaria; 31.1 percent in Cyprus, 28.3 percent in Spain; and 22.7 percent houses in Italy were vacant in 2011.

23   OECD defines vacant houses as those houses that are not occupied. It does not include: secondary or holiday homes or dwellings meant for seasonal use.

24   OECD Affordable Housing Database, (2019). Housing Stock and Construction - OECD. Social Policy Division - Directorate of Employment, Labour and Social Affairs. Accessed from: https://www.oecd.org/els/family/HM1-1-Housing-stock-and-construction.pdf

25   Kumar A., (2016). India's Residential Rental Housing. *Economic and Political Weekly, 51(24),* 112-120.

3.1.1   Shrinkage of urban areas

One of the significant reasons for vacant houses is shrinkage or contraction of urban areas due to a decline in economic activity such as industries or manufacturing. People move out in masses from smaller towns and villages that are experiencing economic decline, to larger cities, leaving their homes vacant in the former.[26] For example, in Denmark, urbanization, and migration to larger cities have led to vacant houses, job losses, change in the agricultural sector, and centralisation of public functions such as schools, universities, hospitals, public administration, courts, military institutions. This further led to public jobs moving to the larger cities and a lower level of jobs and services in the shrinking towns and villages. This is reflected by the fact that the number of municipalities was reduced from 273 to 98 after 2007, leading to a centralisation of the public administration, and subsequently of the public welfare services in the municipalities. As a consequence of the depopulation, many municipalities hold a large number of empty or outdated buildings. In municipalities far from the larger cities, vacancy rates in mainly single-family houses are typically above 10 percent, and in some areas as high as 25 to 30 percent.

In the United Kingdom, too, the high vacancy rate was seen in the former industrial areas of northern England, such as Manchester. Manchester was one of the first of western Europe's industrial boomtowns – but the city underwent a disastrous process of deindustrialisation following the Second World War. Between 1971 and 1981, Manchester lost almost 50,000 full-time jobs and 17.5 percent of its population. Whole areas were described as 'emptied', further characterised by social exclusion, crime, and deteriorating living conditions.[27]

Let us take another example. In 1950, Baltimore was America's sixth most populous city, a manufacturing hub with nearly a million residents, amongst whom many were employed by Bethlehem Steel. Over decades, with factories closed and the mass exodus of inhabitants in the 1960s and 1970s, its population has shrunk to be the country's 30th largest. Currently, of the 42,480 vacant units in Baltimore, only 12,700 were unfit for habitation as the rest lie abandoned because of the exodus.[28] Some neighbourhoods have been revived where old houses have been put back to use.

These three examples above imply a high correlation between local economic decline and house vacancies. Many vacant houses are ultimately demolished, leaving vacant lots in their place, or have found new life as community gardens, mini-parks, and farms.

26   Jensen, J., (2017). Vacant houses in Denmark: Problems, localization and initiatives. Paper presented at ENHR Conference 2017 Tirana, Tirana, Albania. Accessed from: https://vbn.aau.dk/en/publications/vacant-houses-in-denmark-problems-localization-and-initiatives

27   Paxton, F., (2016, September 12). The Manchester Miracle: how did a city in decline become the poster child for urban regeneration? *CityMetric*. Business. Accessed from: https://www.citymetric.com/business/manchester-miracle-how-did-city-decline-become-poster-child-urban-regeneration-2402

28   Cohen, J., (2001). Abandoned housing: Exploring lessons from Baltimore. *Housing Policy* Debate, 12(3), 415–448. Accessed from: https://doi.org/10.1080/10511482.2001.9521413

3.1.2   Secondary homes

The reasons why people own and acquire second homes are different from those that drive the acquisition or rental of a private primary home. There is a greater emphasis on the value of property ownership. In the case of holiday homes, the demand derives from the recreational interests of families. Therefore, a secondary residence is a dwelling that is occupied for less than six months in a year – primarily during weekends, holidays, and free time. In France, a second home is defined as one furnished and lived in for less than 120 days a year, and an 'unoccupied' unit is unfurnished and off the rental market for more than two years. Paris, which saw the number of second homes increase by 43 percent in 15 years, had over 100,000 second homes in 2017.[29] Estimates are that Paris had 107,000 vacant homes, that is, 7.5 percent of all residences in the city in 2017. In an effort to increase its supply of housing, the Paris Council voted to triple the surcharge tax on second homes from 20 percent to 60 percent.[30] This is expected to result in property owners renting out their properties or selling them off, and thereby putting thousands of them back onto the market.[31]

The objective of taxing properties that have been lying vacant for long is to make more efficient use of the existing housing stock. The revenue generated through such taxation can be utilised for building affordable rental housing in those cities.

3.1.3   Investment properties

Over the years certain geographies have emerged as preferred locations for investors to invest in real estate outside of their home countries. Costa Brava in Spain, London, New York, Melbourne, Sydney and even Accra in Ghana among a host of others. The reasons for this are varied.

Mostly from the year 2000 onwards, a large number of investors from Northern Europe and the United Kingdom invested in holiday homes in the Mediterranean region of Europe leading to a construction boom. Even after the financial crisis of 2008, this investment trend continued due to the market created by companies such as Airbnb and a supposition that there will be an ongoing boom in travel and increased occupancy with off season tourism.

Besides this, a number of countries offer residency or citizenship upon the condition that the person invests a predetermined amount in assets or in businesses. Often people opt to invest in residential real estate that is then usually left vacant.

Another reason is the diversification of portfolio. A number of High Net Worth Individuals (HNIs) invest in

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29   O'Sullivan, F., (2017, January 26). Paris Is Tripling Its Tax on Second Homes. Bloomberg CityLab, Accessed from: https://www.citylab.com/equity/2017/01/paris-france-property-taxes-vacation-homes/514496/

30   Eden, E., (2017, March 31). Paris Targets Vacant Second Homes with 60% Tax. *Planetizen*. Accessed from: https://www.planetizen.com/node/92029/paris-targets-vacant-second-homes-60-tax

31   Laberge, J. (2017). Paris seeks to reduce empty dwellings by increasing taxes. In This Paris Life. [Blog post]. Accessed from: https://parispropertygroup.com/blog/2017/paris-seeks-to-reduce-empty-dwellings-by-increasing-taxes/

properties in markets that are believed to have lower risk compared to their home markets/countries. In Africa a large amount of luxury real estate in Accra, the capital of Ghana is owned by HNIs, whereas similar trends are seen across a number of European capital cities, as well as in Auckland, Melbourne, Sydney and Dubai. Also, illegal assets are often invested in residential real estate in countries that have stable and liquid markets, with strong human right protection laws. This is so that in case the investors are persecuted in their home countries, they would have assets elsewhere that cannot be seized easily. As an example, London is a preferred destination for investors across the world, particularly India, the Middle East and Russia.

3.1.4 Abandonment due to age, access or location

In Europe and the USA, a large proportion of vacant houses are either in dilapidated areas or are dilapidated. In Japan too, there were 7.6 million vacant and abandoned homes in 2008, which increased to 8.2 million vacant and abandoned homes in October 2013. The building's age was identified as the biggest factor that led to the abandonment of houses in Kawaguchi city, Saitama, Japan.[32]

3.1.5 A mismatch between the requirements of consumers and deficient homes

The high vacancy could be an indication of a mismatch between the product and what the market wants.

- **Price point:** The available stock can be overpriced for the target market.
- **A product needs mismatch:** This challenge refers to houses that are not of the needed size, in locations that are either not desirable or too far.

In both the cases above, there is a mismatch in the type of private houses being sold in the open market and what the larger number of buyers in the open market are looking for in housing. In other cases, the mismatch could also include affordability, location, neighbourhood, and environmental characteristics. Due to such mismatches, houses are left vacant.

3.1.6 Surplus supply

In Xiamen of China, lower interest rates and the real estate investments by large developers led to more houses being placed in the market, which creates vacant dwellings.[33] Similarly, since 2002, a combination of low interest rates, state support, and high oil prices helped Dubai become a preferred destination for real estate investment. Downtown Dubai prices appreciated dramatically over the years, but a majority of these homes remain vacant as they are used either sporadically or kept as an investment. The majority of demand in Dubai remains at the lower end of the spectrum from the large migrant worker population that lives in cramped and expensive accommodation.

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32   Baba, H. and Hino, K., (2019). Factors and tendencies of housing abandonment: An analysis of a survey of vacant houses in Kawaguchi City, Saitama. *Japan Architectural Review*, 83(749). 1263–1271. Accessed from: https://onlinelibrary.wiley.com/doi/full/10.1002/2475-8876.12088.

33   Chen, Y., (2011, September 11). The Causes of Vacant Housing in China. Retrieved from http://hdl.handle.net/2105/11486.

3.1.7 Economic situation

In Hanoi in Vietnam, potential home buyers are becoming increasingly apprehensive about the poor performance of the economy, high inflation levels, and lower real incomes. This has led to potential buyers keeping savings highly liquid rather than making investments in real estate. This lack of potential buyer confidence has led to an overall decrease in housing market demand both in apartments and suburban houses. As a result, high inventory levels present a significant challenge in the housing market. According to the report of the Ministry of Construction, as of August 2012, the vacant inventory in the country was over 16,000 apartments, mainly in Hanoi and Ho Chi Minh City.

3.1.8 Housing and rental policies

The national and local policies impact the quantum of vacant houses in a country. Let us take the case of France. With more than 2 million vacant houses in France, around half a million houses are not impossible to sell or rent, yet they are neither up for sale nor rented. The first reason for this is that rent grows more slowly than the value of a house in France. Consequently, if a house owner bought a home when prices were low, the incentives to sell are higher than the incentives to rent. The second reason stems from the fact if a tenant stops paying the rent according to the contract, and if she is well informed, she can stay in the rented house for more than 18 or 24 months. This can be achieved through the use of any legal recourse for tenants who cannot afford the rent. This makes house owners wary of renting their homes as such 'strategic non-compliance' in rental payments has become fairly common. The number of legal disputes for non-payment of rent is approximately 125,000 per year in France. Many owners who no longer rent their houses are among those who once suffered the pain of trying to get their house back after a conflict with a bad tenant. If the house remains vacant, the owner can use it as a store of value, sell it at a higher price or pass it on to children. However, if the house is rented, the owner could be in trouble with a wrongly occupied house that cannot be sold.

3.2 Approaches to addressing the challenge of vacant housing

While in India and China, the government's approach to tackle vacant houses has been more focused on addressing vacancy in relation to a shortfall of affordable housing stock, other governments have mostly tried to address the vacancy issue in relation to homelessness. These two distinct approaches dictate very different policy initiatives with mixed results. Before this report delves into solutions for tackling the paradox of vacant houses in India, we look at some examples of solutions deployed by other governments for the same challenge.

3.2.1 Fiscal incentive

The policy response to houses purchased for investment purposes that are lying vacant is often the introduction of the vacant properties tax and foreign buyer tax.[34]

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34 Barrett, J. (2018). Property Taxes as a Policy Response to Foreign Investment as a Perceived Cause of Housing Unaffordability. *Journal of the Australasian Tax Teachers Association*. 13(1). 1–30. Accessed from: https://www.business.unsw.edu.au/About-Site/Schools-Site/Taxation-Business-Law-Site/jattavolumes/JATTA13-1-1-Barrett-Property-Taxes.pdf

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For example, in 2017, the prices of homes in Canada were being pushed up because of offshore investors. Moreover, these houses were left vacant. In order to tackle the problem of soaring home prices, first, the provincial government of British Columbia raised its foreign buyer tax from 15 percent to 20 percent. Toronto followed this with a 15 percent foreign buyer tax. The Vancouver Municipality introduced the Empty Homes Tax under which properties deemed empty would have to pay a tax of 1 percent of their assessed value. Let us take another example. Hong Kong, which is considered the world's least affordable property market, had around 10,000 vacant homes in July 2019 – an increase of 1,000 units from end of March 2019.[35, 36] The government has proposed the city's first vacancy tax. The proposed tax is at 200 percent of the rateable value of a newly built apartment, which translates to about 5 percent of the apartment's value and its estimated annual rental value. The aim is to prevent developers from hoarding newly built apartments.[37]

Similarly, Australia has been facing a shortage of affordable houses at the same time as the number of vacant houses has been increasing. By 2016, the country had a deficit of 140,000 houses, including the numbers of empty properties in Melbourne that had increased to 19 percent and to 15 percent in Sydney. Foreign nationals own many of the vacant houses. In 2018, the State government of Victoria introduced an empty homes tax, which is a 1 percent capital value charge on homes vacant for at least six months in a year.

3.2.2 Giving away dilapidated homes for a token amount and low-cost loans

A number of city councils such as Stratford Upon Avon in the United Kingdom have given away dilapidated homes for a token amount with low-cost loans to develop them.

3.2.3 Repair and reuse or redeveloping schemes

Ireland has pursued a repair and re-use scheme that helps private property owners, city councils, and government-approved housing bodies to gain access to preferential finance to upgrade dilapidated housing stock. Similarly, in 2015 Japan adopted the Japanese Vacant Housing Law to address the problem of abandoned houses whereby local governments in the country were given wide powers to identify and repair, or to demolish and redevelop the abandoned or neglected homes. In the same year in Portugal, a strategic real estate plan identified the need to integrate vast vacant real estate assets into the market via public-private partnerships to purchase or rent existing vacant houses for placing them in the low-cost market.[38]

35   Kwan, S., (2020, January 20). Hong Kong Homes Remain World's Least Affordable for 10th Year. *Bloomberg*. Markets. Accessed from https://www.bloomberg.com/news/articles/2020-01-20/hong-kong-homes-remain-world-s-least-affordable-for-10th-year

36   Lam Ka-sing and Sandy Li, (2019, July 26). Hong Kong's inventory of unsold residential property rises to a decade-high of 10,000 homes as trade war, protests deterred buyers. *South China Morning Post*. Business. Accessed from: https://www.scmp.com/business/article/3020242/hong-kongs-inventory-unsold-residential-property-rises-decade-high-10000

37   Venus Wu, (2018, June 29). Pricey Hong Kong set to impose vacancy tax on empty new flats. *Reuters*. Business News. Accessed from: https://www.reuters.com/article/us-hongkong-property-tax/pricey-hong-kong-set-to-impose-vacancy-tax-on-empty-new-flats-idUSKBN1JP138

38   Cardoso, J. P. H. (2016). Vacant Housing Stock: Analysis and Action Proposal. Tecnico Lisboa. 1–13.

In mature markets with stringent building guidelines, redevelopment of the property is usually challenging. Renovation is also expensive. In cycles of higher interest rates and muted demand, it is not in the interest of landlords to invest in their properties. However, by incentivising the owners through preferential interest rates, easier and cheaper building permits, it is overall much cheaper to put this stock back into the market then create new stock. The older dilapidated stock would also be in closer locations and so would have access to transport and social infrastructure.

3.2.4 Demolition of abandoned houses to push up demand for remaining housing stock

In extreme cases such as the one following the 2008 financial crisis, Spain and Germany pulled down access to abandoned housing to push up the demand and price of the balance housing stock. The 2002 urban development program 'Stadtumbau Ost' (Urban Regeneration East) in Germany was a large-scale policy response to the challenge of around 1.3 million vacant housing units in the country.[39] The program removed surplus housing in social housing departments, located in the cities, resulting in the demolition of about 260,000 apartments.[40] The reduction of building stock was undertaken in situations where the strategic development plan of the city required a reduction of surplus houses. The demolition was undertaken within the inner city as well as in suburban expansions and residential estates. The program also included the upgrading of inner-city areas and public spaces, intermediate uses and re-uses of former industrial or military sites, as well as restoration and modernisation of buildings of historical, cultural and architectural value. However, this program was criticised for primarily funding demolition of vacant houses.

39   Bernt, M., (2007). "Six Years of Stadtumbau Ost (Urban Restructuring East) Programme: Difficulties of Dealing with Shrinking Cities" in M. Langner and W. Endlicher (Eds). *Shrinking Cities: Effects on Urban Ecology and Challenges for Urban Development* (pp. 95-104). Peter Lang Publishing Group in association with GSE Research
40   Hamel, P and Keil, R. (2015). Suburban Governance: A Global View. University of Toronto Press.

4   Vacant houses in India – an overview

The reasons for and responses to vacant houses in India differ from those of most other parts of the world. Indeed, for every locality with vacant houses, the reasons for them being so are distinct. Yet overall we can identify certain characteristics. First, the government and the housing market in India do not look at vacant houses as a solution to homelessness. Second, the GoI has traditionally put an emphasis on home ownership rather than to rent houses which has an impact on the number of vacant houses in the country. Rental housing as a financial asset class is also virtually non–existent, except in a few specific cases. Third, real estate and multiple homes have been used traditionally to park illegally earned money. Fourth, there has been no specific policy to deter people from buying second homes.

Figure 4.1: Percent of vacant houses in different states of India

Below is an overview of some common reasons for vacant houses in India:

4.1   Affordability mismatch

In India, houses are often vacant because of an affordability mismatch. A large number of vacant units are developed in zones that would traditionally be dominated by low cost housing. Still, due to the decade-long boom and speculation, the prices are out of reach of the EWS and LIG groups who typically purchase low cost houses, while the product is not suitable for the segment that can afford it.

High cash component: The decade long real estate boom in Indian markets was funded largely by investors who invested heavily in multiple properties with cash. A large number of these properties are up for sale in the secondary market, but they are out of reach of most end users due to a very high cash component and inflated prices.

Location matters: With the exception of a handful of cities, India faces a lack of basic infrastructure and public transport. It also has one of the lowest Floor Space Index (FSI)/Floor Area Ratio (FAR) in the world, added to lax building guidelines in areas outside city limits – a large number of projects have come up in these areas. These projects are not practical for occupation and are largely vacant.

4.2   Vacancy for lack of rent

Rent Control: Housing being a State subject in the Indian Constitution, the Bombay Rents, Hotel and Lodging House Rates Control Act, 1947 was applicable in Gujarat as part of the Bombay State (1947 to 1960) and thereafter. The aims included regulation of the rental housing market in the State, provide affordable temporary accommodation to the residents, and eliminate the exploitation of tenants against eviction by the landlords while ensuring a transparent relationship between the tenants and landlords.[41] However, because of generous allowances, the tenants residing in rental properties since 1947 continue to pay rents fixed then. This adversely affected the housing market because of low investment in rental housing, withdrawal of existing housing stock from the rental market, and stagnation in revenue from municipal property tax. In 1992, the GoI proposed a model rent control legislation, which proposed modification of existing provisions such as on inheritance of tenancy and also prescribed a rent level beyond which rent control could not apply. The rental income gets an exemption of 30 percent, and the balance 70 percent is taxed as income – any maintenance expenditure cannot be claimed from this. With average residential yields in India being between 1 to 3 percent, abolishing the tax on residential rentals and other incentives seem to be very important steps that need to be taken.

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41   Tewari, V and Krishna Kumar, T. 1986. Rent Control in India: Its Economic Effects and Implementation in Bangalore. World Bank Discussion Paper. Report No. UDD-91. The World Bank. Accessed from: http://documents.worldbank.org/curated/en/479551468266444928/pdf/UDD91000Rent0c0ntation0in0Bangalore.pdf

Low rental yields: The risk-free rate in India is 7 percent (20 years), and rental yields on residential properties are between 1 to 3 percent, which makes capital appreciation the only viable return. Considering the low yield, most landlords tend to prefer keeping their properties vacant as the annual rent at times would barely cover the cost to redo the properties once the tenancy ends.

Tenancy rights: The Bombay Rent Control Act of 1947 not only put a cap on rents but also gave disproportionate rights to tenants. It makes it challenging to evict tenants. Furthermore, tenants can pass on the tenancy to children and grandchildren, becoming de-facto owners at little cost.

Social constraints: It is not uncommon for a number of buildings to demand higher than the market-rate as rent as they cater to specific communities. Religion, language, caste, eating habits, and marital status continue to be major decision-makers for the allocation of properties for both ownership and rental.

4.3   Vacancy in the periphery

Low-cost housing developments that started in 2007 – 2008 have largely come up in peri-urban or peripheral areas. The choice of locations was largely driven by an understanding that low-income households would be willing to commute up to 1 hour each way for reasonable housing. However, this did not prove to be the case in most cases as these developments were at times at great distances with poor connectivity to areas of economic activity. In many cities, there are pockets of high vacancies in the periphery that have slowly been occupied only later, as cities have developed in those directions.

