

CITYWIDE SOCIAL HOUSING RESEARCH PROJECT IN KOLHAPUR
A RESEARCH PROPOSED BY



This Research report presents findings based on citywide data on social housing, slum conditions, and socio-economic factors. While efforts were made to ensure accuracy, the authors acknowledge the limitations of the data and analysis, and the views expressed do not necessarily reflect the official stance of affiliated organizations. The research is intended for academic and policy purposes only.

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Abbreviations

BHK	Bedroom, Hall, Kitchen
SA	Shelter Associates
RERA	Real Estate Regulation Act
PMAY	Pradhan Mantri Awas Yojana
IHSDP	Integrated Housing and Slum Development Programme
AHP	Affordable Housing In Partnership
BLC	Beneficiary Led Construction
ISSR	In-Situ Slum Rehabilitation
CLS	Credit Linked Subsidy
DP	Development Plan
GIS	Geographic Information System
ULB	Urban Local Body
CSN	City Survey Number
P-SP	Public Semi Public (Type of reservation)
EWS	Economically Weaker Section
LIG	Lower Income Group
MIG	Middle Income Group
MHADA	Maharashtra Housing and Area Development Authority

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Foreword

Shelter Associates was founded in 1993 with a passion to make a difference in the lives of the urban poor. We began our journey with the rehabilitation of a small pocket of the Rajendra Nagar slum to a neighbouring site in Dattawadi, Pune. The approach undertaken in this project has set a precedent for all our future endeavours - that of a holistic process of designing and including the community in every step of the project. Our other projects have also actively engaged all concerned stakeholders to ensure impactful achievements. Over the years the multistakeholder and inclusive approach has been aided by a strong data foundation tailored for urban development.

In 2021, we embarked on a research project with an aim to develop a framework for proposing citywide strategies for social housing. Undertaken in the city of Kolhapur, the research project developed a multi-dimensional perspective for social housing that aimed at transforming the way social housing projects are perceived in tier-2 cities like Kolhapur.

The research project has its origins in the IHSDP project implemented in 2009 in Sangli-Miraj. The IHSDP project saw rehabilitation of over 1300 households from various slums across the city. The project had elements that had potential to be developed into citywide strategies. Thus with the research project we wanted to come out with a methodology that documented in detail the holistic approach to social housing as we believe it had merit in implementation.

The research project leveraged data for creating a citywide perspective and developed evidence-based solutions by interacting with stakeholders. Data collection and analysis on city planning parameters and socio-economic analysis of the urban poor formed the basis of the research project. The analysis resulted in identification of vulnerable slums within the city. Our aim was leveraging an economy of scale by planning neighbourhood strategies that prioritise resources for the most vulnerable within the city.

Similarly study of on-going affordable housing schemes within the city helped understand the hurdles faced in implementation and the issues faced due to a piecemeal development approach. The comprehensive process followed during proposing strategies provides an alternative to the myopic approach for slum redevelopment that fails to make optimum use of land. Kolhapur being a tier-2 city has a less complex administrative structure as compared to other tier-1 cities and thus has a potential to plan for holistic development.

We hope to translate the research into actionable projects in the up-coming years.

Acknowledgements

I take pleasure in submitting the final report of our year-long research project that aimed at citywide strategies to rehabilitate the urban poor of Kolhapur city. This project was undertaken by Shelter Associates with support from Pramiti Foundation and ATE Chandra Foundation.

At the outset, we are very grateful to Anuj Bhagwati from ATECF who gave us the opportunity to undertake this study. We have had great discussions and guidance from him which helped us structure the project effectively. We got support from Deepa Varadarajan and Pallavi Patil from Pramiti foundation who monitored the project regularly giving us valuable feedback.

We thank Dr. Kadambari Balkawade (IAS), Municipal Commissioner and other officials of Kolhapur Municipal Corporation (KMC), Collector's office and other related departments for their support.

We sincerely appreciate our many community volunteers, field staff and GIS teams who worked tirelessly to conduct surveys from each house across 44 slums. A special thanks to architect Isha Joshi and senior social worker Dilip Kamble who anchored this study and put in huge efforts in coordinating this project on the ground with all stakeholders. I hope the analysis and findings along with some possible solutions will pave the way for tier two cities to draw up holistic and comprehensive solutions for the poor of their city.

Last but not the least, we express our deep gratitude towards the communities of Kolhapur for trusting us and participating in the many surveys and awareness activities conducted by the team.



Pratima Joshi
Executive Director,
Shelter Associates

1. Project Introduction

SA envisages an India where every citizen has access to basic infrastructure, secure tenure, and recognition of equal rights. To achieve this vision, SA undertakes slum rehabilitation projects using a process sensitive to the needs of all stakeholders, especially the community. The approach based on the research follows the core principles of (1) Data driven approach (2) holistic citywide approach to identify vulnerable settlements and (3) inclusive multi stakeholder approach towards planning.

Shelter Associates in collaboration with Pramiti foundation and funded by ATE CF had undertaken a research project with the objective of providing a framework for implementing social housing projects across 44 slums on government land in Kolhapur.

Working Methodology

The research project commences with the preparation of a citywide database to identify vulnerable slums. It enables the available resources to be prioritised on them and solutions can be developed by keeping the most vulnerable slums in focus.

Creating Spatial Data:

Spatial data is prepared by associating the dataset for an informal settlement with its precise location, using a Geographic Information Systems (GIS) platform, and by federating the datasets of multiple informal settlements across an urban area. The socio-economic surveys gathered information on the families within an informal settlement and the settlement level survey gathered information related to the physical attributes and condition of the informal settlement, such as topography, land use, ownership, dwelling density, etc and the policy context, such as development plan reservations. Analysis from mapping gave an understanding of different parameters necessary for taking informed decisions.

Vulnerability Matrix:

The collected data was federated to provide a list of vulnerable slums. SA emphasised the need to identify vulnerable slums to plan social housing that prioritise the available resources to be focused on the most vulnerable slums.

Understanding the on-ground scenario for housing:

Structured interviews with PMAY officials, local authorities, developers, beneficiaries have helped identify hurdles encountered during implementation of affordable housing projects. Dialogue with multiple stake-holders such as Urban Local Body(ULB) members , PMAY officials and beneficiaries of projects implemented, developers, financing institutions, etc. The issues identified through the research project highlight the need for a data driven approach with a balance of the top-down and the bottom-up approach. Informed solutions based on SA's principles can facilitate impactful projects where the interests of the stakeholders have been balanced.

Solutions:

Solutions for the slums identified through vulnerability matrix are developed through (1) rapid design (2) detailed socio-economic surveys (3) engaging with concerned stakeholders such as potential beneficiaries, microfinance institutes, PMAY, concerned ULB officials. The developed solutions for the identified slums have the potential to be developed into actionable on-ground projects that benefit all concerned stakeholders. The approach to social housing projects and the framework for implementing affordable housing projects solutions detailed through toolkits have the potential to be replicated in similar 2-tier and 3-tier cities.

Understanding Kolhapur

Kolhapur is a city surrounded by the Sahyadri mountain ranges and located along the banks of the river Panchganga in southwest Maharashtra state, India. The Kolhapur Municipal area is spread over 7685 SqMt and a population density of 5,79,281. Today, Kolhapur is an important tier -2 city having major industries like spinning mills, sugar industries, textile mills and are supported by industries in sectors like engineering goods, poultry, foundry, chemicals etc which generate employment for lakhs of people in and around Kolhapur. The major small scale industries are into manufacturing auto spare parts, casting work, engineering works, diesel engines, silver ornament, etc.

