

Innovative Housing for the Urban Poor

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Abstract

Housing has been an important subject of deliberation in national and international forums for a few decades. In simple terms, housing stands for providing a shelter that would ensure one's safety and support the activities of daily living. To tackle the issue of homelessness, various stakeholders are involved in the housing sector for the urban poor. Policies and schemes adopted by governments to address the urban housing issue have been on the rise. This paper studies the existing scenario of urban housing and examines the challenges in housing the urban poor in India. It includes a review of housing policies that exist today and the issues being faced during its implementation. This study aims to seek more clarity on the issues and challenges faced by the urban housing sector by reviewing the evolution of housing governmental policies and the objectives of various current policies. The study concludes by showing a suggestive solution that could improve the housing needs of people. The solution is compared with existing situation of housing in terms of major issues.

Introduction

Today more than 50% of the human population lives in cities and this proportion is only increasing. Urbanization is an irreversible phenomenon. Since India is a developing country it is suffering from rapid urbanization. This rapid increase in population is leading to exploitation of resources in many ways. Mumbai's population is racing from 34 million by 2025, 45% of whom will live in cities. With the increasing urbanization problems associated with housing availability and affordability has become much of a question to the people. Providing adequate shelter in cities of developing countries has been a fundamental problem for national and municipal governments for more than a quarter of a century(Rondinelli, 1990). Although progress has been made in dealing with housing problems in some developing countries, in many other housing deficiencies are likely to become more serious over the next two decades as urbanization accelerates and as the concentration of poor households in cities increases(Rondinelli, 1990). The rapid pace of urbanization in developing countries is generating greater demand for shelter, especially among poor families who lack the income to pay for decent housing(Rondinelli, 1990). As large number of poor families have migrated to urban areas the challenge of providing adequate housing to them in urban areas is getting worse.

As per 2011 census, the country had a population of 1,210.98 million, out of which, 377.10 million (31.16%) lived in urban areas. During 2001-2011, the urban population of India grew at a CAGR of 2.8%, resulting in the increase in level of urbanisation from 27.81% to 31.16%(Limaye, 2013). Urbanisation has resulted in people increasingly living in slums and squatter settlements and has deteriorated the housing conditions of the economically weaker sections of the society(Limaye, 2013). The affordable housing challenge is not just in India but its global. Today 330 million people suffer from housing poverty and given the current trends and supply that will increase to 440 million households by 2025, which means in less than ten years 1.6 billion people or one-third of the world's urban population will suffer from some kind of housing poverty. This research paper aims to provide a possible suggestion that could solve the needs of user as well as focus on other major issues of housing for poor like affordability and community engagement. This paper also seeks more clarity on the issues and challenges faced by the urban housing sector by reviewing the various policies related to it.

Increase in demand for housing in India

Housing was not much of an issue during the early 20th century. In the beginning of 20th century, there was no sponsored housing programme in India, except for housing for the employees of the provincial government. The first housing initiative was proposed after the partition majorly for the resettlement of millions of homeless refugees through planning colonies and townships in various states in the country.

Employment in the newly formed central and state government attracted large masses to India.

Unemployment and lack of job was also reason that led to rapid migration.

Methodology

This paper proceeds by analysing the evolution of the government housing policies. The progress of various recent housing policies is evaluated, which is followed by the issues during the implementation of the schemes because of which housing is becoming one of the major problems in India. This paper then presents a case study of Giaspura BSUP flats in Ludhiana, following which is a possible solution to the housing problem. A comparison done between prototype and existing housing in terms of cost, area and social engagement.

Is it the responsibility of the government to provide the urban poor with a shelter?

Successive government have continued to prioritize homeownership. They are providing taxing centres to developers, reducing the home loan rates for buyers and while this is all a step in the right direction, the supply is nowhere at the scale that is needed. Supply push factors are not lowering house prices and home ownership still remains elusive to the masses, particularly amongst the young people. Housing for the public was initiated by the government back in 1950. This has led to the dependency of the homeless urban poor on the government for support. This dependency gives a rise to question, has the government support proven to be helpful in improving lives of homeless?