4.4   Circle rates

Real estate remains one of the main areas for parking income that was not declared for tax purposes or obtained illegally. Most of the metros and Tier I cities have circle rates very near or equal to market rates – in some cases in Mumbai and Bangalore, circle rates are even higher.[42] Circle rates in most Tier II and III cities in India remain close to 40 percent of market rates. Higher circle rates that are equal to market rates, are a deterrent to investing undeclared, illegally acquired, and surplus money in housing. This is more so if capital appreciation is not evident. It also results in some contractions in price and increases in affordability indirectly.

4.5   Design reasons

Poor design, especially in high rises for affordable housing development projects, have been a reason for vacant units. For example, properties were often developed with multiple floors with no or insufficient elevators. As a consequence, say in a G+3 floor residential building without lifts, the housing units on the second and third floors often have less occupancy.

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42   Tier I' towns have 100,000 or more people, 'Tier II' has 50,000 to 99,999 people, and 'Tier III' has 20,000 to 49,999 people.

Another example of this trend is the low-rise developments in Ahmedabad. These are typically G+5 floors, and a single elevator serves up to 60 housing units even though the new laws specify a lower ratio. Due to maintenance and cost, housing societies keep the elevator operational only for 60 minutes in the morning and 60 or 120 minutes in the evening. In such projects, the first and second-floor command a premium and housing units on the top floor are difficult to sell and see high vacancy.

This section of the report has explained some of the common reasons for vacant houses we have found in India. However, local factors that vary from city to city, even district to district, influence the possibility of houses being vacant. Yet the challenge in India is not only vacant houses, per se. Instead, the challenge is the paradox that, on one hand, there is an acute housing shortage amongst low income groups and, on the other, there is a large stock of vacant houses in the affordable housing sector in the country. It is this paradox that this report series addresses - one city at a time - and provides primary data, reasons, and some solutions for it.

5   Vacancy in the affordable housing sector in Gujarat

Over the years, the GoI has made efforts to make housing affordable through regulations, Acts, and policies related to rent control, land availability, affordability, and acquisition. GoI has also made efforts to fill the demand-supply gap for the EWS and LIG categories, as indicated in the National Housing Policy of 1994, the Jawaharlal Nehru National Urban Renewal Mission of 2005, and the Rajiv Awas Yojana of 2013.

In 2015, the Indian government announced the 'Housing for All by 2022' mission with the aim of providing affordable houses in urban areas. The Pradhan Mantri Awas Yojana - Urban (PMAY-U) was launched to achieve the Housing for All by 2022 objective by supporting the construction or upgrade of 20 million houses for individuals who fall under EWS and LIG categories. The PMAY-U aims to achieve its target through in-situ slum redevelopment, promotion of affordable housing through credit linked subsidy, affordable housing construction in partnership with public and private sectors, and subsidy for beneficiary-led individual house construction or upgrading. However, as shown in the table below, at the national level, the number of units completed and occupied is far lower than the number of units approved for all the schemes of the GoI.

Table 5.1: Details of government Housing Schemes

GoI Scheme	Approved	Completed		Occupied	
		Nos.	Percentage	Nos.	Percentage
PMAY-U (2015 to 2022)	16,68,545	3,19,397	19	2,78,023	87
RAY (2011 to 2016)	1,41,848	67,579	48	42,231	62
JNNURM (2005 to 2017)	12,40,904	10,76,066	87	9,26,910	86

In Gujarat - which is one of the most economically developed states in India - the number of census houses in urban areas increased from 4,921,822 (Census 2001) to 8,230,790 (Census 2011). The number of vacant houses in the State increased from 849,153 to 1,228,467 during the same period. On the other hand, in 2012, the estimated housing shortage in the State was 990,000 units or 5.26 percent of the total housing shortage in the country.[43]

The situation is similar for government constructed or government-supported houses as informed by the Ministry of Housing and Urban Poverty Alleviation in response to questions raised in Parliament in May 2016.[44] In the state-wise break down of vacant houses constructed under three government schemes, namely, the Basic Services for Urban Poor, Rajiv Awas Yojana, and the Pradhan Mantri Awas Yojana (Urban) provided by MoHUPA, of the 123,232 houses constructed under the above three schemes in Gujarat, 23,124 were vacant, that is, 18.8 percent of all houses constructed in Gujarat.

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43   MoHUPA, 2012. Report of the Technical Urban Group (TG-12) on Urban Housing Shortage 2012-17. GoI.
44   Lok Sabha starred question no.256 answered on 11 May 2016 & Rajya Sabha unstarred question no. 991 answered on 9 March 2017.

6   The paradox of vacant houses in Ahmedabad

River Sabarmati, a major landmark of the city, bifurcates Ahmedabad into eastern and western parts are connected by five bridges. The historical walled city was established along the eastern side of the river. The city, especially the industries, expanded on the same side but outside the Fort walls and near the railway line. The eastern part of the city is a concentration of small-scale industries and provided livelihood opportunities that attracted many migrants from outside Ahmedabad and Gujarat. A large proportion of these workers lived in chawls and slums. After 1970, with the expansion and establishment of new industries, the city expanded towards the north-east, the east and the south-east. The western part of the city expanded as residential areas, educational centres, public places, and other non-polluting activities were established there. The western part of Ahmedabad also witnessed a high percentage of slums.

In 2001, the east zone of Ahmedabad had 42.4 percent of the chawls and 7.3 percent of slums while the north zone has 31.6 percent of chawls and 18.2 percent of slums. The largest percentage of slums are in the south zone (29.5 percent), Central Zone (23.2 percent), and west zone (22.0 percent)(Mahadevia et al., 2014; Bhatt, 2003).

Since 2010, Ahmedabad city has been divided into 6 zones (north zone, south zone, east zone, central zone, west zone, and the new west zone) constituting 64 wards. The city is administered by the Ahmedabad Municipal Corporation (AMC). Of the 1,179,823 households in Ahmedabad, 78.63 percent have access to tap water from treated sources, and 86.13 percent have access to the piped sewer system. 80.12 percent of households have access to tap water within their premises, and 93.1 percent are connected to a wastewater connection.[45] Also, 77.39 percent of households live in owned houses, while 36.42 percent live in congested housing conditions. Surprisingly, the percent of households having toilets within the households is higher at 92.42 percent.[46]

The urban housing shortage in Gujarat was reported as 990,000 million units or 5.26 percent of the total.[47] At the same time, Gujarat has the second-highest percentage of vacant houses among major states. The number of census houses in the urban areas of Gujarat increased from 4,921,822 (Census 2001) to 8,230,790 (Census 2011), and the number of vacant houses increased from 269,971 (17.3 percent) in 2001 to 1,228,467 (10.07 percent).

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45   AMC, Data of AMC area , Census 2011, Accessed from: https://ahmedabadcity.gov.in/portal/jsp/Static_pages/demographics.jsp
46   India Smart City Profile: Downloaded from: http://smartcities.gov.in/upload/uploadfiles/files/Gujarat_Ahmadabad.pdf
47   MoHUPA, 2012. Report of the Technical Urban Group (TG-12) on Urban Housing Shortage 2012-17. GoI

Figure 6.1: District-wise distribution of vacant houses in Gujarat – 2001 (in percentage)

Vacant Housing in 2001

6.36 – 7.01	7.02 – 12.19	12.20 – 13.83	13.84 – 16.00	16.01 – 21.67
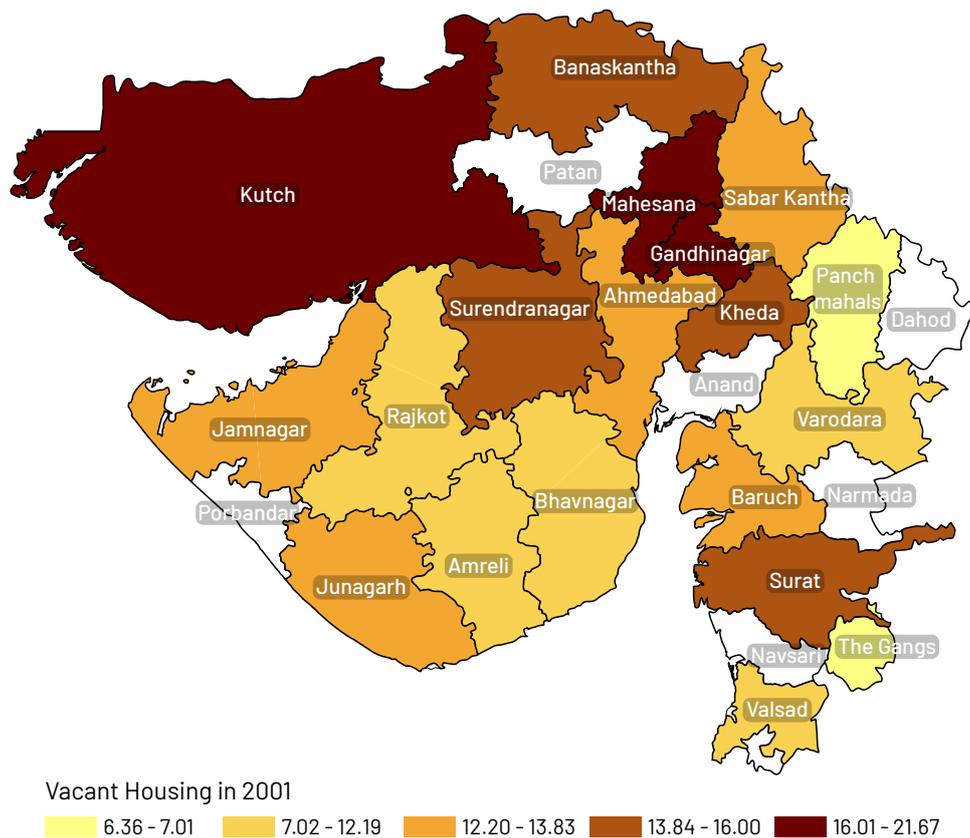
Source: Census 2001

Figure 6.2: District-wise distribution of vacant houses in Gujarat – 2011 (in percentage)

Vacant Housing in 2011

4.64 – 6.61	6.62 –11.18	11.19 – 13.63	13.64 – 15.38	15.39 – 20.42
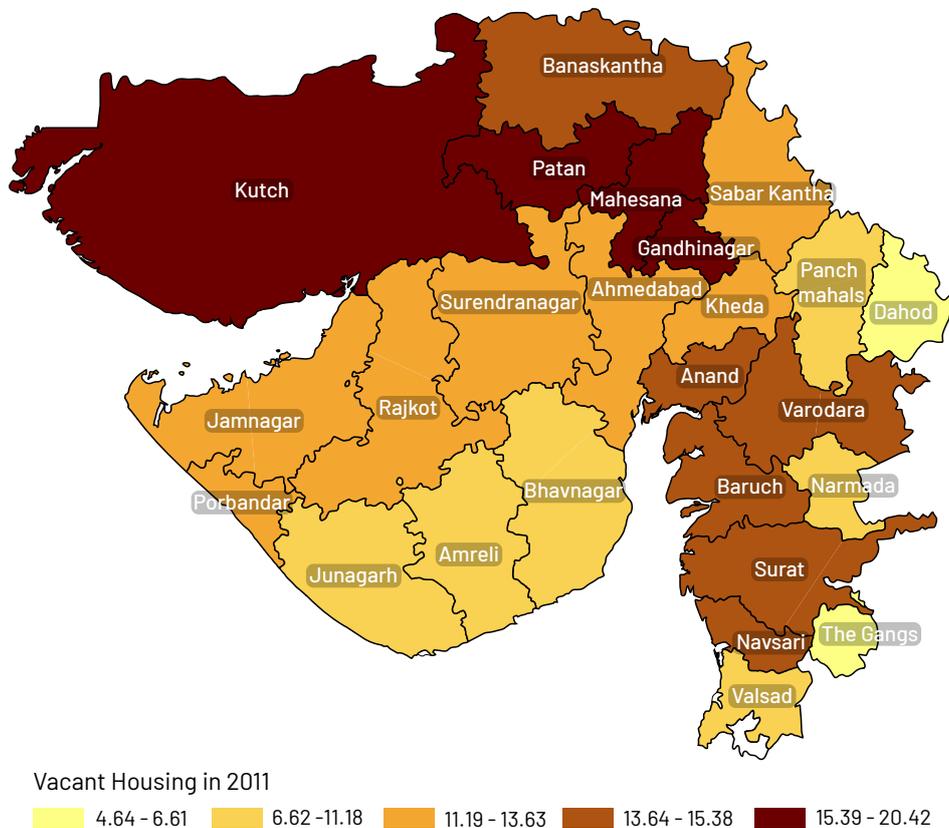
Source: Census 2011

Figure 6.3: Absolute changes in vacant houses in different districts of Gujarat (2001 – 2011)

Absolute change from 2001 to 2011

-3.67 - -2.62	-2.63 - -0.79	-0.80 - 0.67	0.68 - 1.22	1.23 - 3.27
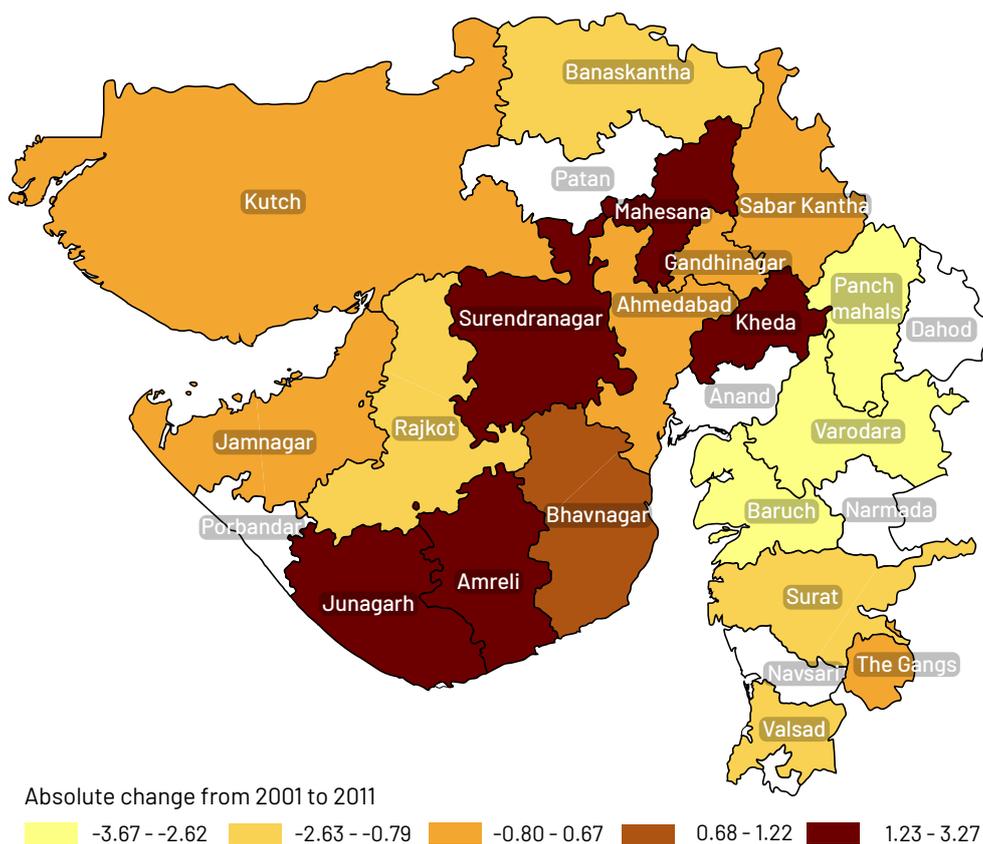
Source: Census 2001 and 2011

While the GoI has initiated housing schemes for the economic weaker section to address the housing shortage amongst them, of the 123,232 houses constructed in Gujarat under the Basic Services for Urban Poor, Rajiv Awas Yojana, and the Pradhan Mantri Awas Yojana (Urban) of the GoI, 23,124 units or 18.8 percent of the houses constructed under the schemes, are vacant.[48]

In Ahmedabad, capital of Gujarat and the fifth-largest city and seventh-largest metropolitan area in India with a population of 6,063,047 (2011 Census of India), housing under the above schemes are constructed by the AMC and the Gujarat Housing Board/Ahmedabad Urban Development Authority (GHB/ AUDA). Those who are allotted houses under these schemes are required to make a down-payment before moving in. Since many of the poor may not be in a position to make the down-payment at one time, they are given up to seven years for making the down-payment for their allotted home. Hence, even if the house is vacant, the authorities cannot repossess it for seven years. In addition, because of various development projects such as the Riverfront Development, BRTS and the Metro Rail in the city, there are numerous resettlement schemes with vacant housing. Findings suggest that the vacant housing in the resettlement and affordable housing schemes are sometimes captured by anti-social elements.[49]

48   Response to questions raised in Parliament in May 2016 regarding vacant houses constructed under the three schemes. Lok Sabha starred question no.256 answered on 11 May 2016, and Rajya Sabha unstarred question no. 991 answered on 9 March 2017. Accessed from: http://164.100.24.220/loksabhaquestions/annex/8/AS256.pdf

49   Mahadevia, Desai and Vyas; 2014. City Profile: Ahmedabad. CUE Working Paper 26, Centre for Urban Equity, CEPT University. Joshi, S., (2016). Social Impact of DBS Affordable Housing in Ahmedabad, Unpublished report.

6.1   Vacant houses in Ahmedabad

Ahmedabad has one of the largest stocks of vacant houses in Gujarat. As per the 1961 Census, the city had 280,000 housing units, and by 1971, this number went up to 338,000 units, that is, a growth of 21 percent in house units during 1961–71. In 1991, 104,210 (11.85 percent) of the 879,295 housing units in the city were vacant (Census 1991) while in 2001, 141,681 (15.3 percent) of 925,644 houses were vacant. In 2011, the total number of houses in Ahmedabad increased to 1,845,383, of which 230,915 (15.45 percent) were vacant (Census 2011). The Census data shows that vacant houses comprise about 11 percent of the total houses in Ahmedabad from the Census 1991 onwards. As of 2018, 14.82 percent of the total residential census homes in Ahmedabad are vacant.[50] According to a research report by Knight and Frank organization, the unsold inventory in Ahmedabad during the second half of 2014 was 41,206, and in the second half of 2015 was 39,782. In December 2017, there was an unsold inventory of 26,884 for over thirty months.[51, 52]

The population living in slums and the numbers of slums have increased from 430,955 or 14.5 percent of the population in 1991 to 907,662 or 25.7 percent in 2001 (Census 2001).[53] These factors make Ahmedabad an interesting case for the study of the paradox of vacant houses.

The level of urbanisation in the Ahmedabad District increased from 79.97 in 2001 percent to 84.04 percent in 2011.[54] As per the Census 2011, of the total 1,845,383 urban census houses in Ahmedabad District, 230,915 or 12.51 percent houses were vacant. Similarly, in the Ahmedabad Municipal and outgrowth area, of the total 1,702,541 census houses, 207,287 or 12.18 percent houses were vacant. The city saw a striking rise in the construction of affordable housing schemes from 2012 as well as a boom in the premium housing market with a ticket size of over INR 15 million.

Ahmedabad is one of the cities where the house launches, sales, and unsold inventory has been researched and reported by Knight Frank Research. As illustrated in the figure below, the Knight and Frank Reports reveal that while the number of house launches decreased from 2011 to 2015, the sales remained steady from 2011 to 2013 and declined from 2013 onwards. Both the launches and sales were affected by demonetisation and the introduction of RERA. The unsold inventory of houses continued to increase until 2015 and thereafter has continued to reduce. The age of the unsold inventory in Ahmedabad ranged from 27 to 45 months across Ahmedabad (Knight Frank Research, 2015; 2017; 2018; 2019).

50   As per the IDFC Institute (India Infrastructure Report 2018).
51   Knight Frank India, (2015). India-Real-Estate. July-December-2015. Accessed from: https://www.knightfrank.co.in/ research/india-real-estate-july-december-2015-3494.aspx
52   Knight Frank India, (2017). India-Real-Estate. July-December-2017. Accessed from: https://www.knightfrank.co.in/ research/india-real-estate-july-december-2017-5176.aspx
53   Census of India 2001: Ahmedabad District Census Handbook, Vol. I.
54   Samanta, T., Jolad, S. and Subramanyam, M., (2016) District Human Development Report–Ahmedabad. Gujarat Social Infrastructure Development Society, Government of Gujarat.