Slums in Kolhapur

With increasing urbanisation, there is a growing demand for housing within the Kolhapur city leading to formation of slum pockets spread across the city. There are in total 57 slums in the city with a population of 59,971 residing in slums.

Role of SA in slums

In 2015, Shelter Associates began work in the slums under the One Home One Toilet initiative and since then have undertaken many different projects like the Google Plus Code, Bondre Nagar Housing Project, Vaccination initiatives, etc. Through different projects Shelter Associates has undertaken mapping of all 57 slums in the city of Kolhapur.

Housing scenario for the urban poor

Affordable housing schemes such as the IHSDP, Ramai, PMAY have been implemented in the city. The on-going PMAY scheme under the housing for all mission aims to address the demand for affordable housing. Kolhapur had sanctioned 4887 houses under the 2 verticals of AHP and BLC of the Pradhan Mantri Awas Yojana since 2016,. ([PMAY_City_wise_for_web.pdf](#))

In spite of the many housing schemes for the EWS, MIG, and LIG sections of the society most slum dwellers had not been able to participate in them. It was observed that the projects tend to have a top down approach without inclusive end-user participation. The schemes for slum rehabilitation follow a piece-meal or a slum-by-slum approach, lacking the principles of judicious utilisation of land. The approach highlights the huge gap between beneficiary aspirations, needs and the resulting accommodation.

Proposed Approach to Housing Through this project SA aims to get a thorough understanding of the on-ground situation of housing for the urban poor by following a data driven, inclusive, multi-stakeholder approach. In order to provide secure tenure, living conditions conducive to the requirements of residents SA propose a holistic citywide approach for developing a framework for undertaking social-housing projects. The citywide macro level approach in coordination with a micro-level analysis within each slum will help develop a holistic framework for social housing in the city of Kolhapur. The strategies proposed will ensure optimum utilisation of government land and an inclusive planning approach beneficial for all concerned stakeholders.

The proposed solutions have the potential to be replicated in similar tier 2 and tier 3 cities undertaking social housing programs.

2. Citywide information

Part A : Mapping and data collection

Introduction/Genesis:

The foundation of the research project was preparing a citywide database by leveraging the spatial information gathered for slums in the city of Kolhapur. Spatial information was prepared by associating the dataset for an informal settlement with its precise location, using a Geographic Information Systems (GIS) platform, and by federating the datasets of multiple informal settlements across the city. This gives the collected data spatial parameters that enable data to be presented at the informal settlement level, neighbourhood level and the city level.

Objectives:

SA generated a city wide database with the purpose of identifying informal settlements that are most vulnerable. The spatial organisation of data was a prerequisite for planning sensitive, inclusive projects as a lack of real time accurate and granular data has limited the efficacy, and hampered the implementation stage of many rehabilitation strategies. As the data on informal settlement held by the local departments can be often outdated, untraceable and not easily usable, the collection of accurate data is a critical component for both the planning and the implementation of slum rehabilitation projects.

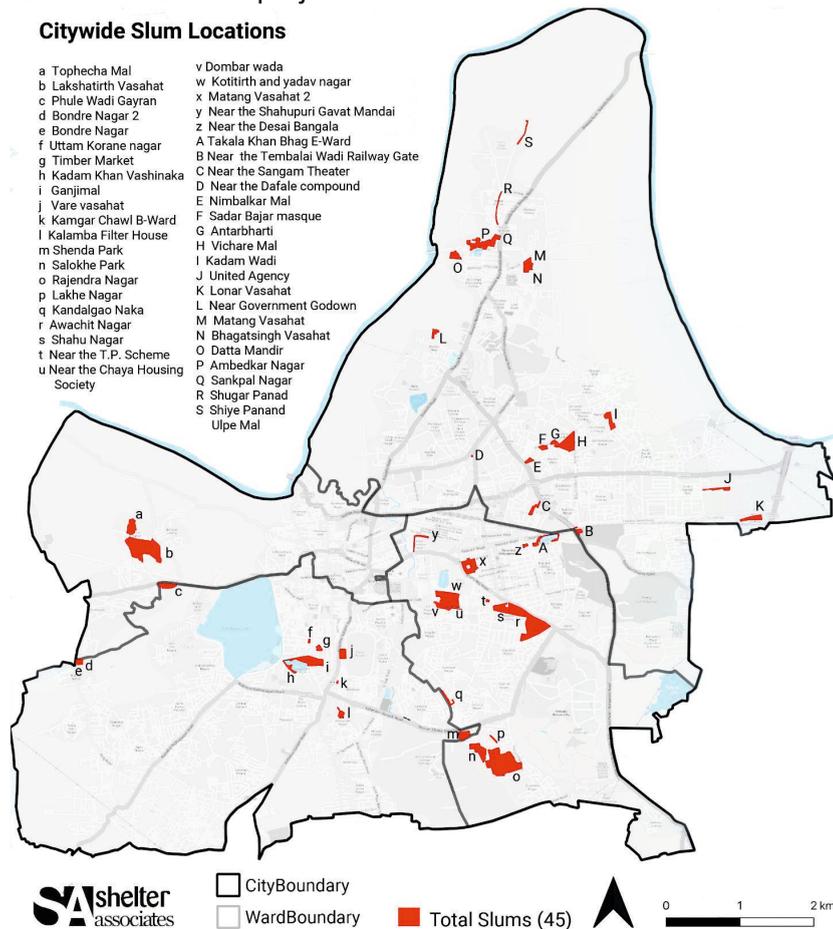


Figure 3A

Outputs:

A citywide database based on (1) Land Ownership (2) Dwelling Densities (3) Land Reservation (4) Land Rates (5) Tenable and Untenable Slums (6) Potential Extra Housing Stock following points was created and used for analysis. NOTE: Total HH - 14260 in 43 slums

1. Land Ownership:

Type of Ownership	Number of settlements	No of Households	% of Households	
State Government	19	8245	57.81%	
Local Government + State Gov	2	419	2.9%	
Private + Local Government	1	165	1.1%	
Urban Local Body	21	5326	37.34%	
Defence Land	1	72	0.51%	