Role of government in housing sector: evolution of housing policies

PHASES	YEAR	SCHEME	AMOUNT (CENTRAL ASSISTANCE)
PHASE 1 GOVERNMENT AS PROVIDER	1952	Economically Weaker Section Housing	Not available
	1952	Subsidised Industrial Housing Scheme	Not available
	1954	Low Income Group Housing Scheme	Not available
	1956	Slum Area Improvement and Clearance Programme	Not available
	1958	Urban Community Development	Not available
PHASE 2 GOVERNMENT AS AID	1980	Minimum Needs Programme	Not available
	1980	Sites and Services Scheme	Not available
	1986	20 Point Programme	Not available
	1988	Night Shelter Scheme (Community Housing)	Not available
	1989	Nehru Rozgar Yojana	Not available
	1995	Prime Minister's Integrated Poverty Eradication Programme	Not available

<p>PHASE 3 GOVERNMENT AS FACILITATOR</p>	1996	National Slum Development Programme	3850crore
	2001	Valmiki Ambedkar Malin Basti Awas Yojana	Not Available
	2001	Rajiv Awas Yojana	1595.55crore
	2005	Jawaharlal Nehru National Urban Renewal Mission - Basic Services for Urban Poor	10,662.16crore
	2005	Integrated Housing and Slum Development Programme	6431.8crore (Oct 2015)
	2013	National Urban Livelihood Mission - Shelter for Urban Homeless	5071.44crore
	2016	Pradhan Manthri Awas Yojana	1629.11crore

Table 1: List of Housing Schemes and their Financial Expenditure

SOURCE:(Paul, 2016)

From Table 1 we have observed the evolution of various schemes that have been implemented by the government for housing to the people. Table shows that up till a long period of time no central assistance was provided in terms of money which led to the failure or less success rate schemes up till a long period of time. Later this was resolved, as in schemes like Pradhan Manthri Awas Yojana which is one of the current housing schemes assistance in the form of money has been successfully provided.

Progress of recent housing schemes

Schemes	Objective	Time period	Progress			
			Sanctioned	In progress	Occupied	Unoccupied
JNNURM - BSUP	Security of tenure at affordable	2005 to 2011	7,94,091	1,64,193	1,59,077	4,70,821

	price & improved housing	Extended to 2015				
JNNURM - IHSDP	Holistic slum development	Extended again to 2017	4,56,938	1,23,679	2,81,721	51,538
RAY	Improving and provisioning of housing, basic civic infrastructure and social amenities in slums	2011-2022 In 2015 it was subsumed to PMAY	Funds for 24,141 units released (Karnataka, Gujarat & Rajasthan)	22,269	741	1131
NULM - SUH(National Policy)	Ensure access of urban homeless to permanent shelters with basic services; for every one lakh people, there should be a permanent shelter that can accommodate around 50 to 100 people, depending on the need of the city	2013-2022	10 (Bangalore-90 to be constructed)	4	2	8
PMAY	Affordable housing for all Rehabilitation of slum through PPP - CLSS -AHP - Subsidy for beneficiary-led individual house	2015-2022	923	Not Applicable	Not Applicable	Not Applicable

Table 2: Progress of Recent Housing Schemes

SOURCE:(Paul, 2016), (Gopalan & Venkataraman, 2015)

Table 2 shows the objective of the different government housing schemes, their time period up to which they were being followed and their progress in terms of number of sanctioned units, in progress units, occupied units and unoccupied units. This table gives a clear image of the stage of success of government housing schemes. It shows the vast gap between the various parameters of progress.