Figure 6.4: Ahmedabad: house launches, sales and unsold inventory by year and zones[55]
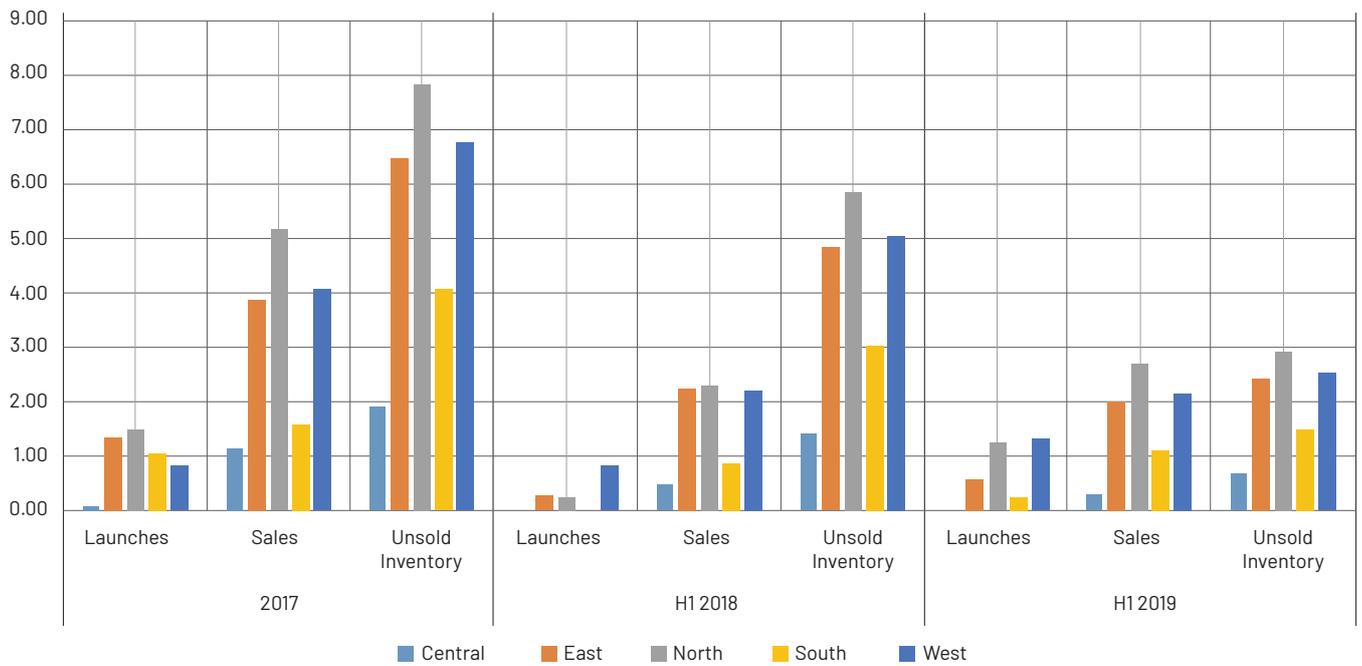
Traditionally and more so since the 1960s and 1970s, Gujarati families that have migrated to the UK or USA, have also constructed or bought houses in urban and rural Gujarat. The expatriates visit their homes once or twice a year, and for the rest of the time, these houses are vacant. Further, there is a speculative purchasing of real estate that also results in vacant houses.

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55   Knight Frank Research (2019). *India Real Estate*: Jan to Jun 2019. Accessed from https://www.knightfrank.co.in/research/india-real-estate-january-june-2019-6498.aspx

7   Research strategy

It is challenging to conduct meaningful research on vacant houses anywhere in the world as the reasons for the vacancy cannot be gathered from those owning the houses as the owners are absent or unknown.

To overcome this challenge, AnantU has undertaken a semi-structured exploratory approach in its research including in-depth surveys, group discussions, and interviews with residents and Resident Welfare Associations of neighbourhoods where the highest numbers of vacant houses are found in Ahmedabad. The research has covered housing schemes for the EWS, LIG, and MIG in Ahmedabad – both within municipal boundaries and in the peripheral areas of the city. The focus of this research is to identify the following:

- The reasons for vacant affordable housing in Ahmedabad
- Some solutions for closing the housing gap by reducing the numbers of vacant houses

7.1   The pilot study

In early 2019, the Anant Centre for Sustainability started with a study of census and secondary data on vacant houses in India and designed a pilot survey to gain familiarity and insights that could contribute to a more detailed investigation of the research problem. The aim of the pilot survey conducted by Anant National University students, who were trained for the task was to refine the research design and methodology for a more systematic investigation that would follow, and for the formulation of new research questions if appropriate.

The research protocol and questionnaire were developed based on the following parameters and introduced to Anant National University students during a training session.

- The Pilot involved a small sample in pre-selected areas of Ahmedabad where a significant number of vacant houses had been identified, to gain insights and determine what research method or methodologies to adopt for the research problem.
- The pilot was undertaken in one scheme for each income category, namely EWS, LIG, MIG, and HIG located in central Ahmedabad and one of each income category in the peripheral areas of the city.
- The study locations were finalised after preliminary visits to the pre-selected areas and, in some cases, after discussions with the project developers, revealed that at least 10 percent of the houses in the schemes were vacant/ unoccupied.
- Housing societies built by the public sector — that is, built by the Ahmedabad Municipal Corporation (AMC) OR Ahmedabad Urban Development Authority (AUDA) under various government schemes — were included.
- Societies built by the private sector for the lower income groups and for higher income groups, were included.

Subsequently, interviews were conducted with members of the Resident Welfare Association (RWA), real estate brokers, and the major private developers in the city. Further, discussions with groups were initiated to triangulate data on possible reasons for the vacant housing.

Various issues were identified in the field by the students who conducted the pilot survey, including:

- Privately constructed EWS category housing is not available, and hence the sample is primarily from government constructed schemes where housing is allotted rather than bought.
- The RWA / Apartment Owners' Associations are key providers of information on reasons for vacant housing.
- Information on housing for rent or sale in a scheme is available from property agents and from internet-based sources such as 99 Acres and Magic Bricks.
- Entry into gated housing schemes of MIG and HIG is difficult. In addition, it is also difficult to get information from key people such as the president or secretary of the RWA in these schemes.
- The potential respondents in the EWS and LIG schemes are more. Forthcoming, people in schemes that are at distant/ isolated locations are also to communicate.
- In many instances, houses are vacant because possession has not been given yet.
- Few schemes had very poor access in terms of roads, availability of transport (buses, auto-rickshaws, Uber/Ola, etc.). Also, these schemes did not have easy access to health and educational facilities.
- A definite reason for the vacant houses could not be identified from the neighbours.
- In government constructed housing under GoI schemes, where the allottees can pay their contribution within seven years, houses are vacant because possession has not been given yet.

7.2   Round table discussion on vacant housing study for Ahmedabad

As a next step, the Anant Centre for Sustainability organised a round table on Vacant Housing on 10th May, 2019 to introduce the research, share findings from the pilot survey and to get feedback from selected experts across India in the sector.

The outcome of the round table was such that while there was consensus on the study approach, the experts suggested focusing the research of this report and solutions to the EWS, LIG and MIG categories of housing schemes. The reason stated for this was that the greatest housing shortage is amongst the EWS, LIG, and MIG groups. In contrast, housing for the HIG segment could be vacant for reasons such as speculation, investment, or a consequence of poor business decisions.

In terms of addressing the housing shortage, the experts' invited to the round table emphasised on focusing the research on the limited progress on completion of affordable housing projects and the large numbers of vacant housing in housing built under the PMAY-U.

7.3   Research design

As advised by the conclusions of the round table held on 10 May 2019, we focused our study only on the paradox of affordable houses that are vacant in Ahmedabad. The study parameters for this research were established based on factors identified globally for vacant housing such as public and private housing, housing for EWS, LIG and MIG income groups, and location of housing. The study was designed to be undertaken from July to December 2019.

7.3.1   Research methodology

Information on reasons for the vacant units cannot be gathered from the house-owners but the representatives of the owners' association, from other residents in the scheme area and also from the property agents in the areas. Thus, the research was designed to collect both qualitative and quantitative data through:

*   Structured and semi-structured interviews
*   Surveys
*   Focus groups
*   Mystery audits

a)   Sampling

To ensure coverage of the different parts of Ahmedabad, an equal number of samples had to be taken from the northern and southern parts of eastern Ahmedabad (Walled city + industrial area + affordable housing) and western parts of the city. The city was divided into four parts, namely north-east, north-west, south-east, and south-west (refer Figure 6.1). While River Sabarmati provided a clear boundary for the east-west Zones of the city, the road that connected the Drive-in Cinema and Shilaj areas from the Gandhi Bridge, provided the north-south boundary in western Ahmedabad. On the eastern side, the road from Delhi Darwaja to Vastral and Gatraj provided the north-south boundary. Based on our research design, the location of schemes for different income groups selected for the study were as given in the table below.

Figure 7.1: Details of sampling in different geographical zones
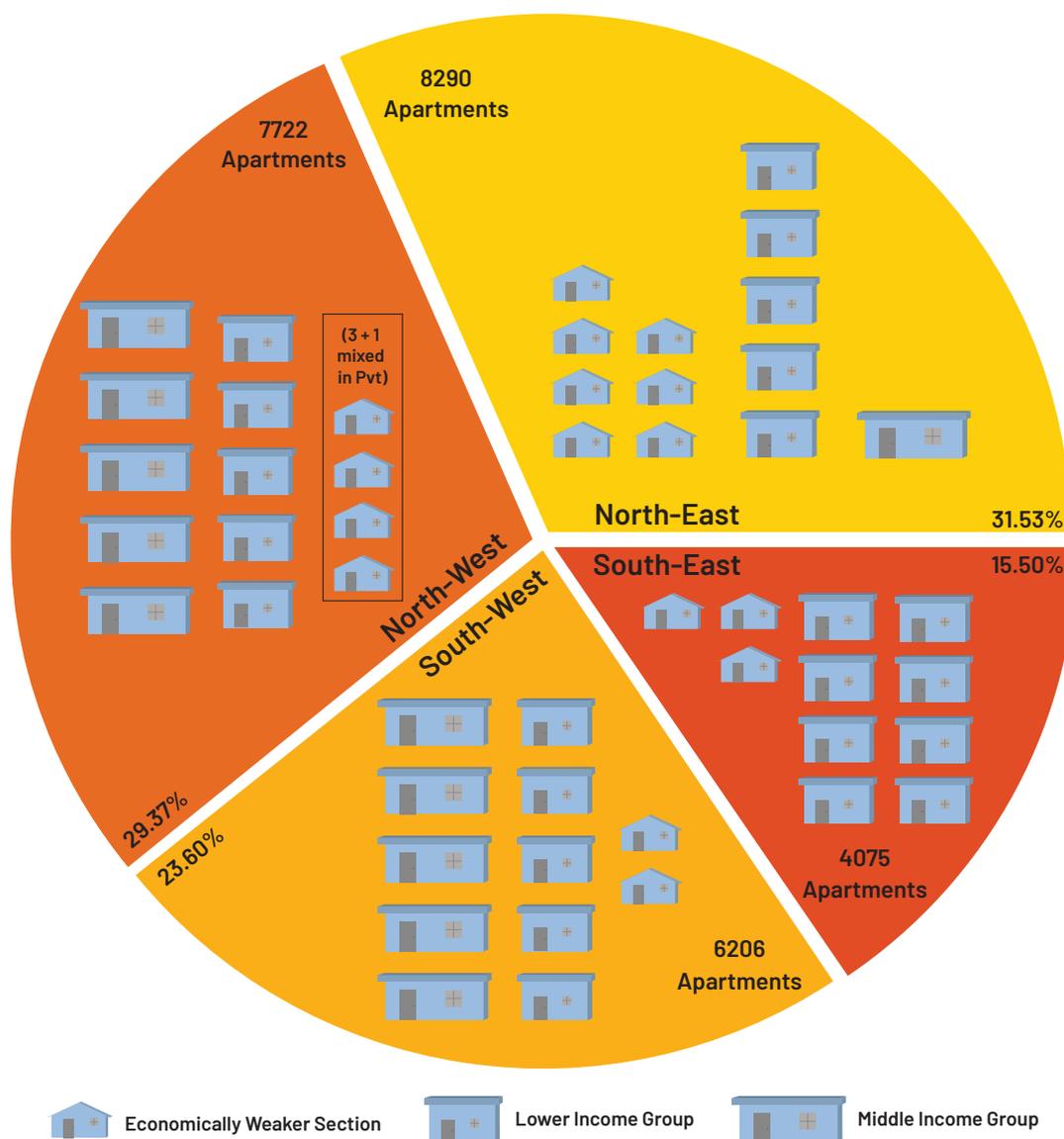
b)   Selection criteria

Besides the locational factors, every effort was made to select schemes where possession of houses was given between January, 2010 to January 2017-2018. Schemes built and occupied prior to 2010 were not considered since the reasons for vacant houses in older schemes are likely to be different from those of the more recent schemes. The other criteria for the selection of study schemes were:

- Schemes with a minimum of 100 apartments within the boundaries of Ahmedabad Urban Agglomeration; and
- Schemes classified by economic groups as follows:
    - o EWS: Houses with one multiuse room and kitchen (1RK/ specific area).
    - o LIG: Houses with one bedroom, hall, and kitchen (1BHK/ specific area), and
    - o MIG: Houses with two bedrooms, hall, and kitchen (2BHK/ specific area).

Figure 7.2: Mapping of Selected Schemes/Apartments for Field Survey

Legend: North East, South East, South West, North West
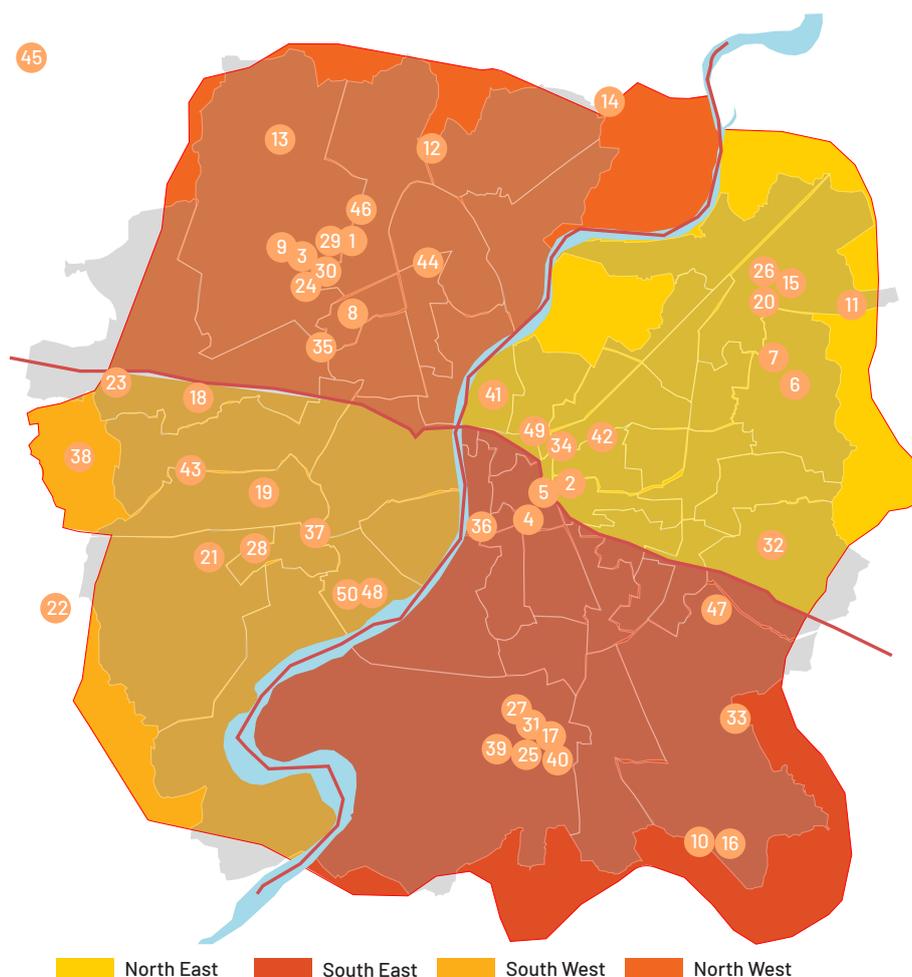
1	Silver Star Road (Chandlodiya)	18	Sindhu Bhavan Road	35	Chandlodiya
2	Rakhiyal (Gomtipura)	19	Jodhpur Gam	36	Behrampura
3	Chanakyapuri (Ghatlodiya)	20	Naroda	37	Vejalpur
4	Sarangpur (Kalupur)	21	Makarba	38	Bopal
5	Sanagpur (Kalupur)	22	South Bopal	39	Lambha
6	Nikol	23	Bopal	40	Narol
7	Nikol	24	Chanayapuri	41	Dudheshwar
8	Shastrinagar (Naranpura)	25	Narol	42	Nikol
9	Chandlodiya	26	Naroda	43	Vejalpur
10	Hathijan	27	Narol	44	New Ranip
11	Kathwada	28	Vejalpur	45	Oganaj
12	Chandkheda (D-Cabin)	29	Chandlodiya	46	Gota Road, Near Ranip
13	Gota	30	Ghatlodiya	47	80, Foot Road, Vastra
14	Agora Mall (Ring Road)	31	Narol	48	South Vasna
15	Naroda	32	Vastralh	49	Prem Darwaja, Kalupur
16	Hathijan	33	Vatva	50	South Vasna
17	Narol	34	Kalupur		

c)   Developers

Although Ahmedabad is one of the cities where several affordable housing schemes have been launched by private developers since 2010, these schemes have not yet catered to the EWS category. This made it essential to identify schemes developed by government (AMC and AUDA), private developers, and those developed through a public-private partnership such as under JNNURM. Also, government schemes built specifically for employees such as for the police or railway staff have not been considered.

7.3.2   Types of data used in the study

The research methods used provided both qualitative and quantitative data. The sources of qualitative data are responses to structured and semi-structured interviews, focus groups and mystery audits. The qualitative or descriptive data is directly or indirectly about the reasons for the vacant housing. The quantitative data included two sub-groups, namely discrete data such as numbers of units or respondents, etc., and continuous data such as distance, maintenance charges, incomes.

8 Research findings

8.1 Location

As described earlier in this report, Ahmedabad is divided by the river Sabarmati into two distinct parts. Spatially, both parts of Ahmedabad are quite different. Over the last 30 years, the western, especially the south-western part of Ahmedabad, has developed the most, and this has accelerated over the last decade. The eastern part of the city, which had a concentration of industrial areas and trading hubs, has not gone through any major gentrification or expansion. There are more engineering and manufacturing industries in the east, while the high-value additional ones such as pharma and specialized automotive ones are in the western part.

With the public bus service Bus Rapid Transit System running since October 2009 and the full operationalisation of the Outer Ring Road, connectivity across the city has improved. Although there has been more incremental infrastructure development in the eastern part of the city, it still lags substantially compared to the western part. With a 1 km wide affordable housing zone (R-AH) demarcated along the 76-kilometer stretch of S P Ring Road, the government and private developers have built several 'affordable housing projects' in this Zone.[56]

The findings show a higher vacancy rate in eastern Ahmedabad, especially in government projects (20 to 18.9 percent) and private projects (10.7 to 5 percent). The vacancy rate in the north-west and the north-east is also high at 17.8 and 18.9 percent respectively in government schemes and 5.7 and 5 percent in private developer schemes. The difference of over twelve percent is statistically significant at a 1 percent level of significance, which means we are 99 percent assured of our results.

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56   GDCR, Comprehensive Development Plan 2021 (Second Revised), Part III, General Development Control Regulations, 21 January 2015. According to the GDCR, minimum density for any proposed Residential Affordable Housing shall be 225 dwelling units per hectare and part thereof. However in no case the density shall increase 600 dwelling units per hectare. The individual dwelling unit sizes are recommended in three categories, namely residential dwelling units with built-up areas up to a) 50 sqm,; b) between 50 and up to 66 sqm, and c) between 66 and up to 80 sqm.