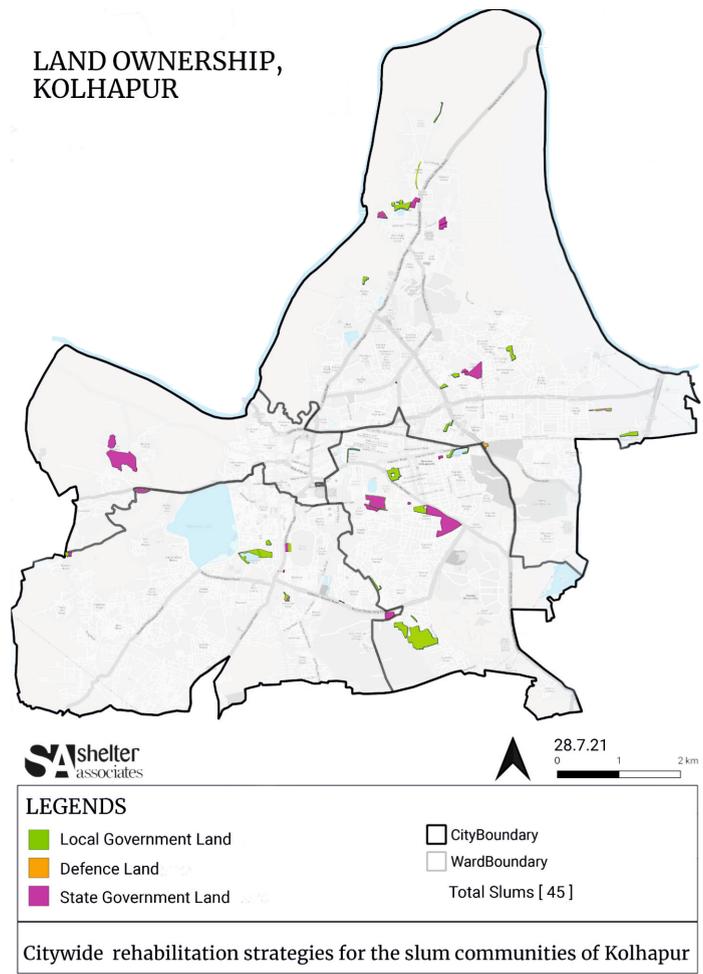


Figure 3A.1

2. Dwelling Densities:

The ratio of the total structures in the slum to the total land area in hectares. The following range of dwelling densities provided an understanding of how dense or sparse the slum was.

Range	Number settlements	of	No of Households	% of Households	
0-150	9		2849	41.5 %	
150-250	22		8784	52.53%	
250-350	9		2264	4.29%	
350 and above	4		363	1.59%	

Table 3.1.2 Dwelling densities

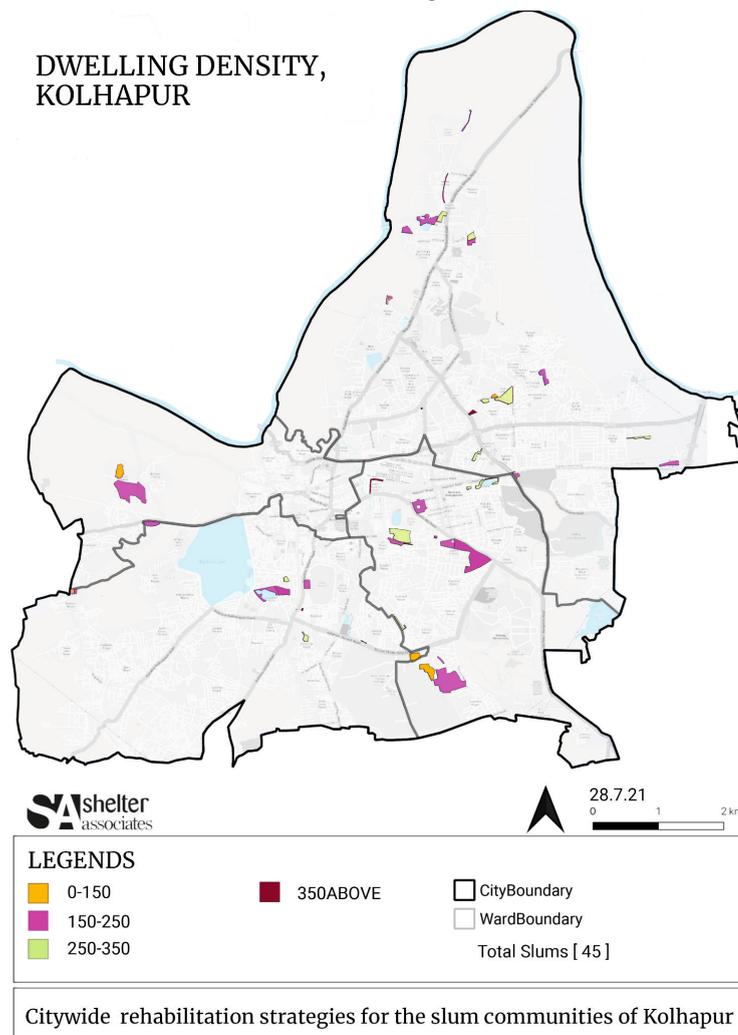


Figure 3A.2 Dwelling Densities

3. Land Reservation:

According to the Development Plan (DP) areas of the city were reserved under Residential, Commercial, Industrial, Transportation, and Public/Semi-Public areas. In order to understand the reservation of the land occupied by the informal settlement, the DP was superimposed with the digitised map of the settlement. This helped to mark the exact location of the settlement on the development plan and identify if the settlement was either partially or fully impacted by any reservations.

The Development Plan proposed for the year 1991-2011 provided information on the land use reservations for different slums in the city of Kolhapur.

Reservation type	Number of settlements	No of Households	% of Households	
No reservation	20	9169	64.29%	
Only Road Reservation	9	2843	19.93%	
Open Space	7	1048	7.31%	
Other	6	898	6.29%	
Multiple	2	302	2.11%	

Table 3.1.3 Land Reservation

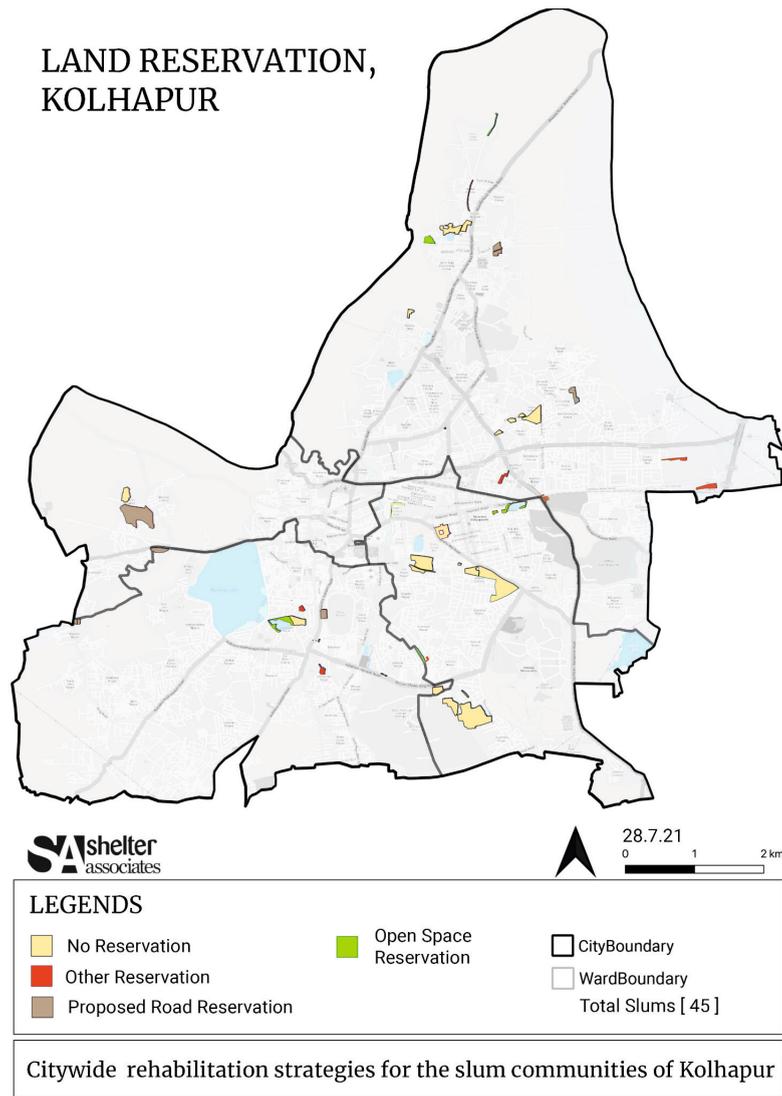


Figure 3A.3

4. Land Rates:

A ready reckoner for the city was taken from the local governing body. The ready reckoner prices are based on the locality. SA identified the area and locality of the slum and noted the land rates of the region.