Identification of issues in housing for urban poor

The process of implementing a scheme can be divided into three stages –inputs, execution and outputs. **Input:** Issues during the initial stages can be related to land, finance, technology, master plan and site scale services. Issues related to land mostly are inefficient land records and land disputes due to several departments being involved in managing land records, survey is cumbersome, time-consuming and costly which causes delay in commencing a project and abandoning of projects due to lack of land. Issues related to finance like delay in the release of funds, inaccessible housing loans are caused due to lack of cross monitoring and poor repayment capacity of the beneficiaries which causes increase in project cost and lack of financial support leads to incapability of the urban poor to buy property. Issues related to technology like recommended technology not being used due to lack of awareness which causes use of long and inefficient construction methods compared to the available technology. (Paul, 2016)

Execution: Problems faced during the execution stage can be related to designing and planning, monitoring. Issues related to designing and planning like uniform size of unit plans, units away from the source of livelihood are caused due to lack of importance given to fulfil the user needs which causes built of units that are not suitable and do not meet the needs of user and increase in unoccupied units. Issues related to monitoring can be bad quality of construction, non-efficient check at each stage and inefficient maintenance and operation which are caused due to lack of cross monitoring and maintenance which causes lack of transparency in implementation process, increase in the number of unoccupied units, units abandoned or in poor conditions.(Paul, 2016)

Output: issues at this stage can be like large percentage of unconstructed sanctioned projects, completed units not put to use, non-completion of houses after getting assistance in beneficiary led housing and retained ownership documents which are caused due to lack of cross monitoring, lack of beneficiary participation, lack of awareness regarding housing schemes and poor repayment capacity which causes inefficient use of funds released, without ownership documents households immobilised economically and lack of private participation, increasing the pressure on the

government. (Paul, 2016)

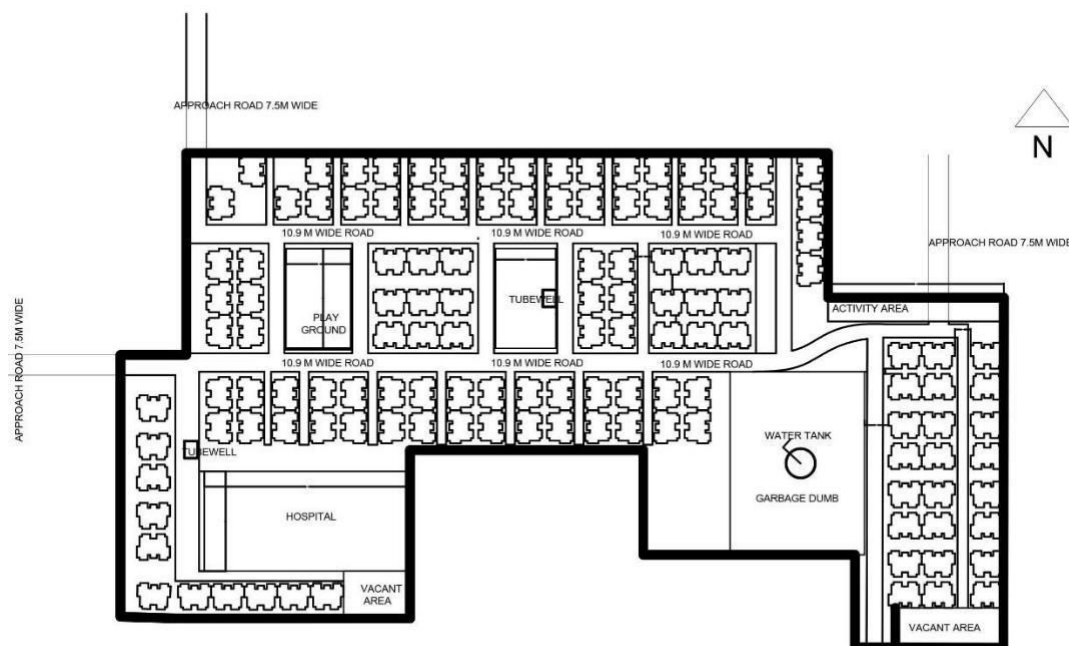
Case Example

Giaspura BSUP Flats, Ludhiana, Punjab, India

CDP 2011, Ludhiana identified 209 slums, with 20% of total population of Ludhiana. 57 of those were upgraded with all facilities, 68 partially upgraded and 84 were to be upgrade. CDP separately proposes construction of 7000 houses for urban poor. MLC (Municipal Corporation Ludhiana) intended to construct 4832 of the proposed pucca houses of 30sqm each, investing rupees 1.97 lakh per unit including land cost.