Figure 8.1: Vacant houses in Ahmedabad by geographical zones and developers

North

50.7%	43.6%	42.7%	39.5 %	
	5.7 %		17.8 %	
58.5 %	36.5%	46.2 %	34.8 %	
	5%		18.9 %	

East

68.9 %	25.9 %	73.8 %	24.9 %	
	5.2 %		1.2 %	
56.8 %	32.5%	50 %	30 %	
	10.7 %		20 %	

Legend:
- Government
- Private
- Owner
- Rented
- Vacant
- North East
- South East
- South West
- North West
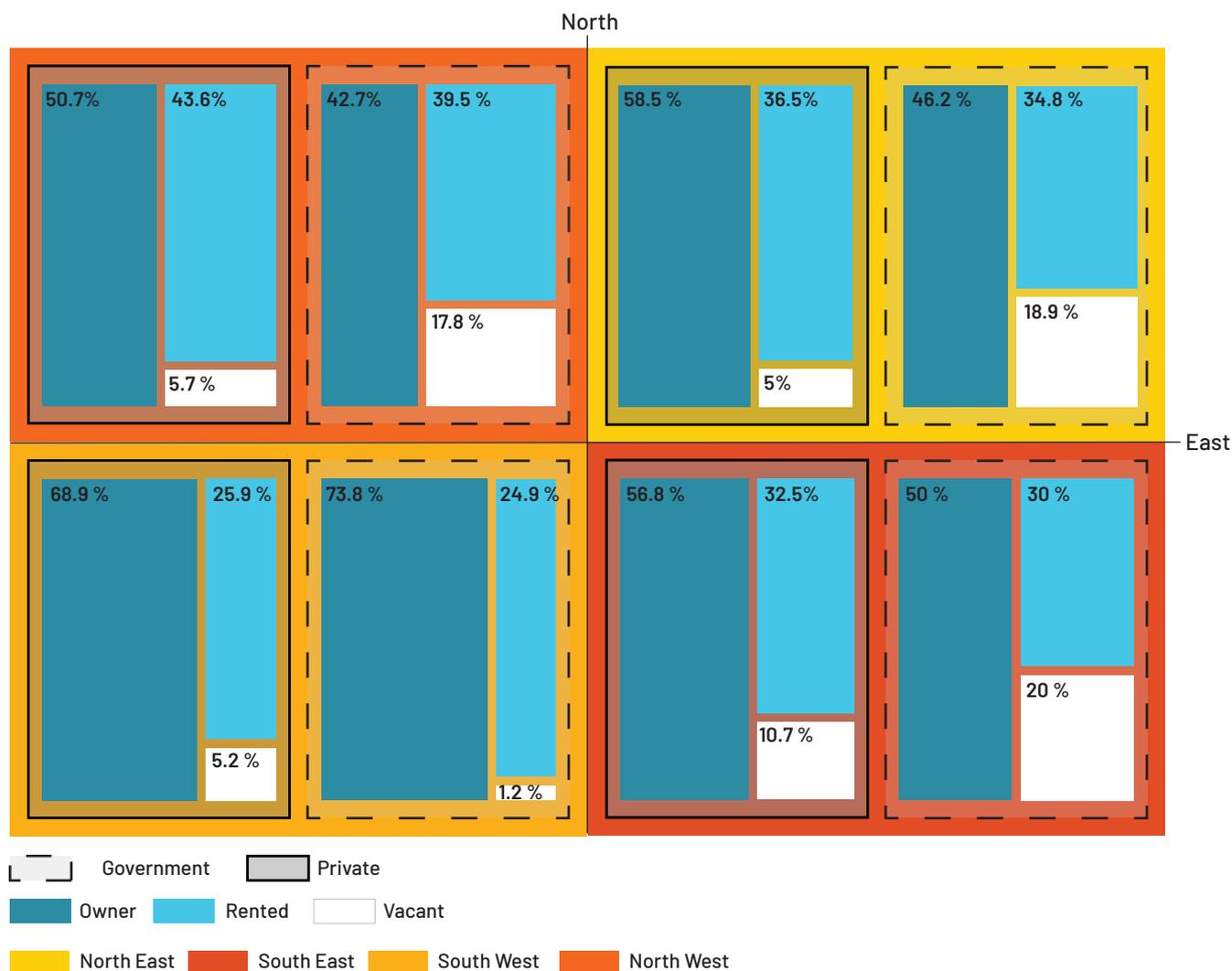
Source: Authors' calculations based on survey data.

There is a marginal difference in the percent of vacant units in government projects in eastern and north-west Ahmedabad. The lowest percent of vacant units in government developed projects is in the south-west.

The percentage of units rented out is higher in private developer projects than government-built schemes across Ahmedabad with the lowest percentage of rented units is in the south-west. In government schemes across Ahmedabad, the percentage of rented units ranges between 24.9 to 43.6 percent. This is very high since the units are allotted through a lottery system to identified beneficiaries. Thus, the targeted beneficiaries of the affordable housing schemes built by the government are either having problems in giving required documents and the down-payment, or they are captured by those having alternate housing arrangements and for investment. Although this should not be the case under the lottery allocation system, it matches the perceptions of residents of government developed affordable housing schemes.

Figure 8.2: Percentage share of vacant houses in government and private societies across different geographical zones

Explanatory Variable	Full Sample	Sub-samples		
		Government	Private	Mean Difference
	Mean (SE)	Mean (SE)	Mean (SE)	
	(n = 498)	(n = 228)	(n = 270)	(t-test)
Geographical Zones				
South East	0.142	0.200	0.107	0.092***
North East	0.142	0.189	0.050	0.139***
South West	0.037	0.012	0.052	-0.040**
North West	0.107	0.177	0.056	0.121***

Source: Authors' calculations based on survey data

***, ** and * denotes statistical significance at 1%, 5% and 10% levels respectively.

The above table presents the summary statistics of the vacant houses of government and private societies in different geographical zones in Ahmedabad. The table shows that, on average, south-east and north-east zones seem similar in terms of numbers of vacant houses. However, their distribution in government and private societies are significantly different. In the case of the south-east zone, the overall vacant house rate is about 14.2 percent; however, the rate of vacant houses in government societies (20 percent) is almost double as compared to private societies (10.7 percent). The difference of about 9.3 percent is statistically significant at a 1 percent level of significance, which means we are 99 percent assured of our results.

Similarly, in the case of the north-east zone, rates of vacant houses in government societies (18.9 percent) are almost four times higher as compared to private societies (5 percent). South-west zone shows the least vacancy rate (3.7 percent) among all zones. Interestingly, here, we have more vacancy rates in private societies (5.2 percent) as compared to government societies (1.2 percent). North-west zone seems very comparable with the north-east zone in case of the size of the difference between government and private societies for vacant houses. Though, we have 10.7 percent vacant houses in the south-west zone, which is lesser than the north-east zone. Nevertheless, vacant houses in government societies (17.7 percent) is more than 3 times higher as compared to private societies (5.6 percent).

8.2   Government vs. privately developed projects

A majority of homes in privately developed EWS schemes in our survey were not owner occupied. We see a vacancy rate of nearly 21 percent as well as a higher rental rate of 70.5 percent in these homes, which is both higher than for the same categories in EWS schemes developed by the government. In contrast, in the government developed EWS projects in our survey, we found the owner occupancy to be much higher at 56.9 percent, while 14.3 percent were vacant homes, and nearly 29 percent were rented homes. This clearly indicates that buyers of privately developed schemes catering to the EWS income group, have been more likely to buy the units as investments.

However, this trend starts to change as we move upwards in the price range of homes. For example, in LIG housing, there is a dramatic increase in the owner occupancy of privately developed units whereas we find a decrease in the same income category for units developed by the government. This indicates that it is likely that investors who already have another primary home, are buying units for the LIG population developed by the government. Vacancy also starts to rise in government projects which indicates that it is possible that rent is low and buyers are preferring to get their returns as capital appreciation.

For housing for the MIG sector, we see a reversal in trend. In government developments for this income group, more than two thirds of it is vacant or rented – owners don't prefer to stay in these units themselves. Whereas in private developments for the same income group, more owners prefer to stay in the units they purchase. Vacancy is also much higher for government housing units for the MIG sector than it is for the privately developed units for the same economic group. The reasons for this are similar to those drawn for LIG housing, since the rent is low and buyers are preferring to get their returns as capital appreciation.

Figure 8.3: Vacant Houses in Ahmedabad by economic groups and developers
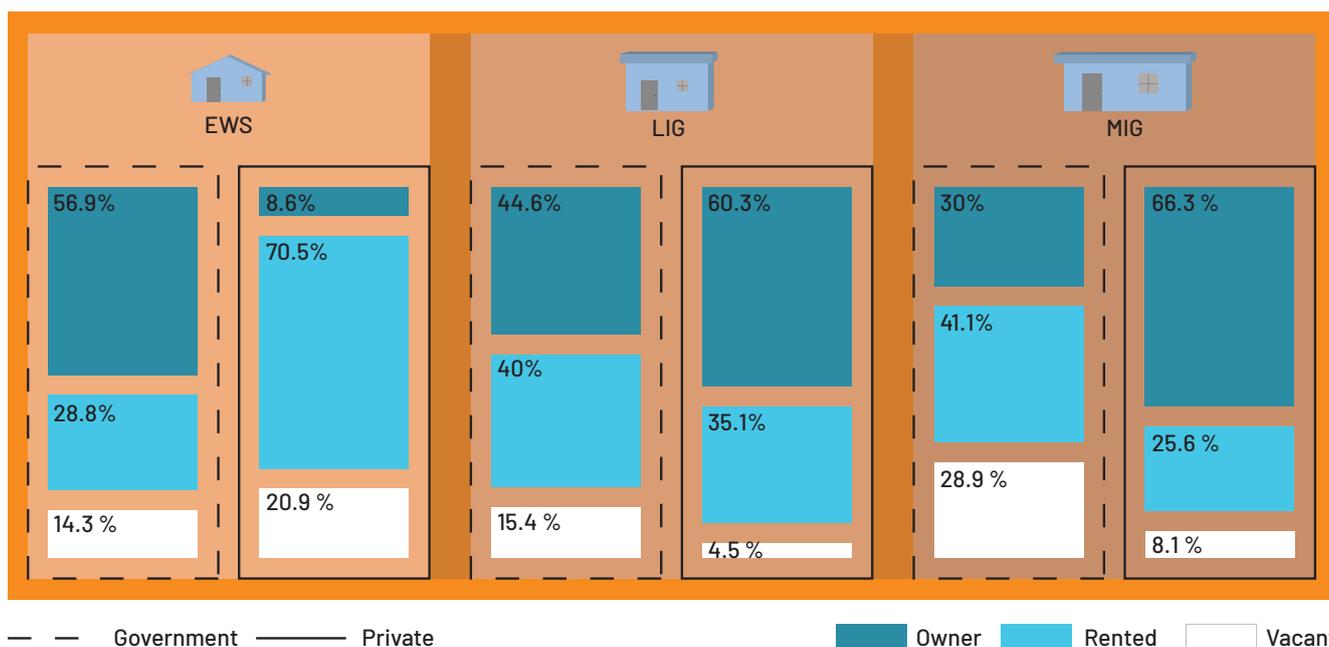
Source: Authors' calculations based on survey data.

The vacancy rates in government projects in northern Ahmedabad are higher, especially in the north-eastern part where the vacancy is at a critical level compared to private projects that have a minimal vacancy. The difference between vacancy in government and private projects in the same segment and region is quite large except in the northwestern part of the city. In government housing, the vacancy is substantially higher in the EWS and LIG segments as more of these units are held as investments while the owners prefer to stay in their original or other locations. This part of the city has a larger number of lower-income neighbourhoods than the rest of the city, a lower level of development and of real estate price appreciation, than other parts of Ahmedabad.

## 8.3   Role of type of schemes/apartments in vacancy rates

Figure 8.4: Association between type of houses and vacancy rates
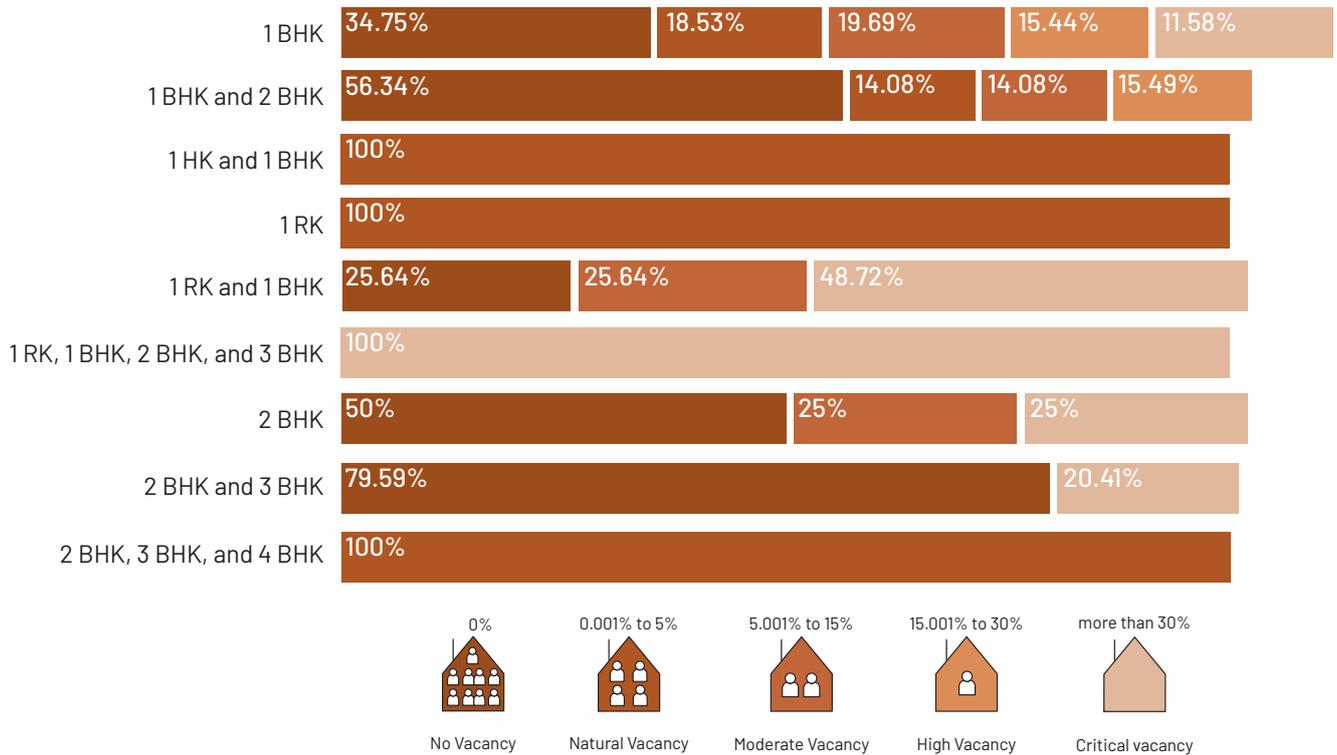
Source: Authors' calculations based on survey data.

As we have mentioned in the types of data section that we converted some of the continuous variables into discrete variables, and the rate of vacant houses is one of them. To examine the severity of vacant houses in different characteristics of societies and schemes, we have classified the proportion of vacant houses in 5 different categories. Namely, (i) no vacancy – where zero percent vacant houses or in other words, all houses are occupied and owners are living, or people are living on rent, (ii) natural vacancy – refers to 0.001 to 5 percent vacant houses, (iii) moderate vacancy – represents 5.001 to 15 percent vacant houses, (iv) high vacancy – means 15.001 to 30 percent vacant houses, and (v) very high vacancy or critical stage of vacant houses – where more than 30 percent houses are vacant.

In the above figure, we tried to examine the association between types of houses and the rate of vacant houses. Our study covered 9 different types of houses, including single type societies such as 1 BHK, 1 RK, and 2 BHK. We also included multiple type societies where two or more types of houses are available. We did not find any set pattern of vacant houses based on the kind of house. Hence, we can say that there is no direct association between vacant houses and the size of the house or type of society.

8.4   Role of number of floors in the scheme/apartment in vacancy rates

Figure 8.5: Association between number of floors and vacancy rates
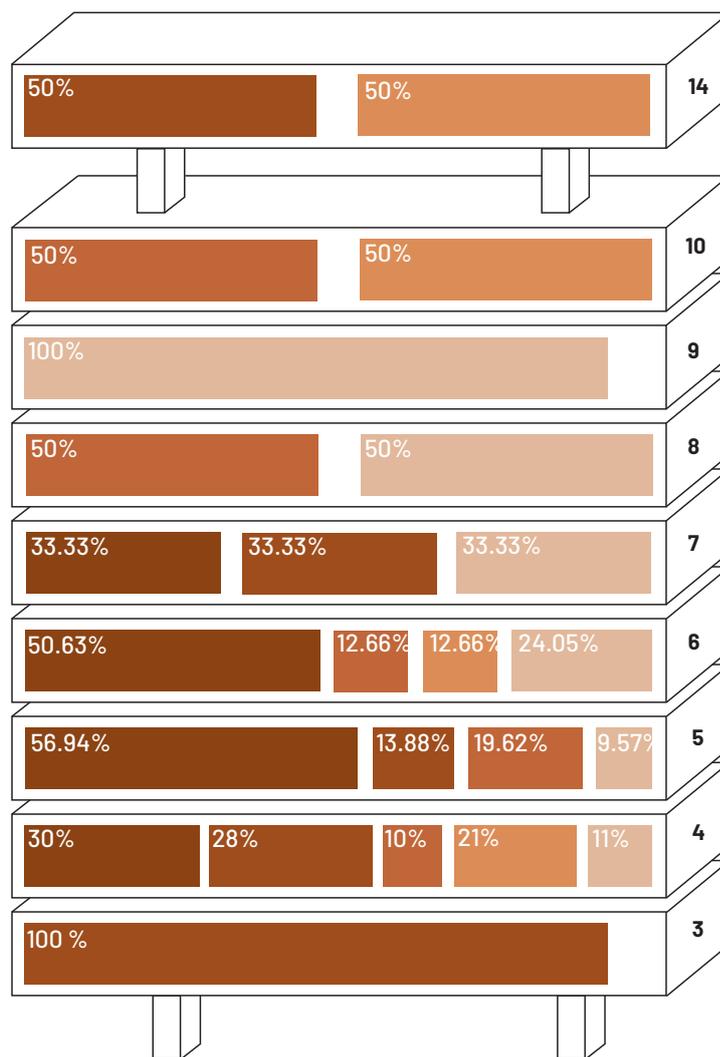
Source: Authors' calculations based on survey data.

A large part of the vacant stock in Ahmedabad is unsold inventory. The demand exists but most likely at a price point that is 20 to 30 percent lower than what it is offered at present. Conventionally it would not be possible for a developer to correct prices by 30 percent, but the government can introduce measures to help bring down the cost. One or more of the proposed measures below can be introduced.

8.5   Role of roads associated with apartments in vacancy rates

Figure 8.6: Association between type of roads and vacancy rates
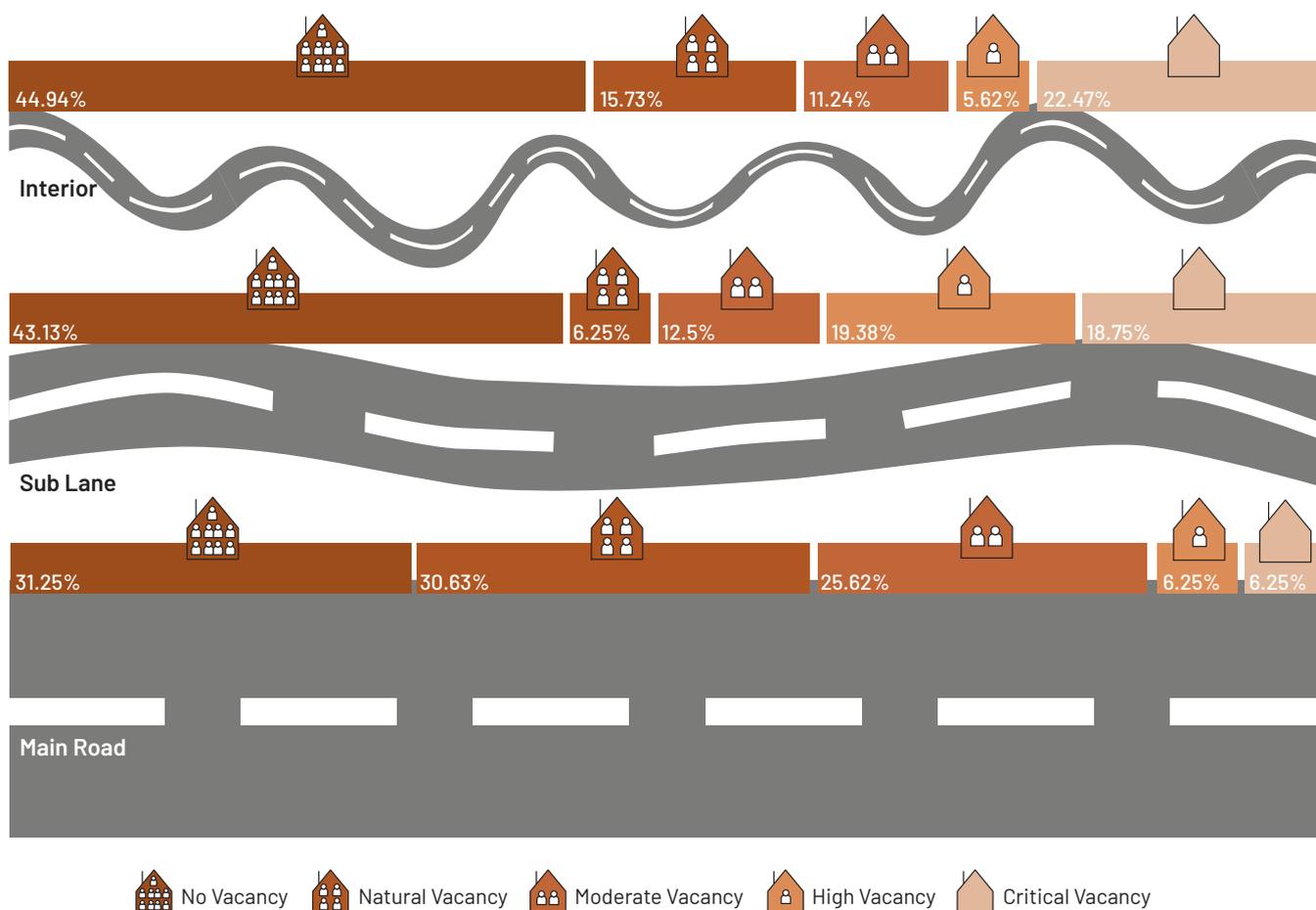
Source: Authors' calculations based on survey data.