Land Rate/SqMt (in ₹)	Number of settlements	of	No of Households	of	% of Households	
0-5000	19		5854		41.05%	
5000-15,000	19		7900		55.39%	
15,000 - 25,000	4		464		3.2%	
25,000 Above	2		42		0.29%	

Table 3.1.4 Land Rate

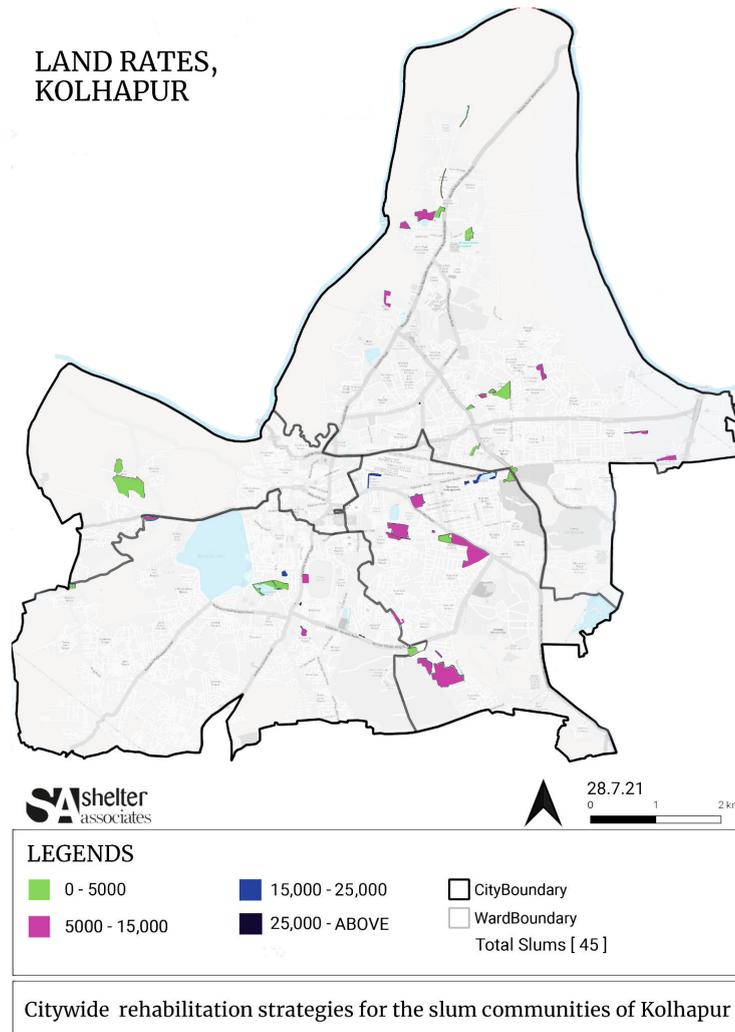


Figure 3A.4: Land Rates

5. Tenable and Untenable Slums:

Slums on Public, Semi-Public reservation, transportation land, industrial areas, open space or No Development Zone, and slums affected by proposed road reservations were partly or completely untenable.

Range	Number of settlements	No of Households	% of Households	Extra Housing stock	Legends
Tenable with Extra housing stock	24	11,620	81.4%	10409	
Tenable with no extra housing stock	4	512	3.59%	0	
Untenable slums	16	2,128	15%	0	

Table 3.1.5 Tenable and Untenable slums

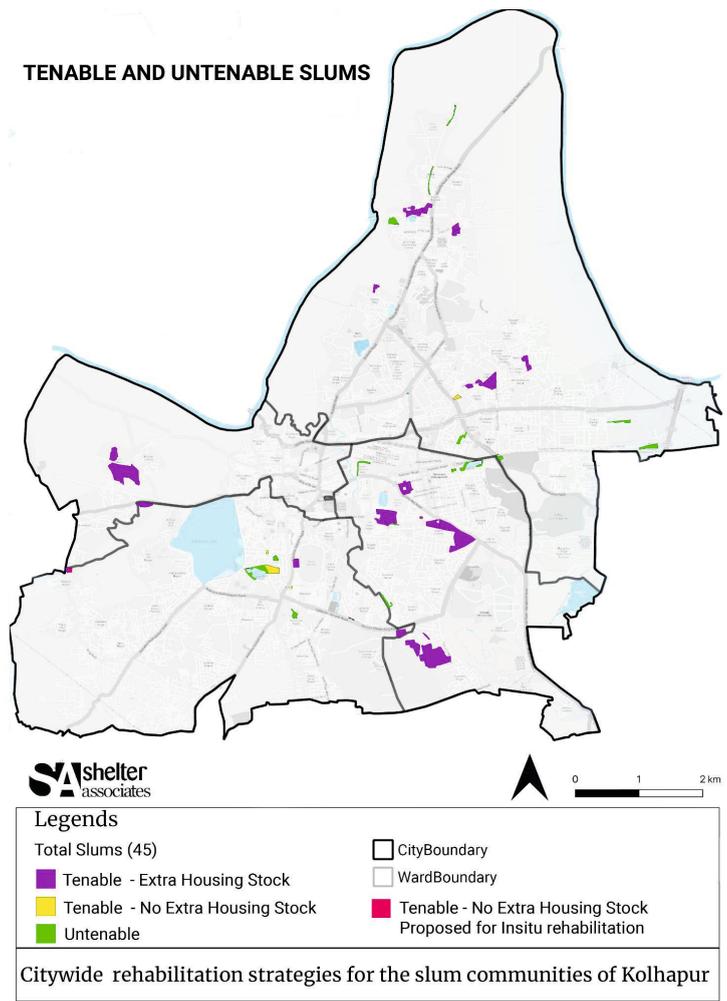


Figure 3A.5 Tenable and Untenable Slums

6. Potential Extra Housing Stock:

As per the design development undertaken by SA, a dwelling density of 400-450d/h was considered as optimum housing stock for a mid-rise high density development. The collected data was analysed to identify slums with dwelling density lower than 350 d/h. It was inferred that these slums had a potential to accommodate extra housing stock to generate a dwelling density upto 400-450d/h, thus making the slums receiving pockets for other untenable slums. **Ward wise distribution of slums that are on tenable land with extra housing stock:**

Ward 01: 5 out of 11 slums in Ward 01 have potential extra housing stock measuring upto 952.97 dwellings (6.65 % of the total extra housing stock)

1. Bondre Nagar - 2
2. Phule Wadi Gayran K-Karvir
3. Ganjimal
4. Vare vasahat
5. Shenda Park (Leprosy Colony) Swadhar Nagar

Ward 02: Of the 2 slums in Ward 2, both have potential extra housing stock measuring upto 2293.54 dwellings (16.01% of the total extra housing stock)

1. Lakshatirth Vasahat(K Karvir)
2. Tophecha Mal (K Karvir)

Ward 03: 9 out of the 14 slums in Ward 3, have potential extra housing stock

The extra housing stock measures to 5673.73 dwellings (39.62% of the total extra housing stock)