Since the Ludhiana CDP has been drafted after the initiation of the RAY project, its strategy has included the provision of RAY, although the solutions are typical BSUP – which is resettlement housing. However, only 1500 units have been constructed till now at three locations Giaspura, Dhandari Kalan and Mundian Kalan. Area of the site is 6.09 acre. It is located at Giaspura, an industrial area at the outskirts of Ludhiana.

Site plan



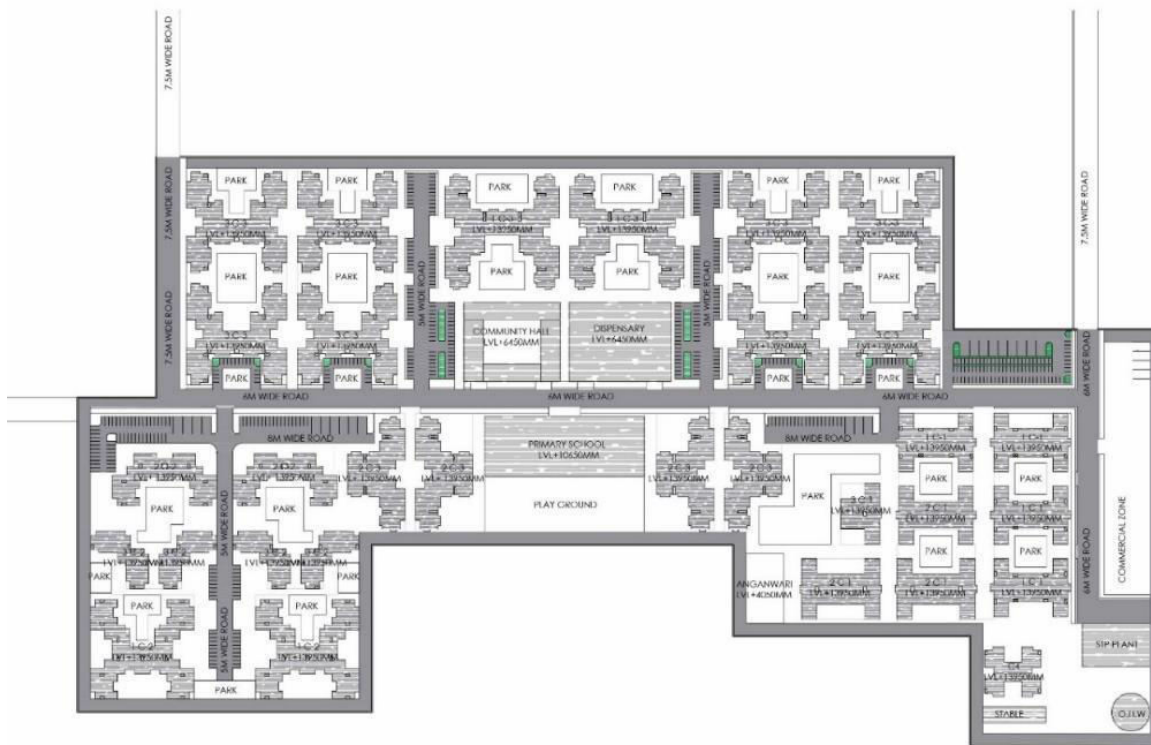
Problems:

After visits and survey a common observation was that the flats constructed there were not serving the needs of users. It was found that many regular activities like cooking, washing and drying of clothes, get together, playing were being done on streets which was neither safe nor hygienic. There was no specific space provided for the washing of clothes which forced them to wash them on the sides of the streets which made the streets dirty and clogged the drains. Clothes couldn't be washed in washroom as the space was not even 3' x 3'. Toilet space was 3' x 3' with no water pressure so it was not being used by the users which further degraded their surroundings. There were no balconies provided so the drying of clothes was done on the streets. Kitchen space provided was extremely small because of which most of the users were not even using kitchen and were using Chula. The bedroom space was not even up to the standard size of 9msq but was 2.7m x 2.6m. which made no space was walking inside the bedroom and just space for keeping a bed. Small bedroom sizes made people to keep a bed in their living room which was spoiling the purpose of living room and also the privacy of the user were getting hindered. Overall building was built with minimum standards possible therefore places like balcony and roof were avoided and spaces like kitchen, bedroom, washroom and toilet were not of standard sizes. Children had no playing area and were playing on the streets. As the needs of the users were not being fulfilled most of them were renting out their houses and moving back to the previous living conditions. After talking to many of the users it was observed that their social interaction was minimum. The hospital and schools provided were on the extreme corners of the site which made it difficult for the users to use. The space between the buildings were hardly 3' which created dingy spaces and was filled with garbage which was unhygienic. The space was kept less and not up to the standard because 1500 units were to be accommodated in the site. A huge part of the site near the water tank was being used as garbage dumping area.

Redevelopment of Giaspura BSUP flats, Ludhiana

As a part of course under the subject name Architecture Design-vi redevelopment of Giaspura BSUP flats was done. After visits and surveys the problems observed were attempted to be solved but as an observation it is found that every student ended up redesigning buildings of the kind that are already existing. None of students designed the buildings according to the user needs and focused on resolving infrastructure details like the space between the buildings, spaces like bedroom, toilet, washroom, kitchen. Many of the important issues were ignored by every student. Every student made units alike which was not a user-friendly decision as the needs differ with users. The problems solved were mostly on the building level and not on unit level. Through this research problems like social interaction, cost reduction, different needs for different user which are ignored during the project are to be highlighted.

Example of the project site plan



POSSIBLE SUGGESTION

Prototype

In order to overcome this unprecedented housing challenge radical innovation in housing is desperately needed. As the demand for housing is growing the idea of housing is changing for people. There is huge rise in co-living spaces where many different tenants come together and they share the same common areas as the kitchen, laundry, living area, services which reduces the cost of housing substantially and increases community engagement to a great extent. This prototype is maintaining the privacy of the user as well as focuses largely on cost reduction and social interaction by making spaces like kitchen, laundry, living area, balcony, services to be used on sharing basis. This prototype could be a possible solution to the problems of the urban poor as discussed above.