The above figure represents the percent share of vacant houses across different types of roads associated with the societies. The type of road is often an adequate proxy for the connectivity of that area to the rest of the city. It is interesting to notice that societies associated with the main road reported the least percentage share (6.25 percent) in the critical vacancy category. These societies were located in economically upscale areas and access to basic amenities such as schools, gardens, malls, and hospitals were more convenient. Societies associated with an interior road reported the highest percentage share (22.47 percent) in the critical vacancy category.

8.6   Role of value appreciation of houses in vacancy rates

Figure 8.7: Association between vacant houses with different quintiles of value appreciation of the houses

Number of Quintiles	Observations	Value Appreciation of the House				Vacant Houses	
		Min	Max	Mean	Std. Dev	Mean	Std. Dev
1	101	−0.050	0.104	0.044	0.051	0.112	0.156
2	100	0.135	0.200	0.168	0.026	0.101	0.157
3	98	0.227	0.300	0.251	0.019	0.104	0.139
4	108	0.333	0.714	0.492	0.137	0.101	0.144
5	81	0.800	1.857	1.242	0.337	0.140	0.166

Source: Authors' calculations based on survey data.

Is there an association between the increasing value of houses and the number of vacant houses? To address this question, we tried to measure the present value of the houses and value of the same houses 3 years ago. Then, the growth of value appreciation has been calculated for 3 years. Further, we classified the value of appreciation in 5 different quintiles. Quintile 1 refers to the least appreciation, while Quintile 5 presents the highest appreciation. Min and Max values indicate the minimum and maximum value appreciation in that particular quintile. At the same time, mean the average and standard deviation refers to the variation, which shows the distance of value from the mean.

It is interesting to notice the negative appreciation in Quintile 1, which means that there are some societies where the value of houses has come down as compared 3 years ago. Though, value appreciation of Quintile 1 to Quintile 4 has been increased from 4.4 percent to 49.2 percent. However, the rate of vacant houses in the first four quintiles (Quintile 1 to Quintile 4) do not look significantly different because they range from 10.1 percent to 11.2 percent. In the case of Quintile 5, where the highest appreciation has been reported in the last 3 years, it also said the highest vacant houses (about 14 percent). In this quintile, on average, the value of a house has been increased by 124.2 percent, where about 80 percent is the minimum appreciation, and about 185.7 percent is the highest appreciation in the last 3 years. The direct and positive relationship between appreciation values and the number of vacant houses shows an indication of investment. More appreciation is more likely to happen in prosperous areas, and well-connected societies, where there is a possibility of having more than double value in only 3 years. So, people purchase these houses for investment purposes and do not prefer to shift in those houses or rent out them to others.

8.7   Distribution of value appreciation of houses in different schemes.

Figure 8.8: Association between different schemes and value appreciation

Type of Schemes	Observations	Mean	Standard Deviation
EWS	155	0.445	0.466
LIG	228	0.397	0.408
MIG	104	0.384	0.427
Total	487	0.409	0.430

Source: Authors' calculations based on survey data.

The above table represents the appreciation values of houses in different schemes. In the period of the last three years, maximum appreciation occurred in the EWS category (44.5 percent), followed by the LIG and MIG categories by 39.7 percent and 38.4 percent, respectively.

8.8   Reasons for vacancy in the affordable housing sector in Ahmedabad

In this section, we discuss the reasons for vacant houses in Ahmedabad that were identified in our research. We have classified these reasons in six categories as illustrated in the figure below.

Figure 8.9: Major reasons for vacant houses in Ahmedabad (in percentage)

Documentation issue
23.41%

Investment purpose
23.08%

Poor Infrastructure
19.4%

Distace from workplace
10.03%

Shifting soon
9.7%

Others
14.38%
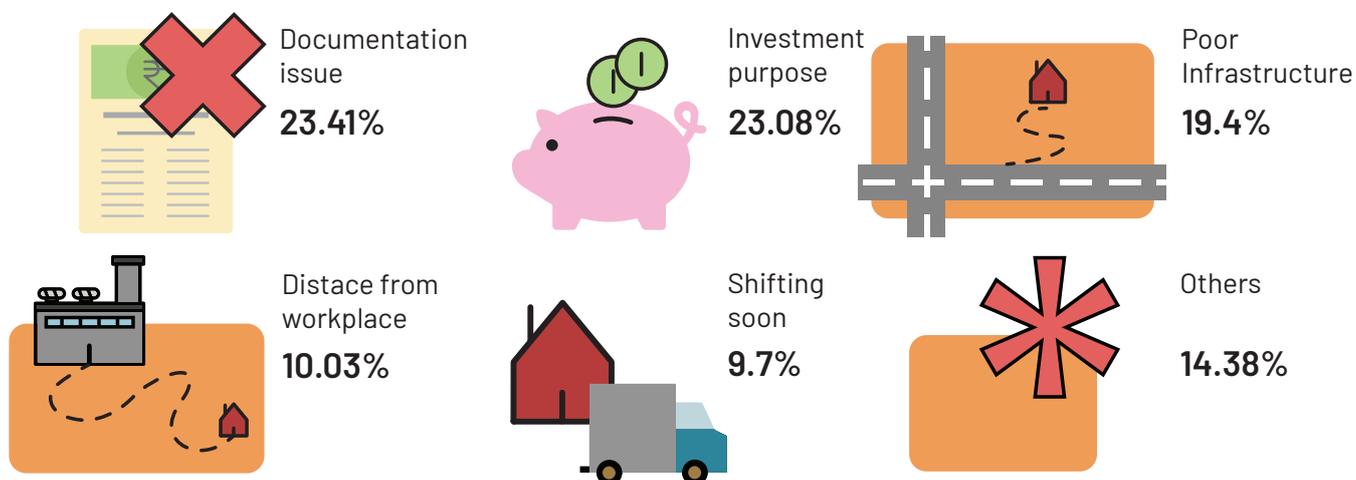
Source: Authors' calculations based on survey data

To examine the determining factors of vacant houses, we also used a multiple linear regression model.

Figure 8.10: Determinants of vacant houses in Ahmedabad: multiple regression analysis

	[1]	[2]
Reasons for Vacant Houses		
Documentation issues	0.0478*	0.0691**
	(2.07)	(2.88)
Distance from Workplace	0.110***	0.0858**
	(3.68)	(2.74)
Shifting Soon	-0.0789**	-0.191***
	(-2.62)	(-6.27)
Poor Infrastructure	0.193***	0.109***
	(7.94)	(3.90)
Others	0.0694**	0.0429
	(2.62)	(1.63)
Restrictions		
Religion and Caste		0.0145
		(0.65)
Food Habit		0.124***
		(4.92)
Other Society Issues		0.189***
		(6.05)
_cons	0.122***	0.127***
	(7.45)	(6.05)
N	299	211
R-squared	0.261	0.397
Adjusted R-squared	0.248	0.373

Source: Authors' calculations based on Survey Data

Note: Significance level of the difference: * $p<0.05$, ** $p<0.01$, *** $p<0.001$

Robust standard errors clustered at the society-level in parentheses.

Omitted groups: reasons for the vacant house: Investment Purpose. Restrictions: No Restrictions.

In the first model [1], we are trying to examine how different possible reasons are affecting the rate of vacant houses, and which factor is causing more. While in the second model [2], we used another control variable to examine how different societal restrictions explain the variation in the rate of vacant houses, and it helped us to understand the robustness of the first model as well. To avoid the problem of the dummy variable trap, we have omitted the first category of each independent variable because we are using dummy variables as our explanatory variables.

The explanatory variable used in the first model [1] is clubbed into six broad categories namely: (i) investment purpose, (ii) documentation issues, (iii) distance from the workplace, (iv) shifting soon, (v) poor infrastructure, and (vi) others miscellaneous reasons. The first category is omitted, which represents investment purpose, and the coefficients of other categories can be interpreted as compared to the base category that is investment purpose in the case of the first model. Similarly, the second model [2] also deals with dummy variables, which consist of four categories: whether the society has (i) no restrictions, (ii) restrictions based on religion and caste, (iii) restrictions based on food habits, (iv) other society issues. The function relationship represented by equation (1) has been estimated using ordinary least squares (OLS) estimation. The estimation results of the specifications are reported in Table 8. The goodness of fit of the model [1] and [2] are 0.261 and 0.397, respectively. Given that the regression analysis is based on cross-sectional data, the explanatory power of the model is reasonably good.

We choose investment purposes as our base category because buying property is one of the most significant investment decisions a household takes. Apart from social and cultural reasons that determine ownership of a house, another important reason for buying a house could be a possibility for an increase in the value of the house. Results from the regression analysis show that distance from the workplace and poor infrastructure are the most prominent reasons compared to investment purposes in determining the rate of vacant houses. When cities prosper, demand for houses and other real estate increases, which pushes up the prices of the property. This is a simple principle of the law of demand that refers to the situation when demand for a product will increase, the supplier will try to increase the price to maximize his profit. Consequently, a large number of individuals and households face problems in finding suitable and affordable housing close to their jobs. The next best option for them is to live near a transport network, so that affordable, safe, and accessible modes of transport can help them to commute easily from home to workplace and vice versa.

8.8.1 Investment purpose

At 23.08 percent, the largest number of survey respondents reported that homes in their housing society were vacant because these homes were bought for investment purposes instead of living in them.

As context to this survey response, we first have to understand that there is a huge disparity of income in India. Further, a large part of the economy is in the informal sector for whom their investment remains in real estate. For the people who can either afford investments in real estate or have large unaccounted incomes, they tend to purchase homes as an investment to sell later at a higher price. Investment in land is risky due to unreliable land records and land grabbing, whereas a home is a built structure and therefore is a preferred option. Earlier in this report we have explained that India is one of the very few countries in the world where rental yields are abysmally low (1 to 3 percent for residential units) and is nearly one-third of the risk-free rate (about 5.8 percent). Capital appreciation is thus the preferred mode of return. Due to the

low-interest rates and laws that are structured to favour tenants, a large number of owners prefer to keep the units vacant. This is a phenomenon observed across the board in India but we found it to be more acute in the affordable segment for the following reasons:

- The absolute amount of rent price in these units are very low and so renting is not worth the bother for investors.
- Investments in affordable homes are often relatively modest and without any leverage. Investors would prefer to keep the units empty as it gives them the flexibility to sell at any time.
- In many cases the investments are made in proxy names and so enforcing any agreement, or going to court in case of dispute would be a challenge for the owners.

Real estate speculation has also contributed to distorting the price of housing, where the value was strongly inflated, providing to hinder the access of families to housing. Many investors bought houses intending to keep them empty, waiting for their appreciation, and then sell the properties to maximize the investment. With the breakdown of confidence in the housing market and the value of homes, many owners end up not selling below their expectations while keeping them empty, increasing the number of vacant accommodations.

8.8.2 Documentation challenges

Challenges related to completing official documents related to home possession was reported as a reason for vacant homes by 23.41 percent of people we surveyed. It was found that the government offered two options for the beneficiaries of affordable housing schemes to pay for their homes - either by complete payment through self-generated funds or a loan from a lending institution; or through equated monthly instalments over a fixed period of time. We found that vacancy seems to be in homes in the second option, i.e. for which the beneficiaries are paying the equated instalments for. However these beneficiaries face challenges in completing the required official documents due to its length and nature of questions, and nor can they take possession of their homes until the official documents are complete. We also found that some of these beneficiaries had applied for loans, and the loans were either rejected or delayed due to incomplete documents.

8.8.3 Poor infrastructure

19.04 percent of respondents in our survey identified poor infrastructure as a reason for houses to remain vacant. Poor infrastructure is a combination of a number of reasons. A large number of government buildings face maintenance issues, so do older private ones. Some affordable housing built by private developers with old building guidelines had one elevator for over 50 apartments. Furthermore, in a large number of societies due to maintenance and cost issues, the elevators operate for 1.5 hours every morning and evening. Lack of adequate water supply, lack of designated parking, and sufficient common areas are some of the other infrastructure issues that were highlighted in projects with high vacancy that we surveyed.

We also analysed the relationship between the rate of vacant houses with convenient accessibility of various amenities using pairwise correlations. This analysis summarizes the linear relationship between two continuous variables on a –1 to +1 scale.

Figure 8.11: Pair-wise correlation matrix between vacant houses and infrastructural factors
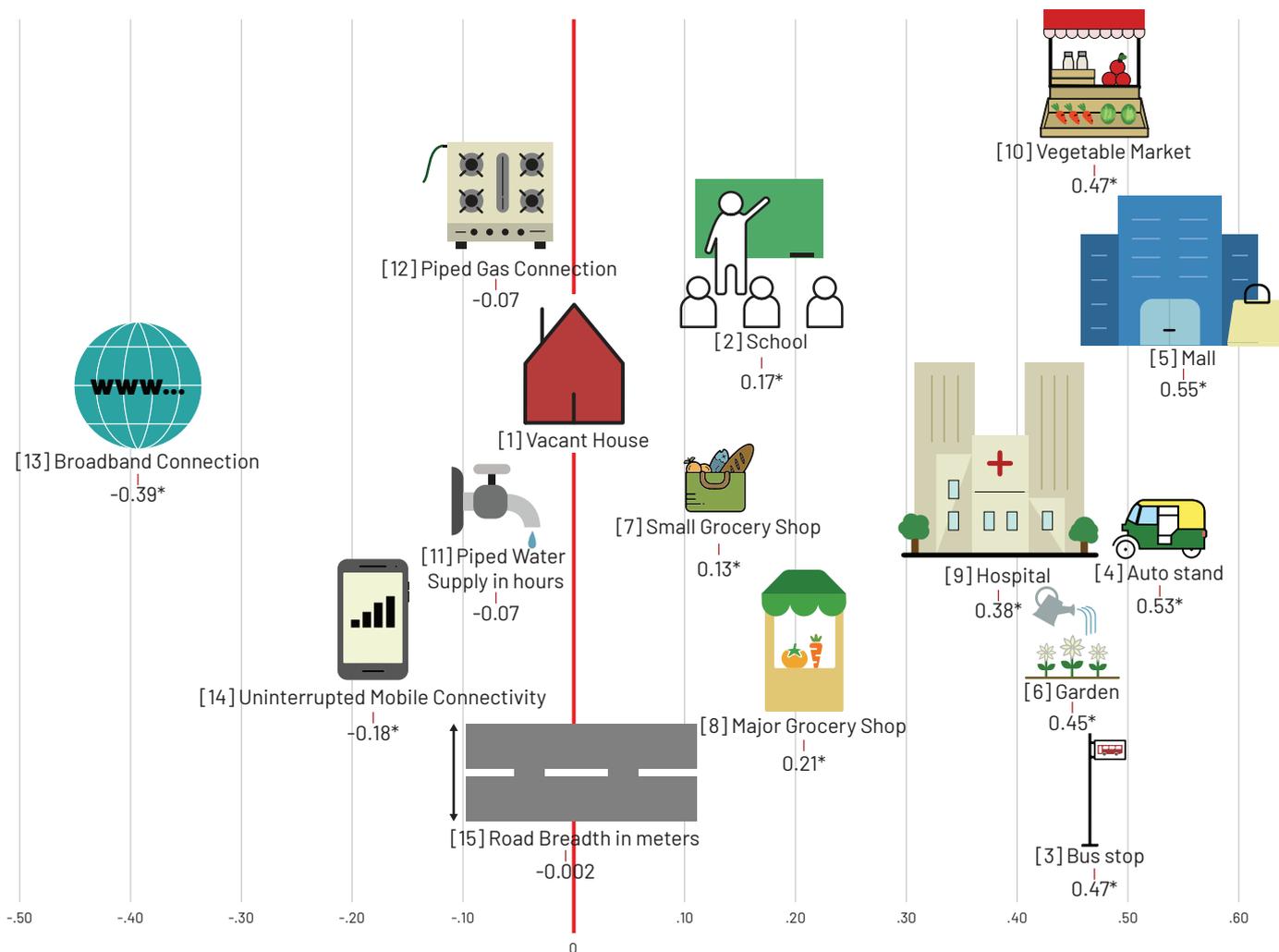
Source: Authors' calculations based on survey data

Note: [1] = vacant houses in percentage,

[2] to [10] = school, bus stop, auto stand, mall, garden, small grocery shop, major grocery shop, hospital and vegetable market respectively in kilometres,

[11] = piped water supply in hours,

[12] to [14] = piped gas connection, broadband connection, and uninterrupted mobile connectivity respectively and these factors are binary in nature,

[15] = road breadth in meters.

The results suggest that there is a reasonably moderate and positive correlation between the rate of vacant houses and all variables related to distance from the required amenities. The star sign refers that the significance score is less than 0.05, suggesting that there is a high likelihood that all of these variables have non zero relationships.

All the variables in the figure above show a positive and significant association with the rate of vacant houses, meaning that more distance from basic amenities like a bus stop, auto stand, mall, and vegetable market, etc. positively and significantly associated with a higher rate of vacant houses.

Further, the correlation matrix revealed negative and significant associations among the various connectivity components such as broadband connection, uninterrupted mobile connectivity, and road breadth (which can be a proxy of better connectivity). Household satisfaction with housing facilities, especially connectivity, emerged as one of the components for mass housing projects in every part of India, and Ahmedabad is not exceptional in this regard.

8.8.4 Distance from workplace

10.03 percent of the respondents in our survey identified distance from the workplace or from the school for children as a major reason for their neighbours to not move into their houses. Allocation of homes in government projects is on a lottery basis. Thus, often, people are allotted homes in projects that are either at a considerable distance from their place of work, schools, and other places they need to travel to on a daily basis. Homeownership remains aspirational in India, so people will try to buy the best home they can buy by stretching their budget, but will not move in to them due to these inconveniences of long commute hours. At times people in the lower-income groups would be living in informal settlements or on historical lower rents in developed areas of the cities – these areas would have seen a rapid price appreciation, but their social ecosystem, including jobs, might be in these areas. The homes they could afford would be in distant locations, and people would prefer to even stay in substandard homes to be close to work and schooling and invest in the homes for the future. A good example of another city is domestic help and drivers living in the slums of Andheri in Mumbai. A few years ago, Mira Road was an emerging destination in Mumbai with cheap homes. Several slum dwellers bought homes in Mira Road but continued to live in slums. For drivers, especially, it was not possible to make the commute from Mira Road to Andheri early morning and late-night – so a large number of flats were unoccupied for an extended period of time.

The importance of public transport is so far neglected or underestimated in Indian housing policies. Income seems the most important determining factor in choosing the size of the house and its location. However, location is very much dependent on the distance or location of the workplace. Usually, we see a significant trade-off between the size/quality of the house and the closeness to the workplace. This means, if a household prefers to live close to the workplace to save their time and transportation cost, they might have compromised with the size and quality of the house. This is because, given the income constraint, households can either live in homes farther from the city centre, which is cheaper and incur higher expenses on commuting or live closer to the city centre and save on commuting but instead spend more on housing. Therefore, the importance of public transport increases, especially for low-income households, because this will help them to decide either higher savings or having more disposable income for incurring expenses on other necessities.

Further, mass public transport reduces the dependency on private means of transportation such as cars and other motor vehicles, that will undoubtedly minimize the requirement of parking in residential buildings. If parking requirements are removed or reduced up to a significant level, there will be a decrease in the cost and time for construction. This lower cost and time for construction will increase the affordability for houses and will reduce the possibility of vacant houses. Further, mass transit systems will also lower environmental costs by lowering vehicular emissions.