1. Near the Town Planning Scheme No.1
2. Awachit Nagar (Near Rajaram Puri)
3. Dombawada
4. Shahu Nagar
5. Kotitirth and yadav nagar
6. Matang Vasahat - 2
7. Lakhe Nagar
8. Rajendra Nagar
9. Salokhe Park (Bharat Nagar)

Ward 04: 9 out of the 18 slums in Ward 4, have potential extra housing stock

The extra housing stock measures to 1488.73 dwellings (10.39% of the total extra housing stock)

1. Matang Vasahat (K Bawada)
2. Bhagatsingh Vasahat
3. Ambedkar Nagar
4. Sadar Bajar E-ward
5. Kadam Wadi (Kapoor Vasahat)
6. Near Shasakiya Godam
7. Antarbharti E-Ward (Front of Antarbharti School)
8. Sankpal Nagar (K Bawada)
9. Vichare Mal E-Ward

Out of the total 24 tenable slums the extra housing stock is : 10408.97 which is 72.69% of the current dwellings (14319).

Part B : Socio-economic survey and Data collection

Introduction:

In order to gauge data on slum demographics such as family size, occupation, financial condition (such as income, expenditure, and loans), tenancy arrangement, plot ownership, proof of land ownership, willingness to participate in a housing programme SA collected family level data for all mapped dwellings.

The socio-economic survey also collected data on the:

- i. Existing condition of the house such as dwelling area, construction type, essential services connections, availability of natural light and natural ventilation, heat gain, water ingress, frequency of repair and renovation work, etc.
- ii. Existing conditions such as presence of mosquitoes/flyes, foul smells, open dumping areas, open gutters, etc.

NOTE: The population of slum residents as per the socio-economic surveys undertaken on government land was 14260 HH (59,971 residents) which was 10.35 % of the total urban population.

Outputs:

A detailed report for every slum was prepared to provide analysis of the collected data in terms of spatial maps and data analysis. The individual slum report concludes with a summary section which describes the slum in relation to categories that give an overview of the slums vulnerability. The individual slum report is used as a point of reference to inform the solutions for possible housing schemes.

Following is the ward-wise listing and description of all slums.

Ward 01:

Located in the south-eastern part of the city the first ward has 11 slums.

Most of the slums in Ward 1 are located near the city centre with land rates ranging from ₹ 5000 - ₹ 30000. The dwelling densities of most slums are in the range of 100 d/h to 250 d/h. Kamgar Chawl and Timber Market are one of the most densely populated slums as they are situated nearer to the city centre in fine-grained urban areas. Kadam Khan vashinaka has the highest population of 405.

1. Bondre Nagar 1
2. Bondre Nagar 2
3. Phule Wadi Gayran K-Karvir
4. Kadam Khan Vashinaka
5. Uttam Korane
6. Timber Market A-Ward
7. Ganjimal
8. Vare vasahat
9. Kamgar Chawl B-Ward
10. Kalamba Filter House
11. Shenda Park Uttam Korane Nagar

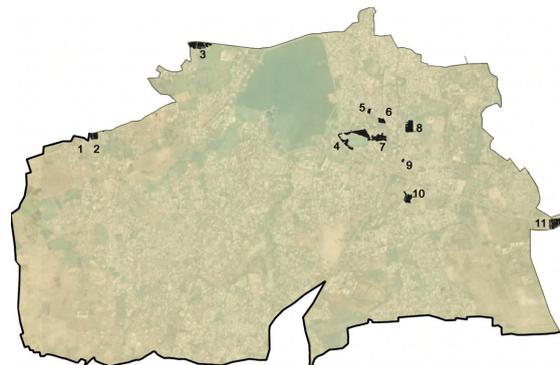


Figure 3B.1: Slums of Ward 01

NOTE: For each individual slum report refer *Annexe 01- Ward01*

Ward 02:

The second ward has only 2 slums, with a high population density. Lakshatirth Vasahat one of the largest slums in Kolhapur has 1535 dwellings. However the slums are on tenable land with low dwelling densities thus having the second largest housing stock in all 4 wards. It is also observed that slums in ward 2 have one of the lowest land rates and are surrounded by agricultural lands towards the west and north and north-west.

Detailed information about slums is given through individual slum reports attached in annexure.

Located in the north-eastern part of the city the first ward has 2 slums.

1. Lakshatirth Vasahat
2. Tophecha Mal



Figure 3B.2 Slums of Ward 02

NOTE: For each individual slum report refer *Annexe 01- Ward02*

Ward 03 :

This ward has the largest slums of the city such as Awachit Nagar and Rajendra Nagar. Slums are located both near the city centre and at the edge of the city. It has land rates ranging from ₹ 5000 - ₹ 30000 depending on the proximity of the slums from the city centre. Almost all slums are tenable with extra housing stock. It has dwelling densities ranging from 100 - 300. Located in the north-western part of the city the first ward has 14 slums.

1. Near the Shahupuri Gavat Mandai
2. Matang Vasahat - 2
3. Near the Desai Bangalow
4. Takala Khan Bhag E-Ward
5. Kotitirth and yadav nagar
6. Dombarwada
7. Near Chaya Housing Society
8. Near the Town Planning Scheme No.1
9. Shahu Nagar
10. Awachit Nagar (Near Rajaram Puri)
11. Kandalgao Naka Jawahar Nagar
12. Salokhe Park (Bharat Nagar)
13. Lakhe Nagar
14. Rajendra Nagar

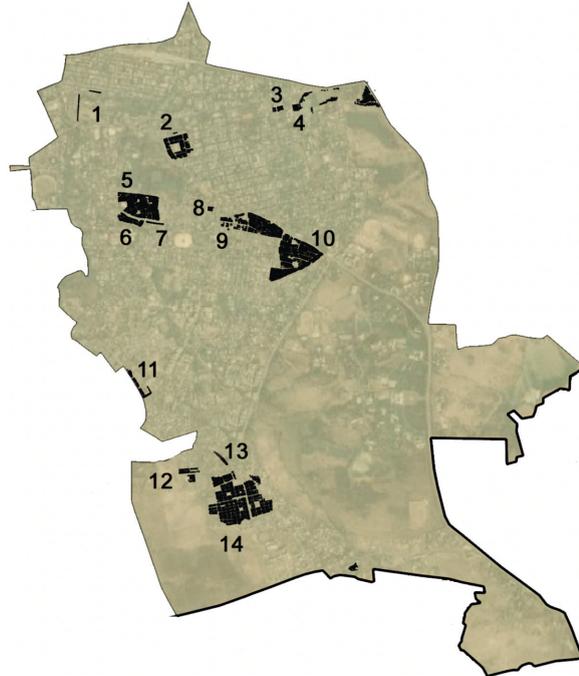


Figure 3B.3 Slums of Ward 03

NOTE: For each individual slum report refer *Annexe 01- Ward03*

Ward 04 : Located in the northern part of the city the ward has 18 slums.

Ward 04 has the largest number of slums scattered around the northern, eastern and central part of Kolhapur. The northern slums like Shiye Panand and Government Godown face problems due to flooding during the monsoons. With agricultural fields and open plots located towards the northern and eastern part of the ward, the dwelling densities of the slums in the north are low while those in the city centre are high. Furthermore, a higher percent of slums in ward 04 are on untenable land. Detailed information about slums is given through individual slum reports and is attached in annexure.