Example units of the Prototype

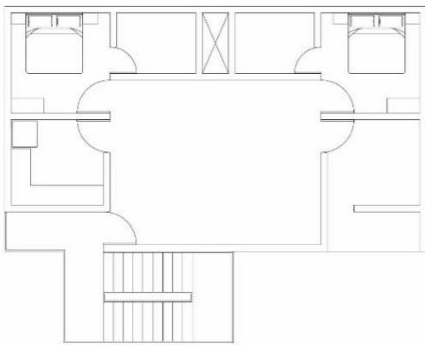


Figure 1: Single bedroom unit for 2 families

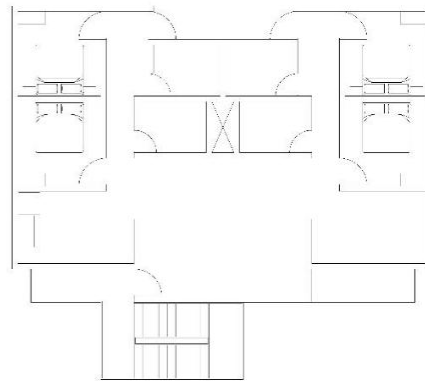


Figure 2: Single bedroom, unit for 4 families

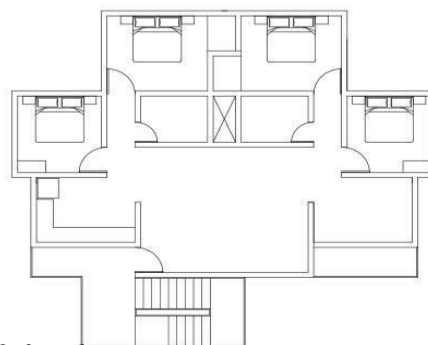


Figure 3: Two-bedroom unit for 2 families

Figure 1 is a unit for 2 families that need one bedroom each. This unit has 2 bedrooms and toilets for each family separately so as to maintain privacy. The kitchen laundry room, living area and balcony are provided on the sharing basis which would reduce the cost of construction of two separate kitchens, living area, balconies and laundry room hence reducing the overall area and cost substantially. The toilets are of size 8' x 6' and both of them are sharing the duct. Bedroom is of standard size 10' x 10'. The kitchen is of size 9' x 8' which is big enough for sharing purpose. The laundry room is of the same size as of kitchen. The balcony with is 1m and is length is 9'. As discussed earlier in Giaspura BSUP flats the living area provided was very less and most of them were using it as bedroom as the bedroom size was very less which made them left with no living area therefore here the living area is not compromised and is big enough for social interaction and to be shared by two families.

Figure 2 is a unit for four families who need one bedroom each. This unit is provided with four bedrooms each of size 10'x10' and four toilets each of size 8'x6'. The size of kitchen and laundry

room has been increased as it is to be shared by 4 families to 14'x8'. The length of balcony has also been increased to 14'.

Figure 3 is a unit for two families who needs two bedroom each. This unit has total 4 bedroom each of 10' x 10' which is the standard size. The size of the kitchen, laundry room, balcony and living area is same as Figure 1.

All these units are the possible suggestions of the prototype concept. The sizes of each space can vary as per need. The number of spaces can be increased as per need.

Figure 1	Figure 2	Figure 3
Single bedroom unit for 2 families	Single bedroom unit for 4 families	Two-bedroom unit for 2 families
Carpet area of a unit if built separately and not on sharing basis (msq)		
45.4	45.4	56.6
Carpet area of units if built separately and not on sharing basis (msq)		
90.8	181.6	113.2
Carpet area if built separately including staircase and corridor (msq)		
111	200.3	131.9
Carpet area of prototype		
61.3	112.2	83.7
Carpet area of prototype including staircase and corridor (msq)		
80	130.9	102.4
Total area saved		
$111-80=31$	$200.3 - 130.9 = 69.4$	$131.9 - 102.4 = 29.5$

Table 1: Comparison between carpet area of prototype and carpet area of units if built separately

This table shows a comparison between carpet area of units if built as separate units and if built according to prototype. For figure 1 the carpet area of prototype is 80 sq. m and if two units with

single bedroom are built as separate units then the total carpet area would be 111 sq. m. For figure 2 the carpet area is 130.9 sq. m whereas if four units are built as separate units each with single bedroom then the total carpet area of all four units would be 200.3 sq.m. For figure 3 the carpet area is 102.4 sq. m whereas if two units are built as separate units 131.9 sq. m. The area difference in all three cases shows that if built according to the prototype area on large scale can be saved and compromising of area from user basic needs can be stopped.

Single bedroom unit	Double bedroom unit
Cost of units @ Rs. 1200 sq. ft	
5,86,440	7,30,800

Table 2: Cost of units as per rate

Figure 1	Figure 2	Figure 3
Total cost of units according to figures 1, 2, 3 if built separately @ Rs. 1200 sq. ft		
11,72,400	23,45,640	14,62,080
Total cost of prototype (Rs.)		
7,92,000	14,49,600	10,81,200
Cost reduced (Rs.)		
11,72,400-7,92,000=3,80,400	23,45,640-14,49,600=8,96,040	14,62,080-10,81,200=3,80,880

Table 3: Comparison between cost of units

Table 3 shows comparison between the cost of units if built separately and if built according to the prototype. If according to figure 1 two units each with single bedroom the cost of those two units together would be Rs.11,72,400 whereas if built according to the prototype the two families would have to pay together an amount of Rs.7,92,000 which shows a cost reduction of Rs.2,00,400. Similarly, according to figure 2 if four units with single bedroom are built then the cost of those units together

would be Rs.23,45,640 whereas if built in the form of sharing basis the cost would reduce down to Rs.14,49,600 reducing the amount up to Rs.8,96,040. According to figure 3 if two units with two bedroom each are built as separate units then the cost of both units together would be Rs. 14,62,080 whereas if built on sharing basis the cost would reduce down to Rs.10,81.200, reducing the amount up to Rs.8,96,040.