8.8.5 Shifting soon

9.7 percent of the respondents said that the houses in their society are vacant because the owner or tenant is expected to shift soon. This segment of vacant houses is very 'short-term' in nature. The possible reasons for the delay in shifting were that either the furnishing work was ongoing or there were constraints related to loading and moving homes.

8.9 Community related reasons

Historically, Gujaratis were Hindu and Jain merchants. They were organized along various ethno-religious lines who then formed sub-communities. Besides this diversity of sub- communities, Gujarat also has a significant population of Muslims, and some Sikhs, Buddhists, Zoroastrians, Jews, and Christians. Each community has different norms, customs, food habits, and identity. A large number of the older housing communities in the city were formed under the cooperative structure and were ethnically very homogeneous. The strong caste identities and way of life also reflects in the choice of families preferring to live in housing societies that are catering to a particular group, sub-caste, sect, and eating habits - vegetarian and non-vegetarian.

The eastern part of Ahmedabad has government housing schemes where apartments are allotted by a lottery system, tend to be mixed. The research findings show high vacancy, low capital appreciation, and lower rents for such projects. Government projects except for the northwestern part of the city have the highest vacancy but show similar levels of a rental but lower percentage of owner-occupation. The vacancy is either due to the reluctance of owners to rent or that these homes are held for investment purposes.

8.10 Marketing

Homeownership in India signifies social status. Low-income housing projects do not reach the targeted families - particularly in government projects. The potential buyers are, at times, unaware of the projects and the subsidy mechanism in place.

Therefore, the type of home and the development matters to potential buyers. Consequently, higher-income groups are not interested in living in schemes developed for lower-income groups but may invest in them by gaming the system to buy these units at heavily subsidized prices and take advantage of capital

appreciation. These deals seem particularly attractive to investors but tend to discount the fact that the people in the lower income segment have limited purchasing power. The appreciation in affordable units is thus capped – we have observed this in two projects, one in Rajkot and one in Vapi that over a 3 year investment period this appreciation is capped at around 30 percent for units priced between INR 300,000 to 600,000.

Purchasing a home in India is a difficult process for potential customers – from identifying an appropriate scheme to interaction with the builders (particularly government), mortgage providers, and service providers. Until recently, many details were left vague to ultimately allow the inclusion of hidden costs that can escalate the price of a low-income home by 15 to 20 percent.

Government projects have a negative reputation, and, in many cases, people buying homes in government projects are associated with poverty and lower social status. This consequently leads to vacancy.

A trend we observed in the survey was that projects that are unsold are advertised or presented as sold. The perception is people believe that the major part of the capital appreciation happens between the launch and completion. Completed projects that had unsold inventory were considered failures with no scope for capital appreciation. They are therefore marketed more in the secondary market rather than showing vacancy.

8.11   Other reasons

Our survey also revealed other reasons for vacancy. In a few cases, two houses were allotted within one family so that one flat was vacant. We found that in a few cases due to the death of the owner, other members live with their family in another home. A few respondents revealed that the habitants of the vacant houses in their society did not enjoy living there and so had left. There were also cases in our survey where no tenant was found that matched the owner's expectations. Some of the owners did not prefer to have bachelor tenants, and so left their houses vacant instead. The owner's relationship with the accommodation is also a factor that can lead to an accommodation stay vacant, mainly due to legal problems related to situations of inheritances, division of property, and other responsibilities aforementioned, which aggravates issues in the decision making about what to do with a vacant accommodation.

9   Recommendations to close the housing gap by minimising vacant houses

Existing literature on data, reasons, and recommendations of solutions related to vacant houses in India is limited. Sahil Gandhi and Richard Green's focus paper on vacant houses in India provide some overview of the subject.[57] The research report by Monani, Sinha, et al. (2012) discusses the complexities of Indian housing problems based on a study of the Rajkot business model and lessons learnt from experience.[58] The authors of both the focus paper and report conclude that there cannot be a single solution to solve the problem of vacant houses in different geographies. The authors also propose for-profit rental housing models in peri-urban locations and emphasise the significant role and contribution that private players can play in providing affordable housing.

Further, earlier sections of this report have cited Knight Frank, an organization that examines housing issues in different parts of India. One of their significant studies entitled 'Institutionalising the Rental Housing Market in India – 2019' discusses the current situation of rental housing in India along with constraints, policies, and future courses of action.

Also, Wadhwa, Risbud, and Kumar (2009), in their report on the dynamics of affordable housing for the urban poor, discuss the concept of affordable housing for different income groups.[59] They review the competence of the market in providing affordable housing - specifically for the urban poor, various government housing policies, and the different programs adopted by the state and central government to facilitate the provision of affordable housing. In addition, the authors discuss the current housing policies of selected states along with the probabilities of their success and provide some workable suggestions related to policies and programs for providing housing for all. Their recommendations include the following:

- The focus of discussion on housing policies must shift from a preoccupation with ownership housing to other forms of tenure suitable for different income, professional, and age groups. The role of non-housing policies and strategies that affect housing, also cannot be overlooked. These could include transport policy and regional planning.
- A key component to the provision of affordable housing would be a more efficiently functioning housing market that can respond to changes in demand as quickly as possible and with the least cost.
- The two key steps required are easing government regulation and improving the mobility of households by reducing the transaction cost of moving house (sale/ purchase/ renting).

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57   Gandhi and Green, (2018). Situation of vacant houses in urban India for the round table on vacant housing organised by Brookings India. An extension of work done in Gandhi and Munshi (2017).

58   Monani, Sinha et.al. (2012). New Frontiers in Affordable Housing: Notes from the Field. Centre for Emerging Markets Solutions, ISB.

59   Wadhwa, Risbud and Kumar. (2009). Affordable Housing for Urban Poor. National Resource Centre, Ministry of Housing & Urban Poverty Alleviation, GoI.

In the specific case of Ahmedabad, we have observed in earlier sections of this report that the paradox of vacant housing can be attributed to a number of reasons, of which some are endemic to the whole country while some are specific to the dynamics of the state, city, building type, and specific developer.

We have therefore laid out below our recommendations for solutions to overcome the paradox of vacant houses in Ahmedabad and in India, as per the prominent reasons we found in our survey for vacancy.

9.1   Rental

Rental yields in India remain very low. Housing rental yields range between 1 to 3 percent annually, more than 50 percent lower than the risk-free rate. Structurally it is impossible to address this, because to bring it to a sustainable level either incomes or willingness to pay should more than double or value should halve. The government has tried to bring down prices for other reasons, but the corrections have been marginal at best. A few changes that the government can implement are as follows.

- Tax exemption. The government should not tax rental income from housing, until a certain predetermined amount. This amount can be determined by the location and type of classification of the house. For example, there should be a higher exemption to rental income in a city like Mumbai, compared to Kochi or Coimbatore. Also, the amount of exemption should increase with size to facilitate a free market - this will lead to more housing stock into the system and decrease cash rental transactions as well.
- Make eviction easier. Most house rent contracts are currently structured for 11 months as eviction is difficult. However, short rent contracts bring uncertainty to both, the renter and the property owner. From the renter's point of view longer tenancy will make him comfortable with making investments to

The COVID crisis struck the nation after the first draft of this report was completed. The gravitas of the pandemic along with the knowledge of the information we had gathered about vacant buildings in India, made us submit a proposal on May 3 to the Prime Minister's Office (PMO) for converting government and privately owned vacant residential and commercial built infrastructure into temporary COVID recovery centres. The submitted proposal is included in the annexure of this report. As we see in this report over 14% of the housing stock in Ahmedabad alone is vacant - this is a significant waste of resources especially in times of crisis when money that is being spent on building from scratch temporary or semi permanent structures can be used for other disaster relief purposes. The PMO was responsive to the model we proposed. Between 3 May to 30 July, we have converted 7 vacant buildings across 4 states in India, including a 22 floor vacant Slum Rehabilitation Act (SRA) building in Mumbai, into a total of 10,000 beds of COVID recovery centres. Hard infrastructure in cities is mostly under utilized – we can build resilience in cities to fight pandemics by putting in place processes to utilize such vacant infrastructure.

maintain the rented property; from the property owner's perspective, longer tenancy would mean more visible cash flows.

- The government has introduced tax exemption for affordable housing homes. A similar scheme can be structured where if a project has a minimum of 30% homes for rent, then it is tax exempt and eligible to be offered project financing under priority sector lending. There should be a qualifying condition that the company has to rent the units for a minimum of five years.

- Housing projects that have 30-50 percent of rental units should be able to access higher FSI and made exempt from paid FSI. These rental units should have a lock-in of 5 to 7 years – the minimum time during which the developer cannot sell them.

- Homes that are owned by individual owners and not occupied for more than 6 months a year should be taxed at a higher rate through higher property tax and notional rent.

9.2   Location – Infrastructure – Design

We observe that due to loopholes in building guidelines based on locations, a large number of affordable housing projects on the outskirts of cities lack basic infrastructure.

- Developers should be compensated by means of tax credits or tax exemptions to build trunk infrastructure to connect their projects in far flung areas to existing trunk infrastructure. This would include roads, water supply, drainage, and electricity.

- The government should create specifications for location, infrastructure, and design for affordable housing at the national level through the National Building Code, so a minimum standard can be maintained. Upon completion, the affordable housing project can be certified by third-party inspectors.

- The government should prioritize trunk infrastructure where multiple private projects are coming up. Any money spent by private developers on trunk infrastructure to projects should be compensated.

- The national building code should be strengthened regarding building guidelines, especially when the buildings are located in peripheries of cities where there is no clear jurisdiction. Beyond the sample for this report, we have observed projects that have unit sizes smaller than 200 sq.ft that can be very small to live within. For example, a A project by a company called Xrbia in the Mumbai suburb of Vangini has units measuring 165 sq.ft carpet area. The living area of the unit – excluding the toilet and kitchen measures less than 80 sq.ft.

- Maintenance should be kept as a responsibility of the developer for a fixed number of years – especially elevators, water supply, sewerage, and garbage disposal. This lack of basic infrastructure is one of the key reasons for high vacancy, especially in buildings with higher floors.

9.3   Social constraints

Government developed affordable housing projects have shown a higher than average rate of vacancy in our study. We have attributed this vacancy to many reasons, but the major ones are investors who are able to gain access to this supply through loopholes, communities where multiple individuals are allotted homes in

different locations through the lottery system. At times these random allocations result in the beneficiaries having to move out of these homes as either they are logistically inconvenient, or the social infrastructure they had in their previous locations does not exist. The following recommendations would deter such a situation.

- Allocation of units is done by a lottery system that ignores social groups and clusters that have formed in irregular settlements over years. The lottery system disrupts the social support system. Allocation of units can instead be done in a way that keeps in mind specific social groups.
- It has been observed over multiple studies that demand and price appreciation is high in projects that are limited to a particular community or caste. Migrants also prefer to stay in areas/complexes where people from their community/village stay and are willing to pay higher rents.
- The most difficult to tackle is an investor who does not need it, but by manipulating the system gets allotted a government developed apartment or multiple apartments that are meant for the needy.
- Many investors are able to outsmart the lottery system and acquire multiple units in affordable housing developments that were initially meant for EWS or LIG segments, thus depriving needy end users and wasting government subsidies. This leakage in the system is the most difficult to control.
- Often government projects are being built to much better standards and, in most cases, very good locations. The perception of these being substandard needs to be removed and communicated both to beneficiaries and the public in general. We recommend better marketing of government developed affordable housing projects.
- Government projects are usually classified according to the class of beneficiaries, and thus each development is meant for only one economic class. Mixed used developments could help increase multiple development indicators and could potentially reduce class and community segregation in certain areas. This could help in reducing vacancies and possibly help property owners gain better rental incomes.
- Larger integrated projects with more commercial elements – large mixed-use developments would help in creating more inclusive communities with better infrastructure. Commercial activities such as shops, offices, or even government offices would create organic demand for occupancy in these developments at multiple price points and could help towards reducing vacancy.

9.4   Financial constraints

- A large part of the vacant stock in Ahmedabad is unsold inventory. The demand exists but most likely at a price point 20 to 30 percent lower than what it is offered at present. Conventionally it would not be possible for a developer to correct prices by 30 percent, but the government can introduce measures to help bring down the cost – possible measures are listed below. One or more of these measures can be introduced.
- Funds appropriated for priority sector lending are largely left unused. The government can earmark these funds for special mortgage loans in projects that are more than 50 percent unsold one year after completion. These loans to end users can be capped at INR 1.5 million. Over a period of 20 years this could lead to savings of nearly INR 600,000 for the end user and motivate them to consider such projects.

- The government has given 100 percent tax exemption to projects that are less than 60 sq.m in area in metros, and 90 sq.m in area in all other cities under Sector 80 IB (A). The developer has to pay 15 percent MAT which can be adjusted against any other income tax liability over the next 8 years. This can be retrospectively applied to projects that do not qualify under the above criteria but are completed and have more than 50 percent vacant units two years after completion.

- State government charges stamp duty at anywhere between INR 1000 for select PMAY projects. The government of Gujarat charges 5% stamp duty for men home buyers and 4 percent of women home buyers. The state government can effectively reduce the purchase price of the housing unit by 5 percent by making projects that have been completed for two years and more thntan 50 percent vacant, exempt from stamp duty or by charging a token INR 1000.

- If retrospective tax exemption is given to builders and they pass on the benefits amounting to 10 percent of sale price, and further the government gives exemption on stamp duty – the total saving for the consumer would be approximately 15 percent of sale value. For a house costing INR 20,00,000 or INR 20 lakh, this amounts upto INR 3 lakh.

- An added incentive can be free TDR equal to the unsold inventory if the developer is able to clear the inventory within 12 months after notification. This not only incentivizes the developer to slash prices but to avail the benefit he has to develop another project, which in turn helps keep the investment cycle going. There should be a provision that any promoter can avail of this only once.

<u>Annexe</u>

Complete Implementation Plan to use
Vacant Buildings as COVID-19 Recovery Facilities

The 4 immediate challenges for battling COVID-19 in India are:

Challenge 1: More testing kits and randomised testing of population

Challenge 2: More COVID-19 recovery facilities

Challenge 3: More ventilators and cheaper ventilators

Challenge 4: More healthcare professionals

We at Anant National University have faculty members who are architects, planners, real estate developers, affordable housing experts, and are best placed to solve challenge number 2. And as a solution, we present a complete Implementation Plan as well as offer our services free of cost to rapidly scale up COVID-19 recovery facilities by utilizing existing hard infrastructure – buildings that are government owned, community owned, or private - and refurbishing them to provide COVID-19 recovery facilities with ICUs. The facility would cater to the following categories of COVID-19: asymptomatic, mild symptoms, moderate symptoms, severe symptoms of COVID-19 virus. We have the team, identified equipment suppliers, funding structure, and layouts ready to implement this plan immediately.

Time needed to implement: 15 days.

This is a 'plug and play', highly localised, and scalable model that requires a government- university-private sector partnership.

We rejected the following 2 types of potential COVID-19 recovery facilities:

1.   Vacant schools - In the absence of a vaccine, we need a COVID-19 recovery facility to treat a continuous number of COVID-19 patients, with the possibility of the numbers spiking once in a while in the future. Whereas schools are likely to reopen when the current rate of spread of COVID-19 stabilises.

2.   Vacant halls for quarantine facility with no ICU - This does not work as a moderately infected COVID-19 patient will be needed to be treated immediately at an ICU which needs to be an integral part of the COVID-19 recovery facility itself.

Therefore, this Implementation Plan instead focuses on the following 3 types of vacant infrastructure in order of priority:

Priority 1 (lowest hanging fruit): Government, community, or privately owned Community Halls and Marriage Halls

Priority 2: Completed but not occupied private commercial buildings

Priority 3: Newly constructed, completed but vacant government and private residential buildings

Government owned community halls are the lowest hanging fruit. These halls exist in urban and rural parts of all states in India. They can be acquired by the government now as a temporary COVID-19 recovery facility for as long as needed. They can even be dismantled when the current infection spread decreases but quickly refurbished once again if the infection spread spikes.

Context

Looking at the increasing numbers of COVID-19 cases (Annexe, Figure 1) and the declining recovery rate of COVID-19 patients (Annexe, Figure 2) in India, there is an urgent need for temporary COVID-19 recovery facilities with ICUs to boost the current capacity of hospitals.

The governments of various states including Gujarat have done a lot of work towards this. However we will need more. The situation is more worrisome in Northern and Eastern states. According to the National Health Profile – 2019, there are only 0.11 government hospital beds in Bihar, while states such as Jharkhand, Uttar Pradesh, Madhya Pradesh, Odisha, Assam, Manipur and Maharashtra are also below the national average of 0.55 government beds per 1000 population. Only 5% to 8% of these are ICU beds.

Census 2011 recorded 330,835,767 houses, of which about 7.5 percent (24,812,682) of the houses are vacant (Annexe, Figure 3). 95 percent of these vacant houses are in good and liveable condition.

This amounts to a massive number of vacant infrastructure readily available across all Indian states that must be used immediately to host the rapidly increasing patients in the current crisis. We therefore propose a solution of rapidly scaling up COVID-19 recovery facilities by utilizing existing hard infrastructure – buildings that are government owned, community owned, or private - and refurbishing them to provide COVID-19 recovery facilities with ICUs.

Implementation Plan

For the sake of safety and logistics, only spaces and buildings that are completed but not occupied should be considered. Partially occupied buildings have a risk of cross infection to other residents and movement would also be curtailed. Further, people are concerned about being infected from medical personnel/ staff in the same building. The following facilities need to be picked, acquired, and refurbished to transform them into COVID-19 recovery facilities with ICUs.

Here is how the government can use this Implementation Plan:

1.   Check if the COVID-19 infected city/village has a Priority 1 space (as defined below) and follow the guidelines mentioned in this Implementation Plan
2.   If Priority 1 space is not available then check if the city/village has a Priority 2 and 3 space in that order of priority and follow the guidelines mentioned in this Implementation Plan

Priority 1: Government/community/private owned community halls and marriage halls

Most municipal corporations and government housing schemes have a community hall, which can be temporarily converted into a COVID-19 treatment facility. The space can easily be divided into three area sectors i) asymptomatic and mild symptom patients ii) moderate symptom patients iii) severe symptoms patients. Individual cubicles can be created utilizing curtains and temporary barricades. After consultations with several doctors, medical practitioners and the COVID-19 task force for Gujarat, our recommendation is to have 10% of beds in a COVID-19 recovery facility as ICUs.

Items needed for ICUs:
The basic equipment required to set up ICUs
  * Ventilator
  * Oxygen Supply
  * Monitoring equipment with a central monitoring system
  * Partitioning system with curtains for isolation for each bed

Infrastructure for general ward
  * Bed – depending on what is locally available cost can be minimal
  * Electric points – plug point, light and fan
  * Movable partitioning system for isolation (5 for 20 beds)

Patients in critical condition will be transferred into ICUs where the ventilators, oxygen supply, and monitoring facilities need to be installed. It will be very easy to create the necessary piped infrastructure in this format.

Costs for ICUs – 20 bed For severe cases	Estimation per bed
General	5,000
Manifold	1,500
Piped oxygen point	5,000
Vacuum machine (1 per 5 beds)	2,000
Ventilator (1 per 2 beds)	2,50,000
Monitoring Machine	1,25,000
Infusion pump	30,000
Sub total	4,18,500
GST between 12-18%	62,775
Total	4,81,275

Not included
Beds
Tables
Housekeeping items
Consumables

Costs for General Ward – 180 beds For asymptomatic, mild, moderate cases	Estimation per bed
General & electric points	2000
Vaccum machine (1 per 20, in case a moderate case becomes severe)	500
Oxygen (mobile version, in case a moderate case becomes severe)	2500
Sub total	5000
GST between 12-18%	750
Total	5750

Figure 4: Estimate for ICUs – 20 bed (for severe cases) and
General Ward – 180 beds (for asymptomatic, mild, or moderate cases)

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1 There is precedence when GOI has in the past provided leveraged TDR or provided extra FSI as compensation. Some examples:

* In 2008, to facilitate rental housing Mumbai Metropolitan Regional Development Authority (MMRDA) incentivesed developers through extra FSI and free TDR. This is similar in principle to the Public Private Partnership (PPP) model in place but with extra free FSI.

* MMRDA in its proposed masterplan for Mumbai in 2018-19 had proposed free FSI of upto 8 near transport hubs such as metro stations.