1. Shiye Panand Ulpe Mal
2. Matang Vasahat
3. Bhagatsingh Vasahat
4. Datta Mandir
5. Near the Temblai Wadi Railway Gate
6. Sadar Bajar
7. Kadam Wadi
8. Shugar Panad
9. Near Shaskiya Godam
10. United Agency
11. Lonar Vasahat-E ward Uchgaon
12. Ambedkar Nagar
13. Near the Dafale compound
14. Near the Sangam Theatre
15. Nimbalkar Mal E-Ward
16. Antarbharti E-Ward
17. Sankpal Nagar
18. Vichare Mal E-Ward -

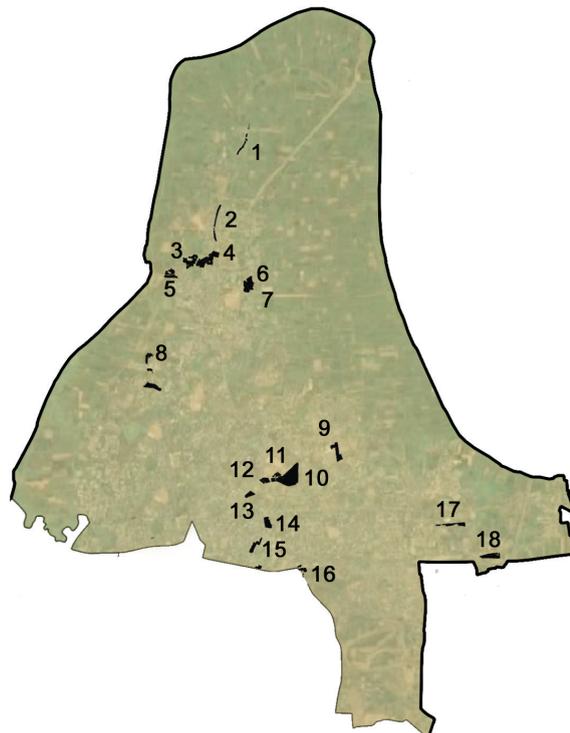


Figure 3B.3 Slums of Ward 04

NOTE: For each individual slum report refer *Annexe 01- Ward04*

3. Understanding the on-ground scenario for affordable housing and hurdles faced

Introduction:

The on-ground scenario for affordable housing in the city of Kolhapur was perceived through structured interviews with officials that oversaw the implementation of affordable housing schemes in the city. SA conducted site visits to the identified affordable housing schemes and initiated a dialogue with the beneficiaries to interpret their experiences.

Objectives:

The objective was to: (1) identify different schemes **for affordable housing**; (2) provide observations of the on-going housing projects within the city; and (3) outline the hurdles faced during implementation.

Outputs:

1. Understanding various schemes for affordable housing.
2. Case studies for ongoing housing schemes in Kolhapur.
3. Beneficiary interviews and understanding issues faced during implementation.

1. Understanding various schemes underway in Kolhapur. :

Kolhapur had two affordable housing programmes underway: (i) Ramai Gharkul Awas Yojana by the Government of Maharashtra (GoM), and (ii) Pradhan Mantri Awas Yojana (PMAY) by the Government of India (GoI).

i. Ramai Gharkul Awas Yojana

Ramai had been launched to provide financial benefits for securing tenure for the SC, ST, and neo-buddhist sections residing in the state of Maharashtra for the last 15 years. The state government provided an assistance of ₹2,50,000 for a carpet area of 25 SqMt.

To be eligible for RGAY the potential beneficiaries:

1. Were required to be residents of the state of Maharashtra for the last 15 years.
2. Could not have an annual income of more than ₹1,00,000 for rural areas, ₹1,50,000 for municipal areas, or ₹2,00,000 for Municipal Corporation.
3. Were required to be the owners of the plot to be developed.
4. Have not received assistance via another government housing scheme.

Source: <http://www.pmc.gov.in/RamaiAawasYojna.pdf>

ii. Pradhan Mantri Awas Yojana (PMAY)

PMAY was launched in the year 2015 under the mission "Housing for all" (Hfa) by the year 2022. The Mission provides Central Assistance to the implementing agencies through States/Union Territories (UTs) and Central Nodal Agencies (CNAs) for providing houses to all eligible families.

Source: (<https://pmaymis.gov.in>)

Beneficiaries satisfying the eligibility for PMAY were identified under the following categories EWS, LIG, MIG-I and MIG -II for subsidy distribution.

To be eligible for PMAY the potential beneficiaries:

1. Annual income below ₹ 6,00,000.

2. Age between 21 years to 58 years.
3. Could not own any pucca property under his/her name at present nor should any of the family members own a property in any part of India.
4. The carpet area of house to be constructed had to be upto 30 SqMt for EWS category and upto 60 SqMt for LIG category.
5. Female property co-ownership was mandatory only for the EWS and LIG categories.
6. Loan applicants should not have availed any central or state government subsidy or benefit for housing under PMAY.

Source : <https://loanyantra.com//PMAY-in-Kolhapur>

Brief description of different verticals under PMAY:

(i) In-Situ Slum Rehabilitation (ISSR)

The projects implemented under the ISSR vertical use land as a resource with private participation. Slums on Central Government land/State Government land/ULB land, slum rehabilitation were granted ₹ 1,00,000 per house. States/Cities can provide additional FSI/FAR or TDR to make projects financially viable. Land costs were not to be charged by the Central Government agencies. For slums on privately owned land States/Cities can provide additional FSI/FAR or TDR to land owners as per its policy, however no Central Assistance was to be provided.

NOTE: There have been no in-situ projects implemented within Kolhapur at the time of writing and no case studies have been done for the same.

(ii) Affordable Housing in Partnership (AHP)

The AHP was a Centrally Sponsored Scheme (CSS) that aimed to provide financial assistance to EWS houses built in various partnership models by States/Union Territories (UT's) /Cities including private sector and industries. Central assistance of ₹1,50,000 per EWS house was provided. Projects under AHP were to have a minimum of 250 houses with at least 35% houses of EWS category. Preference to physically handicapped, senior citizens, Scheduled Class (SC) / Sheduled Tribes (ST) / Other Backward Class (OBC), minorities, single women, transgender and other vulnerable sections was to be provided.

Source: <https://pmay-urban.gov.in/ah>

(iii) Beneficiary Led Construction (BLC)

BLC was a CSS. Assistance to individual eligible families belonging to EWS categories was provided to either construct new houses or to enhance existing houses on their own up to ₹1,50,000 per house.

NOTE: Enhancement shall mean addition of minimum carpet area of 9.0 SqMt into the existing house with pucca construction of at least one habitable room or room with kitchen and/or bathroom and/or toilet conforming to National Building Code (NBC) norms. The total carpet area after enhancement must not be less than 21 SqMt and must not be more than 30 SqMt

Source: <https://pmay-urban.gov.in/blc>

(iv) Credit Linked Subsidy (CLS)

Under the CLS vertical an interest subsidy on home loan was provided through CNAs and Primary Lending Institutions (PLI's) to the EWS/LIG/ MIG beneficiaries for purchase, construction or enhancement of their house. The beneficiary, at his/her discretion, could build a house of larger area but interest subvention would be limited to the first ₹6,00,000. Loans beyond this limit would not receive interest subvention. Interest subsidy was credited upfront to the loan accounts of beneficiaries through PLI's resulting in reduced effective housing loan and Equated Monthly Instalment (EMI). Net Present Value (NPV) of the interest subsidy was calculated at a discount rate of 9%.