Possible cluster of the Prototype

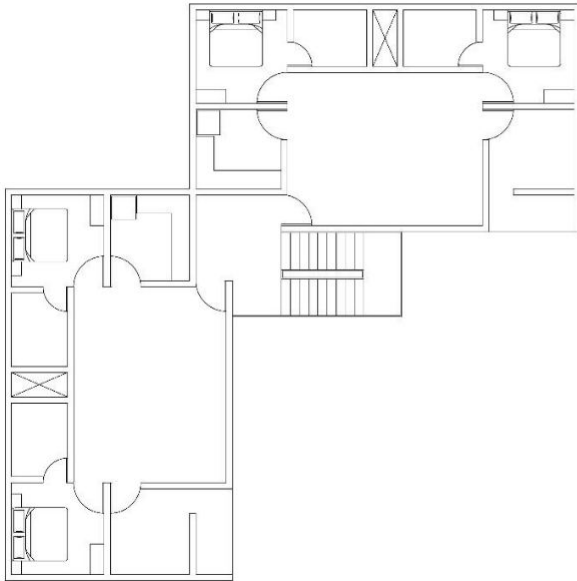


Figure 4: Possible cluster for Figure 1

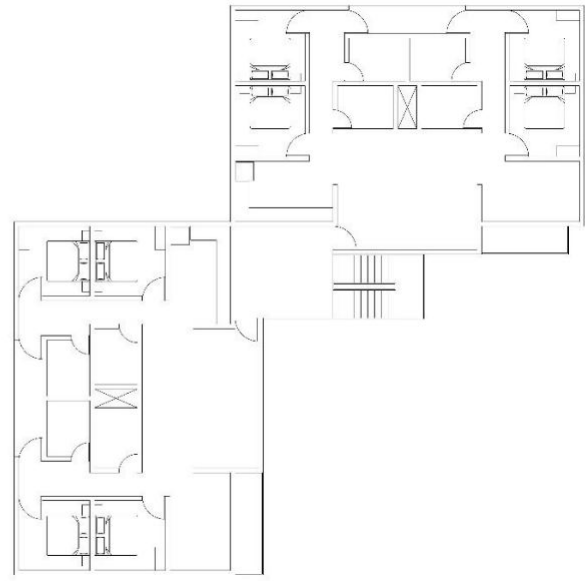


Figure 5: Possible cluster for Figure 2

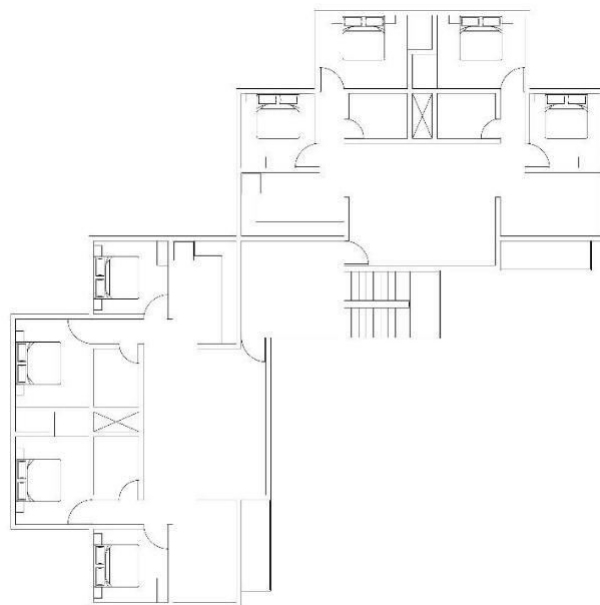


Figure 6: Possible cluster for Figure 3

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