* The Ahmedabad Municipal Corporation (AMC) and Ahmedabad Urban Development Authority (AUDA) have given a free FSI of 4, which is higher by 2.2 to conventional FSI for high rise buildings in the affordable housing corridor to incentivise developers to opt affordable housing

* In case of part acquisition of land in urban areas the government offers the land owners three choices of compensation 1) Payment as per circle rate 2) Land of equal value as per circle rate in alternate locations and 3) Free FSI of acquired land on the balance land

We propose that this is how we can compensate private owners/developers of community halls and marriage halls without the government paying out of pocket:

Strategy	Description	Benefit to builder	Costs to the state
CSR	MCA has already announced that funds spent on measures to tackle the COVID-19 outbreak will be counted towards CSR activity of companies. However please note that as per law, if a company is in losses in any 3 preceding years then they are exempt from spending money on CSR, and there is high likelihood that several private entities might incur financial loss for 2019-2020. The CSR route also does not offer incentive to a company less than minimum net worth of Rs 500 crores.	Value of the expenses incurred by the private entity towards creating the COVID-19 recovery facility	No financial implication. Only opportunity cost of private entity spending on another CSR approved activity.
TDR	The TDR will be given for free for the builder's next project (with a cap equalling the TDR value of the current building used for COVID19 facility). A faster mechanism could also be to give a GST credit equivalent to the TDR equivalent of the space offered as the COVID-19 facility.[1]	TDR will have to be calculated for each project. It is based on circle rate and project size	Giving a builder credit TDR will have **no current financial implication to the government**. It is a loss of future possible revenue, but it also incentivises the builder to develop his next project.

Figure 5: Options of financial incentives for private entities

Below is an example of a layout of a COVID-19 facility in a community hall.
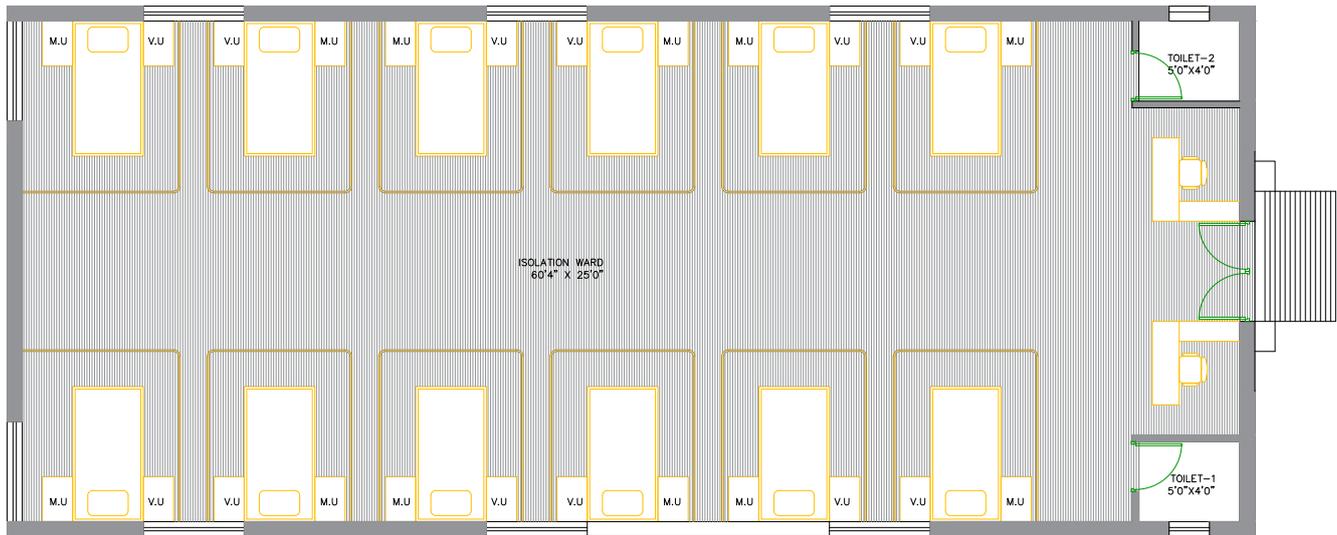
Figure 6 : ICU layout for patients with severe symptoms of COVID-19 in community halls and marriage halls

These halls have the advantage that their use as COVID-19 recovery facilities can be prolonged until the time required. They can also be quickly dismantled and again set up whenever COVID-19 infection spreads.

Priority 2: Completed but not occupied private commercial buildings

Several cities in India have an over supply of office spaces. Office spaces offer a lot of advantages for conversion into COVID-19 recovery facilities such as large floor plates, water supply, sanitation, and some also have provision for air conditioning built in.

Items needed for ICUs:

The basic equipment required to set up ICUs

* Ventilator
* Oxygen Supply
* Monitoring equipment with a central monitoring system
* Partitioning system with curtains for isolation for each bed

Infrastructure for general ward

* Bed – depending on what is locally available cost can be minimal
* Electric points – plug point, light and fan
* Movable partitioning system for isolation (5 for 20 beds)

Costs for ICUs – 20 bed For severe cases	Estimation per bed
General	5,000
Manifold	1,500
Piped oxygen point	5,000
Vacuum machine (1 per 5 beds)	2,000
Ventilator (1 per 2 beds)	2,50,000
Monitoring Machine	1,25,000
Infusion pump	30,000
Sub total	4,18,500
GST between 12-18%	62,775
Total	4,81,275

Not included
Beds
Tables
Housekeeping items
Consumables

Costs for General Ward – 180 beds For asymptomatic, mild, moderate cases	Estimation per bed
General & electric points	2000
Vaccum machine (1 per 20)	500
Oxygen (mobile)	2500
Sub total	5000
GST between 12-18%	750
Total	5750

Figure 7: Estimate for ICUs – 20 bed (for severe cases) and
General Ward – 180 beds (for asymptomatic, mild, or moderate cases)

We propose that this is how we can compensate private owners/developers *without* the government paying out of pocket:

Strategy	Description	Benefit to builder	Costs to the state
CSR	MCA has already announced that funds spent on measures to tackle the COVID-19 outbreak will be counted towards CSR activity of companies. However please note that as per law, if a company is in losses in any 3 preceding years then they are exempt from spending money on CSR, and there is high likelihood that several private entities might incur financial loss for 2019-2020. The CSR route also does not offer incentive to a company less than minimum net worth of Rs 500 crores.	Value of the expenses incurred by the private entity towards creating the COVID-19 recovery facility	No financial implication. Only opportunity cost of private entity spending on another CSR approved activity.
TDR	The TDR will be given for free for the builder's next project (with a cap equalling the TDR value of the current building used for COVID19 facility). A faster mechanism could also be to give a GST credit equivalent to the TDR equivalent of the space offered as the COVID-19 facility.[2]	TDR will have to be calculated for each project. It is based on circle rate and project size	Giving a builder credit TDR will have *no current financial implication to the government*. It is a loss of future possible revenue, but it also incentivises the builder to develop his next project.
Waiver of Stamp Duty	Stamp duty of the builder's next project to be waived off when it is registered	5% of project cost	Waiving off the stamp duty will have *no current financial implication to the government*. It is a loss of future possible revenue. Stamp duty is paid by the buyers of units to the government. Waiver of stamp duty incentivises buyers of units, and makes the developer's project more attractive.

Figure 8: Options of financial incentives for private entities

Below is an example of a layout of a COVID-19 facility in an open office space. The Centre for Sustainability at Anant National University can make the drawings of layout for specific office spaces
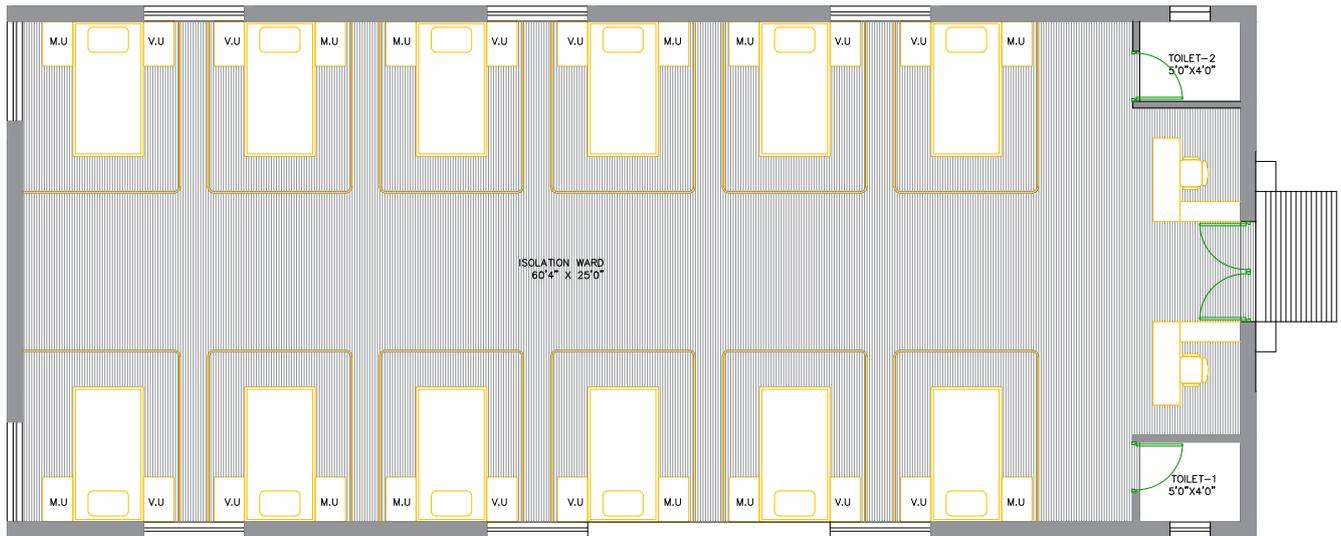

Figure 9 : ICU layout for patients with severe symptoms of COVID-19 in community halls and marriage halls

2 There is precedence when GOI has in the past provided leveraged TDR or provided extra FSI as compensation. Some examples:

*   In 2008, to facilitate rental housing Mumbai Metropolitan Regional Development Authority (MMRDA) incentivesed developers through extra FSI and free TDR. This is similar in principle to the Public Private Partnership (PPP) model in place but with extra free FSI.

*   MMRDA in its proposed masterplan for Mumbai in 2018-19 had proposed free FSI of upto 8 near transport hubs such as metro stations.

*   The Ahmedabad Municipal Corporation (AMC) and Ahmedabad Urban Development Authority (AUDA) have given a free FSI of 4, which is higher by 2.2 to conventional FSI for high rise buildings in the affordable housing corridor to incentivise developers to opt affordable housing

*   In case of part acquisition of land in urban areas the government offers the land owners three choices of compensation 1) Payment as per circle rate 2) Land of equal value as per circle rate in alternate locations and 3) Free FSI of acquired land on the balance land

Please note that the credit TDR will have financial implications to the GOI only at a time when the developer will develop a new project

Priority 3: Vacant Residential Buildings (Government owned OR Private/ Developer owned)

In every city that is severely affected, at least 1 housing society or building with 200 beds can be commissioned. It is a requirement that the society/building must have a club house/community hall.

3.1 Government society/ building

Under PMAY, there are projects in nearly all cities of India that have completed projects but not yet occupied. This is because these buildings are formally still in possession of the government and so utilizing them will not be a great challenge.

This option would initially require the following actions:

i)   Identify a government housing society/building with 100 or more 1BHK or larger flats, and take note of the condition, functioning of lifts, electric and water supply.

ii)   Identify the stakeholders involved in the identified government housing society/building.

iii)   The primary costs for the refurbishment, namely a) cost of converting the identified society/ building to a hospital with only ICUs and b) converting the identified society/buildings back to residential units.

The layout will be as follows:

i) For asymptomatic patients and patients with mild symptoms
Each individual bedroom and living room in every apartment of the housing society/building must be transformed in to isolation rooms for COVID-19 patients with mild symptoms and COVID-19 patients who are asymptomatic. Individual rooms decreases the chances of the rising numbers of re-infection of COVID-19 patients. Asymptomatic patients or patients with mild symptoms require lesser monitoring and no continuous ventilator and oxygen supply, therefore can be housed in individual rooms. We have included the provision of 1 vacuum machine and 1 mobile oxygen supply per 20 patients, to care for a moderate patient who suddenly becomes severe.

Items needed: Light bulbs, fans, and minimum 1 plug point for phone charging needs to be fitted in each room. Asymptomatic patients or patients with mild symptoms will be less frequently monitored by health staff.

ii) For moderate to severe patients
The community hall must be transformed into ICUs for severe cases where the ventilators, oxygen supply, and monitoring facilities need to be installed.

Items needed for ICUs:

The basic equipment required to set up ICUs

* Ventilator
* Oxygen Supply
* Monitoring equipment with a central monitoring system
* Partitioning system with curtains for isolation for each bed

Costs for ICUs - 20 bed For severe cases	Estimation per bed
General	5,000
Manifold	1,500
Piped oxygen point	5,000
Vacuum machine (1 per 5 beds)	2,000
Ventilator (1 per 2 beds)	2,50,000
Monitoring Machine	1,25,000
Infusion pump	30,000
Sub total	4,18,500
GST between 12-18%	62,775
Total	4,81,275

Not included
Beds
Tables
Housekeeping items
Consumables

Costs for converted bedrooms - total 180 beds For asymptomatic, mild, moderate cases	Estimation per bed
General & electric points	2000
Vaccum machine (1 per 20)	500
Oxygen (mobile)	2500
Sub total	5000
GST between 12-18%	750
Total	5750

Figure 10: Estimate for ICUs - 20 bed (for severe cases) and General Ward - 180 beds (for asymptomatic, mild, or moderate cases)

Below are examples of layout of how a COVID-19 facility can be established in a 1BHK apartment under the PMAY scheme. The Centre for Sustainability at Anant National University can make the drawings of layout for specific housing layouts.
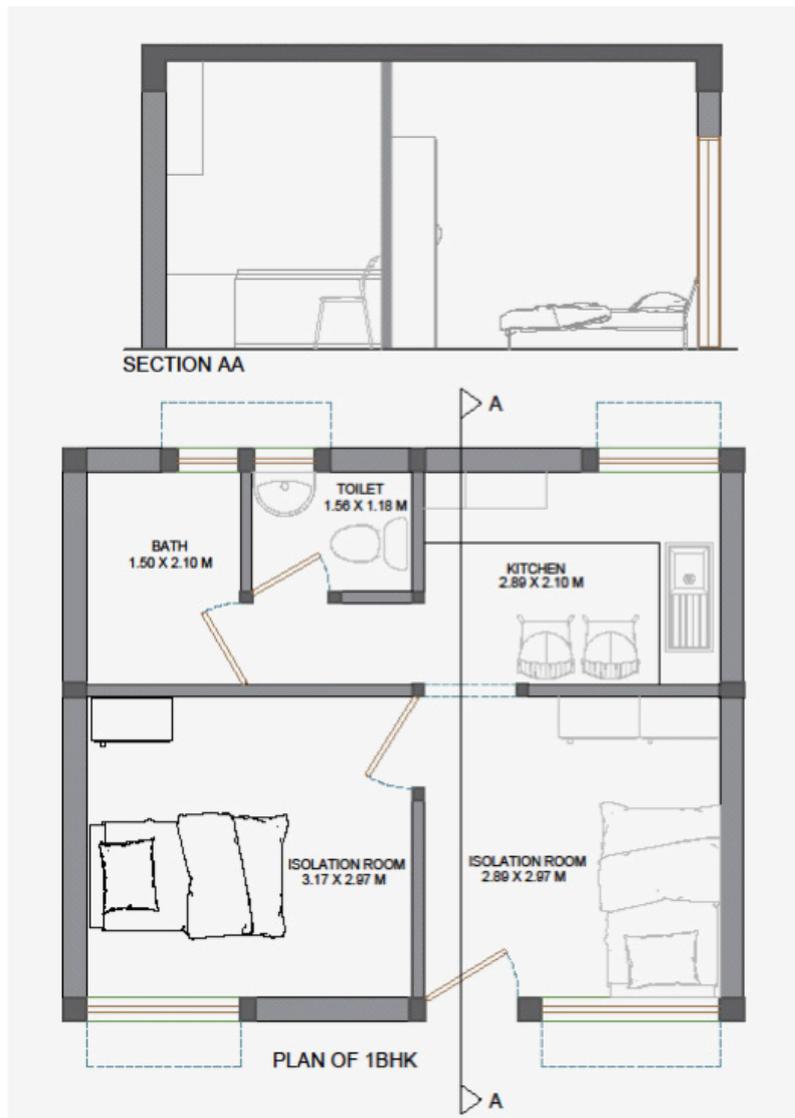
Figure 11: General ward layout for patients with asymptomatic, mild, or moderate COVID-19 symptoms in a 1 BHK vacant home.

Figure 12: 3D rendering of a general ward layout for patients with asymptomatic, mild, or moderate COVID-19 symptoms in a 1 BHK vacant home

3.2 Privately/ developer owned society/ building

It is likely that many projects developed by private builders comprising of two, three or four bedroom units are available in the larger cities. Legally, working with a private builder would require a direct 'contract' with the developer and hence would not involve too many stakeholders.

The key aspects to be considered in identifying the buildings

i) Project needs to be completed but not handed over to owners.
ii) Must have a community hall or club house
iii) Direct access from a city road and location that has adequate water supply and reliable electricity supply.

The private developers need to be compensated for two things:

i) Compensation for the months the buildings and number of units are occupied, and
ii) Compensation for refurbishing the buildings back to the original condition.

We propose that this is how we can compensate private owners/developers *without* the government paying out of pocket:

Strategy	Description	Benefit to builder	Costs to the state
CSR	MCA has already announced that funds spent on measures to tackle the COVID-19 outbreak will be counted towards CSR activity of companies. However please note that as per law, if a company is in losses in any 3 preceding years then they are exempt from spending money on CSR, and there is high likelihood that several private entities might incur financial loss for 2019-2020. The CSR route also does not offer incentive to a company less than minimum net worth of Rs 500 crores.	Value of the expenses incurred by the private entity towards creating the COVID-19 recovery facility	No financial implication. Only opportunity cost of private entity spending on another CSR approved activity.
TDR	The TDR will be given for free for the builder's next project (with a cap equalling the TDR value of the current building used for COVID19 facility). A faster mechanism could also be to give a GST credit equivalent to the TDR equivalent of the space offered as the COVID-19 facility.[3]	TDR will have to be calculated for each project. It is based on circle rate and project size	Giving a builder credit TDR will have **no current financial implication to the government**. It is a loss of future possible revenue, but it also incentivises the builder to develop his next project.
Waiver of Stamp Duty	Stamp duty of the builder's next project to be waived off when it is registered	5% of project cost	Waiving off the stamp duty will have **no current financial implication to the government**. It is a loss of future possible revenue. Stamp duty is paid by the buyers of units to the government. Waiver of stamp duty incentivises buyers of units, and makes the developer's project more attractive.

Figure 13: Options of financial incentives for private entities

The layout will be as follows:

i) For asymptomatic patients and patients with mild symptoms

Each individual bedroom and living room in every apartment of the housing society/building must be transformed in to isolation rooms for COVID-19 patients with mild symptoms and COVID-19 patients who are asymptomatic. Individual rooms decreases the chances of the rising numbers of re-infection of COVID-19 patients. Asymptomatic patients or patients with mild symptoms require lesser monitoring and no continuous ventilator and oxygen supply, therefore can be housed in individual rooms. We have included the provision of 1 vacuum machine and 1 mobile oxygen supply per 20 patients, to care for a moderate patient who suddenly becomes severe.

Items needed: Light bulbs, fans, and minimum 1 plug point for phone charging needs to be fitted in each room. Asymptomatic patients or patients with mild symptoms will be less frequently monitored by health staff.

ii) For moderate to severe patients
The club house or community hall must be transformed into ICUs for severe cases where the ventilators, oxygen supply, and monitoring facilities need to be installed.

Items needed for ICUs: The basic equipment required to set up ICUs

* Ventilator
* Oxygen Supply
* Monitoring equipment with a central monitoring system
* Partitioning system with curtains for isolation

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3   There is precedence when GOI has in the past provided leveraged TDR or provided extra FSI as compensation. Some examples:
*   In 2008, to facilitate rental housing Mumbai Metropolitan Regional Development Authority (MMRDA) incentivesed developers through extra FSI and free TDR. This is similar in principle to the Public Private Partnership (PPP) model in place but with extra free FSI.
*   MMRDA in its proposed masterplan for Mumbai in 2018-19 had proposed free FSI of upto 8 near transport hugs such as metro stations.
*   The Ahmedabad Municipal Corporation (AMC) and Ahmedabad Urban Development Authority (AUDA) have given a free FSI of 4, which is higher by 2.2 to conventional FSI for high rise buildings in the affordable housing corridor to incentivise developers to opt affordable housing
*   In case of part acquisition of land in urban areas the government offers the land owners three choices of compensation 1) Payment as per circle rate 2) Land of equal value as per circle rate in alternate locations and 3) Free FSI of acquired land on the balance land

    Please note that the credit TDR will have financial implications to the GOI only at a time when the developer will develop a new project.