E.g.: Under this vertical the PMAY subsidy will get subtracted from this principal amount of loan. The interest rate otherwise at 9.83% with ₹10,000 monthly repayment cost for 20 years will now be reduced to an interest rate of 7.5%. The beneficiaries will have to pay an average ₹7,900 per month, thus saving ₹2,100 per month for 20 years. This resultant savings are of almost ₹6,120,000.

Source : https://pmayuclap.gov.in//CLSS_Vertical.html

2. Case studies for ongoing housing schemes in Kolhapur:

Case studies and interviews were conducted to understand on ground scenarios for AHP Projects in Kolhapur through site visits, interviews with the PMAY officials, beneficiaries and implementers

NOTE: These AHP projects also included beneficiaries who had availed CLS benefits for LIG units and the case studies include analysis of both

i. Affordable Housing in Partnership Projects in Kolhapur

AHP Project I: Swapnapurti

Proposed by PMAY under the AHP vertical and developed by Udayraj developers, Swapnapurti was an affordable housing project in Puikhadi, Kolhapur.



Figure 4.1 View of Swapnapurti



Figure 4.2 View of Swapnapurti

Access: The site was not conveniently accessible by public transport and essential facilities, such as areas of commerce, health, employment, education, were all greater than 2.5 km away.

Housing capacity: The project used tenement buildings which contained a total of 213 residential units each, along with provision for 8 commercial shops on the ground floor. Of the 213 residential units:

- 118 - 1BHK (30 sqm) residential units were reserved for EWS and implemented via the AHP vertical.
- 70 - 1BHK (30 sqm) and 25 - 2BHK (50 sqm) residential units were implemented via the CLS vertical.
- The scheme also had pre-approved home loans from the banks.

Tenement floor layout: Facing Southeast-Southwest, the G + 8 building consisted of 27 residential units on each floor. The layout of each floor consisted of residential units accessed via a 5 Ft narrow central corridor that divided the plan; 14 residential units on one side and 13 on the other. The continuous units on either side of a long passageway do not allow for adequate natural light and ventilation thus making them dark and dependent on electricity even during daytime. The floor layout, although optimised to fit maximum flats, does not incorporate spaces that can provide a relation with the surroundings.

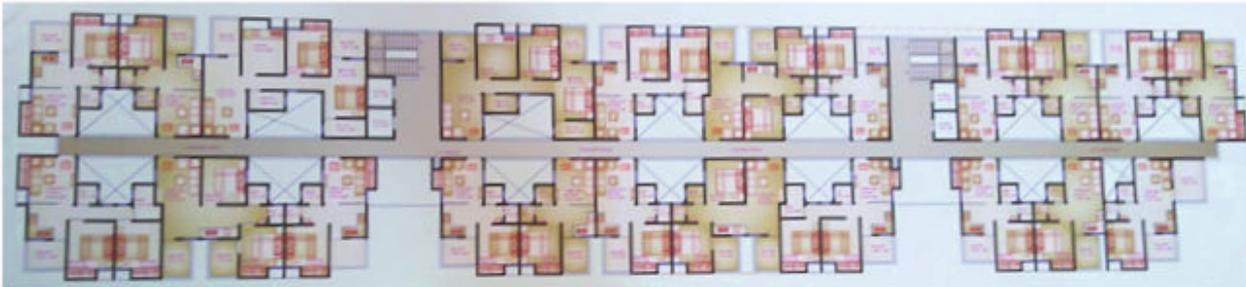


Figure. 4.3 Swapnapurti floor layout showing residential units arranged on either side of a narrow central corridor



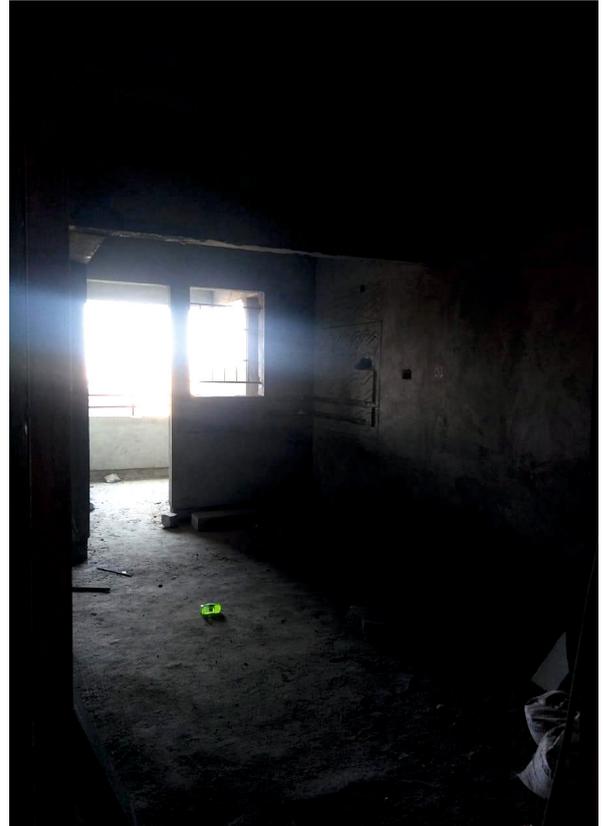
Figure. 4.4 Enlarged view - Swapnapurti floor layout



Figure. 4.5 - 3D representation of tenements as provided by the developer.

Residential unit layout: The 1 BHK 30 SqMt flats consist of (1) bedroom, (2) hall/lounge, (3) kitchen, (4) bathing area, (5) a toilet, and (6) a balcony with space for drying clothes. Taking cues from the sample flat one can judiciously use furniture to provide screening between the hall/lounge and kitchen to allow a degree of privacy and acoustic separation. On each floor, a few houses have been designed to have a balcony to the hall/lounge resulting in a room with a good degree of natural lighting and natural ventilation.





Figures. 4.6 Pictures of ongoing construction

AHP Project II: Loknagari

Loknagari project was developed by Ramsina group developers located beside the WINNS hospital, off Kasaba Bawada main road.

Access: The project, although located at the edge of the city, was well connected with public transport.

Housing capacity: The project is a tenement building containing 250 residential units with over 50% allotted to PMAY.

- 132 - 1BHK (30 sqm) and 29 - 2 BHK (50 sqm) residential units were implemented via the AHP and CLS verticals.
- 89 residential units unreserved and to be sold by the developer.



Figure. 4.7 View of Loknagari under construction building

Tenement floor layout: The G+12 building has 2 wings in an L shaped layout consisting of 21 residential units on each floor. Twin cores consisting of 2 lifts and 1 staircase are connected to an L shaped passage with residential units and intermediate light wells on either side. The continuous units on either side of a long passageway do not allow for adequate natural light and ventilation thus making them dark and dependent on electricity even during daytime

Residential unit layout: The 1 BHK 30 SqMt flats consist of (1) bedroom, (2) hall/lounge, (3) kitchen, (4) bathing area, (5) a toilet, and (6) a dry balcony. While the apartments on either side of the passage, and the north-facing were dependent on natural light or artificial light, the east facing bedrooms and living rooms were well lit in the mornings. The South-west and West apartments received natural light and ventilation in the late afternoons and evenings. The vast agricultural land in the west would likely keep the bedrooms and living rooms facing west well ventilated.