Costs for ICUs – 20 bed For severe cases	Estimation per bed
General	5,000
Manifold	1,500
Piped oxygen point	5,000
Vacuum machine (1 per 5 beds)	2,000
Ventilator (1 per 2 beds)	2,50,000
Monitoring Machine	1,25,000
Infusion pump	30,000
Sub total	4,18,500
GST between 12-18%	62,775
Total	4,81,275

Not included
Beds
Tables
Housekeeping items
Consumables

Costs for converted bedrooms – total 180 beds For asymptomatic, mild, moderate cases	Estimation per bed
General & electric points	2000
Vaccum machine (1 per 20)	500
Oxygen (mobile)	2500
Sub total	5000
GST between 12-18%	750
Total	5750

Figure 14: Estimate for ICUs – 20 bed (for severe cases) and
General Ward – 180 beds (for asymptomatic, mild, or moderate cases)

Below is an examples of layout of how a COVID-19 facility can be established in a 2BHK apartment. The Centre for Sustainability at Anant National University can make the drawings of layout for specific housing layouts.
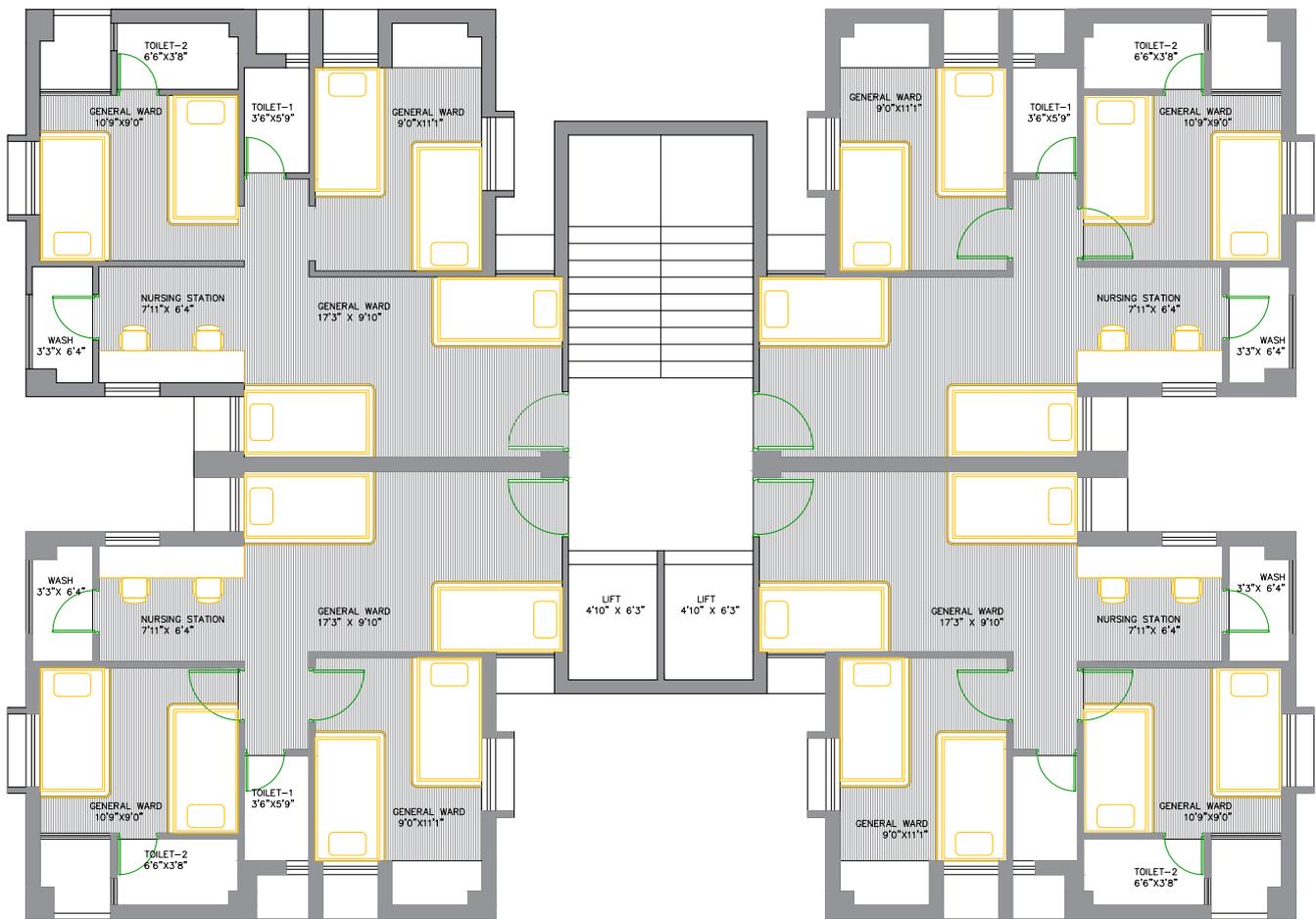
Figure 15: General ward layout for patients with asymptomatic, mild, or moderate COVID-19 symptoms in a 2BHK vacant home.
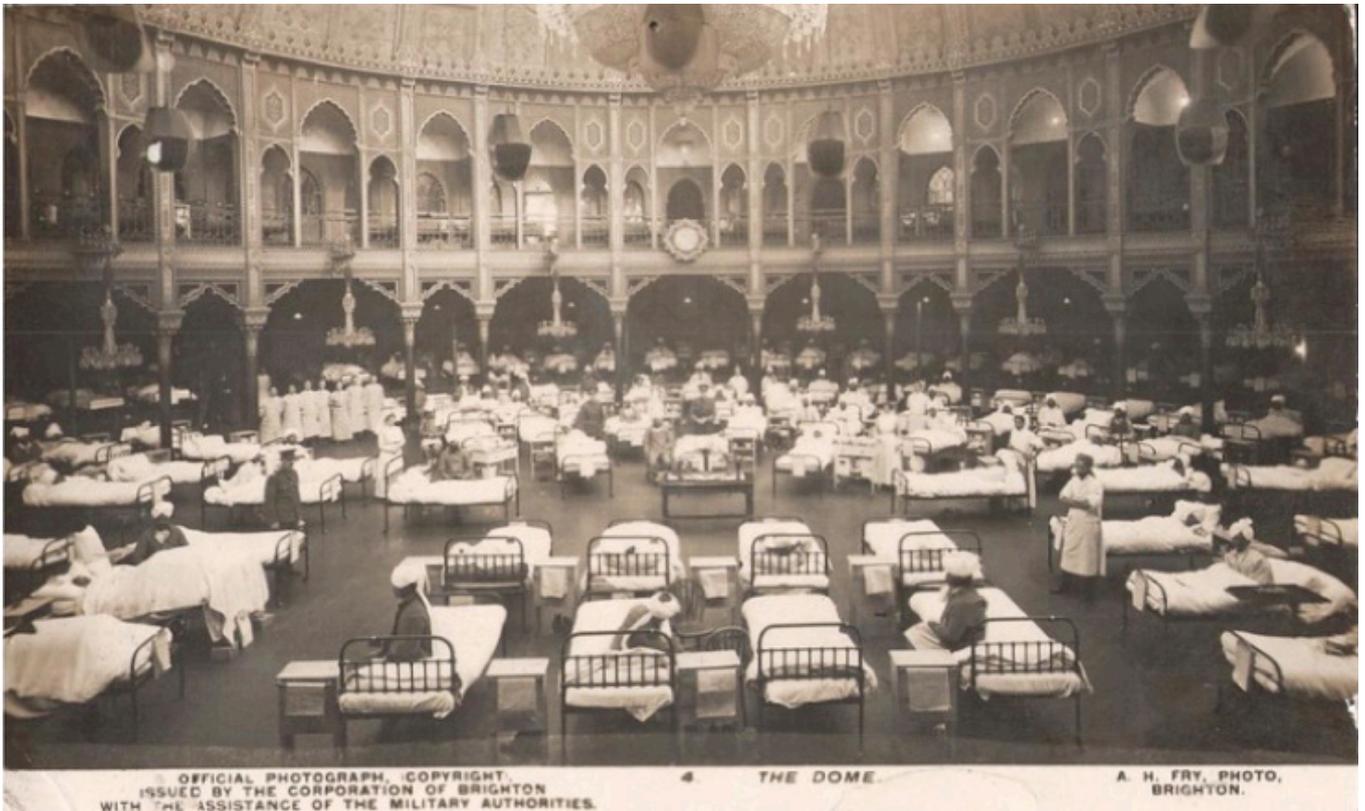
Figure 16: Indian WW1 hospital inside The Dome of the Royal Pavilion, Brighton, 1915
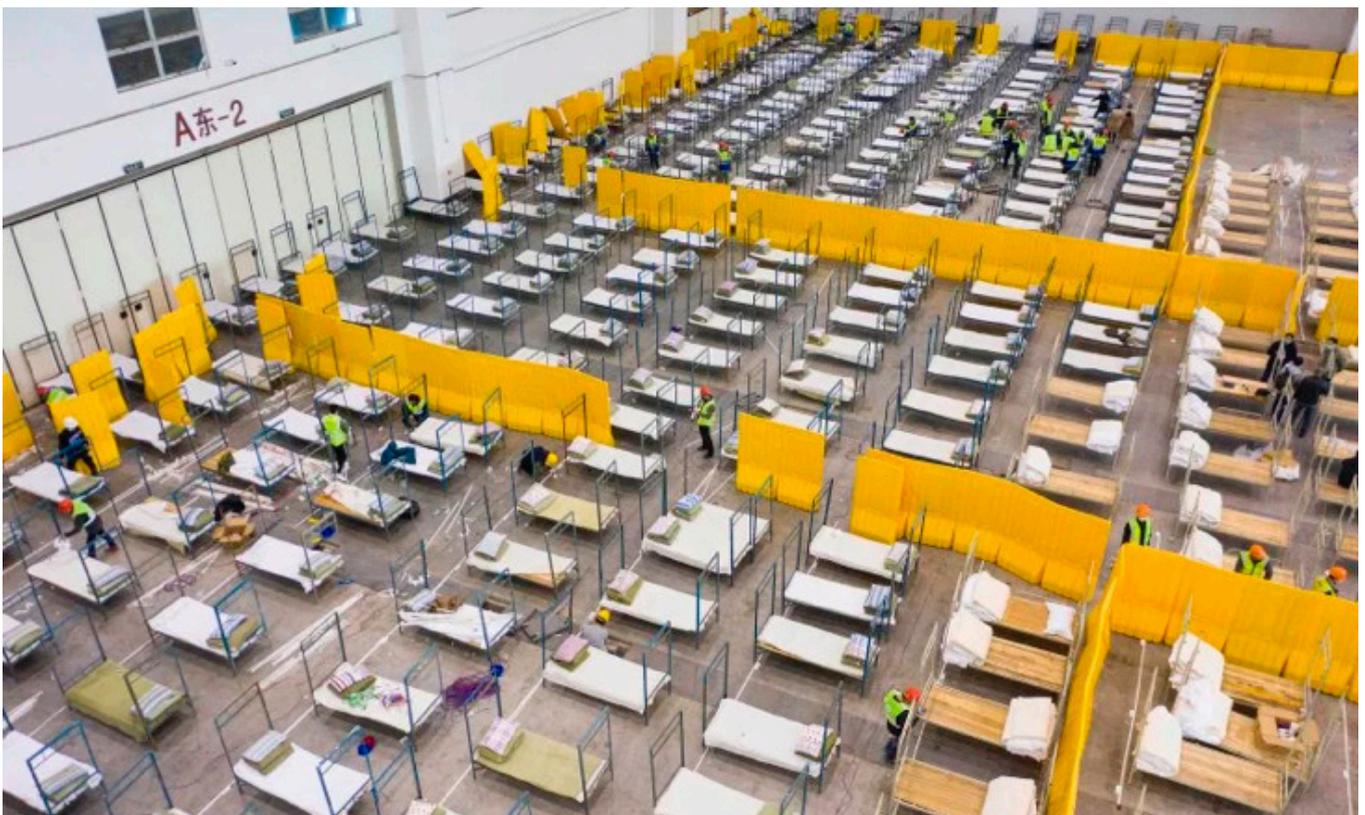
Figure 17: Wuhan Livingroom converted into a hospital, China, February 2020

NEWS / INDIA

India turns trains into isolation wards as COVID-19 cases rise

About 20,000 coaches and several stadiums across the country to be modified into medical facilities, officials say.

2 Apr 2020

There are worries that India's beleaguered healthcare system may be overwhelmed with the surge in cases [Anupam Nath/AP Photo]

India has begun converting railway carriages and sport stadiums into isolation wards to deal with an anticipated surge in coronavirus cases.

MORE ON CORONAVIRUS PANDEMIC

Trump says will defy US coronavirus mask advice: Live

Figure 18: News Clipping 1 – Indian Railways turn coaches into isolation ward for patients

Figure 19: Parking lot in Surat converted in to COVID-19 care facility

Call to turn vacant flats into quarantine centres

Realtors welcome idea, officials mull ways of implementation

Published: 31st March 2020 06:46 AM | Last Updated: 31st March 2020 06:46 AM   🖶 | A+ A A-

For representational purposes

By Bosky Khanna

Express News Service

BENGALURU: Many eady-to-move-in flats in the city are lying vacant as there are no takers. So why not convert them into quarantine units, is a suggestion from many people. Realtors from across the city, real estate associations, and even RERA-K officials are now thinking of ways to implement this suggestion. Vishnuvardhan Reddy, member of Real Estate (Regulation and Development Act), Karnataka, told The New Indian Express that many government constructed units like those built by the Bangalore Development Authority and Karnataka Housing Board, are lying vacant.

Figure 20: News Clipping 2 - Call to turn vacant flats into quarantine centres

Consultations

For this Implementation Plan, Anant National University consulted a large number of experts and organizations that specialize in setting up hospitals, equipment manufacturers, doctors.

We especially thank:
Avant-garde Design Studios for their inputs on design
Dr. Gourdas Choudhury and Dr Gargi Maitra of Fortis Hospital for their medical advice
Dr. Mayank Thakker for advice on equipment
Dr. Rohini Dutta of IIT Kanpur for her contribution to various aspects of this plan

•   To implement the solution (transform a vacant building any where in India into a COVID-19 recovery facility), please contact Anant National University: Dhaval Monani 9898543111 / Dr. Miniya Chatterji 8826410586. Please note that we do not accept any fees.
•   To only get designs, layout plans, and architectural inputs free of cost please contact Anant National University: Jasmine Gohil 9879259819 / Bhavik Mehta 9428892433

Figures and tables

Figure 1 : Total Coronavirus Cases in India (Source: https://www.worldometers.info/coronavirus/country/india/)
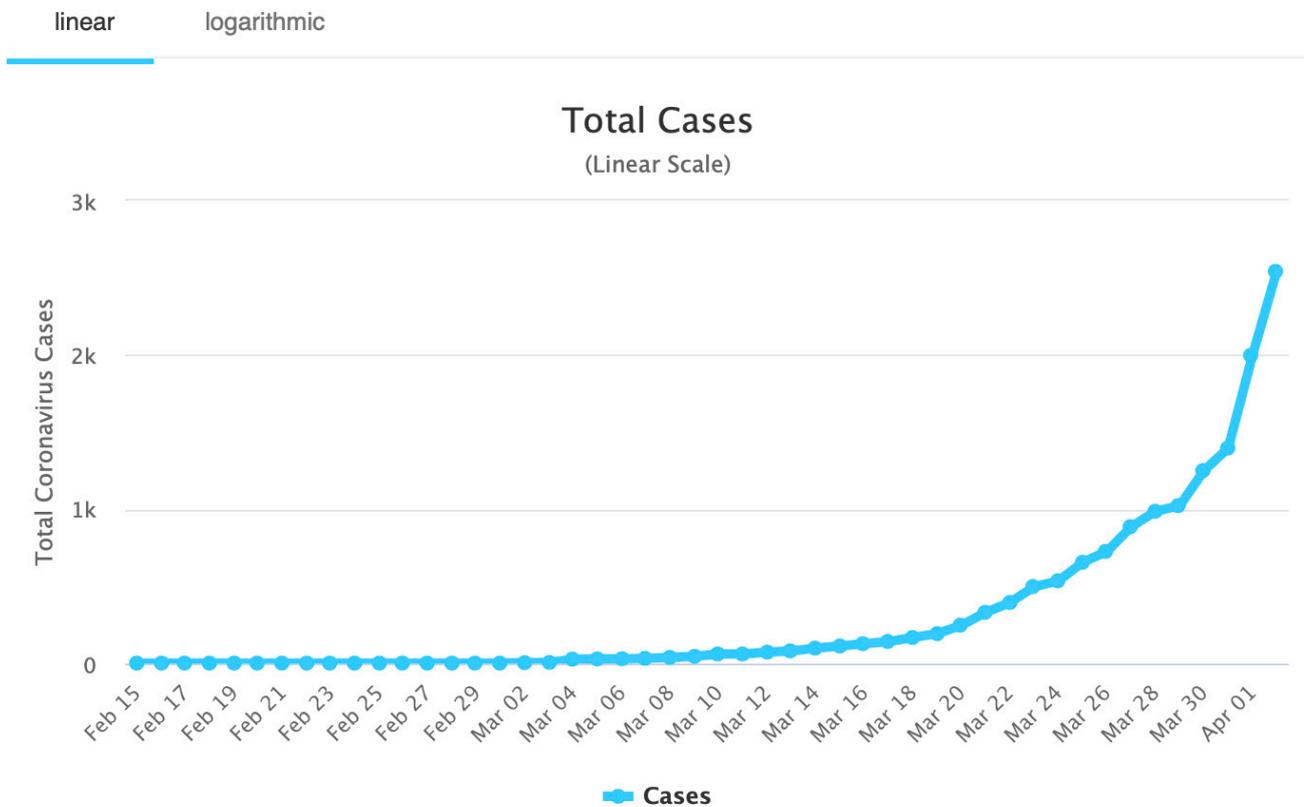
Figure 2: Outcome of Cases (Recovery or Death) in India (Source: https://www.worldometers.info/coronavirus/country/india/)

Figure 3: Percentage of houses vacant per total number of houses in Indian states (Source: Census 2011)

Figure 24: Medical Gases Pipeline System BOQ for ICUs

Sr. No.	Description	Qty	Unit	Make
1	5+5 manifold extendable type complete with middle frame with chain for individual cylinder along with NRV for every cylinder & copper pig tail pipes.	1	Nos	mediline
2	2+2 manifold extendable type complete with middle frame with chain for individual cylinder along with NRV for every cylinder & copper pig tail pipes.	1	Nos	Lifeline
3	Surface mounted front loading gas outlets -for Oxygen System.	100	Nos	a.s.medico
4	Medical VACUUM Surface mounted front loading gas outlets	50	Nos	a.s medico
5	Surface mounted front loading gas outlets - for Medical Air (4 Bar).	50	Nos	a.s.medico
Accessories				
6	Oxygen Flow meter with Humidifier Bottle	50	Nos	mediline
7	Ward Vacuum Unit with Regulator, Collection Jar of 600 ml with bracket.	50	Nos	mediline
8	15mm OD x 0.9mm thk	700	ft	mexflow
9	22mm OD x 0.9mm thk	225	ft	mexflow
10	28mm OD x 0.9mm thk (Main Header)	90	ft	mexflow
Area Gas Alarms				
11	2 Services area Alarm	2	Nos	mediline
12	3 Services area Alarm	2	Nos	mediline
	Valve Boxes			
13	2 Services of 22,22 mm dia pipe	2	Nos	mediline
14	3 Services of 28,28,28 mm dia pipe	2	Nos	mediline
Isolation Valves				
15	15mm	6	Nos	connex
16	22mm	3	Nos	connex
17	28mm	2	Nos	connex

*Medical grade Copper Pipe Line as per HTM2022 with proper Color-coding
*as per International standards EN-1057 for Oxygen, Air, Vacuum, Nitrous
*Front Loaded Outlet Points(Imported) as per HTM2022 Standard

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Anant National University
Sanskardham Campus,
Bopal-Ghuma-Sanand Road,
Ahmedabad – 382115, Gujarat, India
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