NOTE: The toilets and bathrooms/dry balconies open into the light wells adjacent to the passageway which could become a point of concern for privacy.

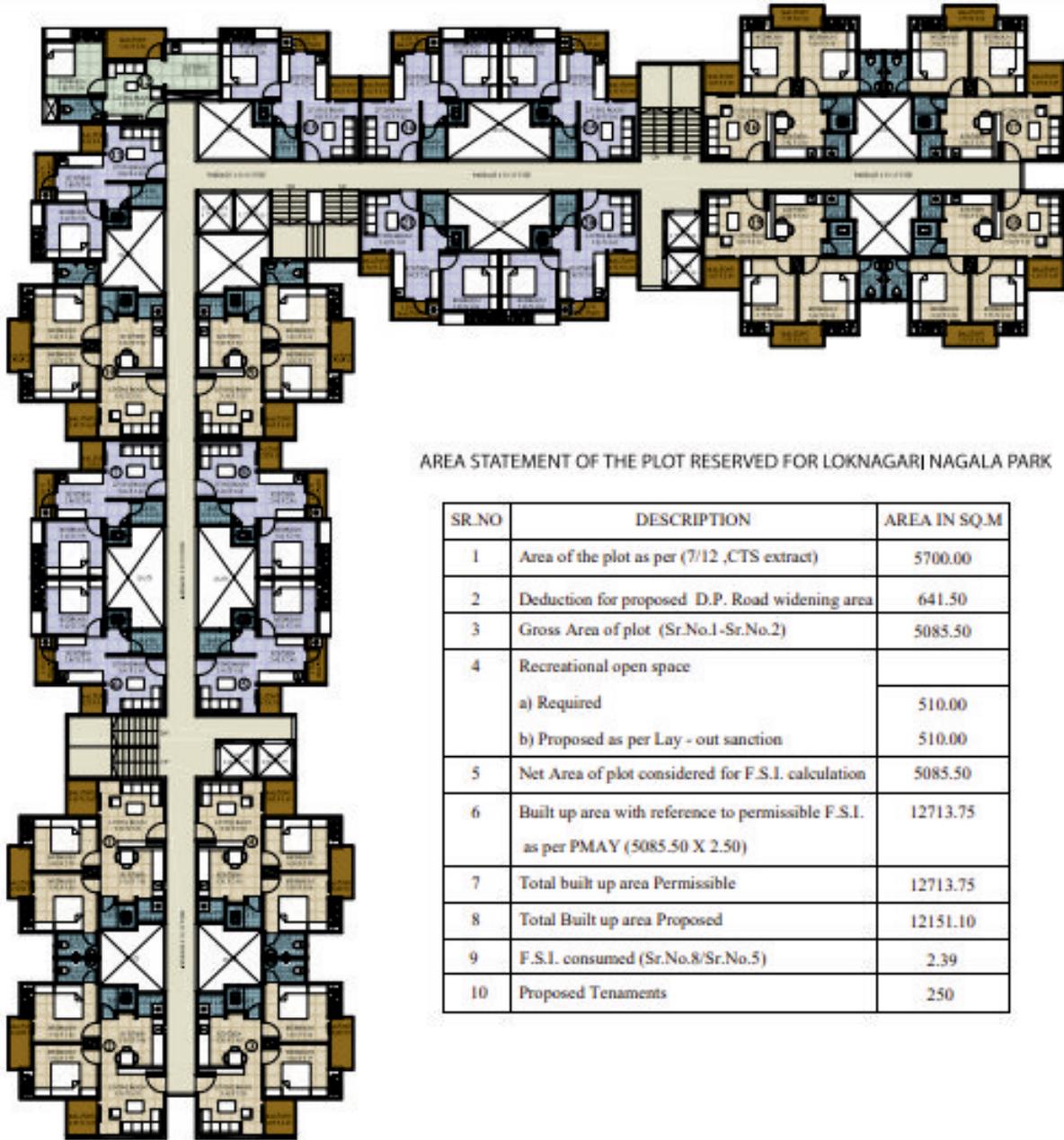


Figure. 4.8 Loknagari floor layout





Figure. 4.9 View of Loknagari under construction building

Comparative Analysis of Swapnapurti and Loknagri AHP projects:

Project	Swapnapurti	Loknagari
Proposal by	PMAY	Developer
Developers	Udayraj developers	Ramsina Group
Site Area	0.72 acre	1.5 acres
F.S.I	2.5	2.5
Type	EWS + CLS	EWS + CLS + Open market
Flat Units	Total - 213 Dwellings. All dwellings have been reserved to be sold under the PMAY vertical 2BHK - 25 1BHK -188 Of the total dwellings 55% (118 Dwellings) are 1 BHK reserved for EWS category.	Total - 250 Dwellings 2BHK- 118 1BHK - 132 More than 50% of the total dwellings are allotted for PMAY (i.e 2 BHK - 29 and 1BHK - 132)
Type of flats	1 BHK: 30 sqm (RERA carpet) 2 BHK: 50 sqm (RERA carpet) * Note : After Unified bylaws, the proposal was revised as per increased FSI, Height relaxation, setback relaxations and 6 th floor was added. 1 BHK was converted to 2 BHK as there was existing demand for 2 BHK.	2 BHK: 48.82 sqm (RERA carpet) 1 BHK: 29.32 sqm (RERA carpet)

Amenities	4 lifts with battery backup Parking on 2 underground levels Shops on the ground floor	6 lifts with battery backup Parking on the ground floor and 1 underground floor Play area and garden Library open to the public
Access and Location	Not well connected by public transport. Facilities not at a walkable distance.	Very well connected with public transport. Facilities are present within 1 Km.
Rate	₹16,00,000	₹19,60,000 (Extra ₹1,50,000 to be paid for 4 wheeler parking)
Commencement year	2019	2019
Possession year	June 2022	December 2021
Subsidy received	No subsidy received till date	No subsidy received till date
Construction till date	6 floors	11 floors
Customer type	Only 2 slum dwellers have availed of the scheme	No slum dwellers have taken benefit of the scheme
Number of PMAY flats sold till 26/08/2021	95 out of 213	72 out of 250

Table 4.1 Comparative analysis of Swapnapurti and Loknagari

Observation: In Loknagari, slum dwellers had not been able to avail the scheme due to the large gap between financial capabilities and the unit cost of the apartment. Loknagari may give a more varied mix of residents as it accommodated affordable housing along with housing from the open market thus blurring boundaries of economic differences. Swapnapurti proved to be comparatively affordable due to lower rate per tenement.

Following points provide salient features of the AHP vertical analysed from the above site visits and interviews with the developers:

1. **Site area and units:** Any project under AHP had no restriction on the site area. However a minimum 250 units were to be allotted to the PMAY.
2. **Floor Space Index (FSI):** For AHP projects the direct basic FSI was 2.5.
3. **Access:** There were no road width limits to ensure the 2.5 FSI was consumed. However in congested areas road widths of 9m and outside congested areas road widths of 12m were required according to the town planning norms.
4. **Point system for sanctioning:** After project proposal, PMAY department and/or the Maharashtra Development Authority (MHADA) conducted a survey to allot points. These points were awarded for location, connectivity, amenities, and facilities present within the vicinity, along with infrastructure, investment, developer financial conditions, etc. Once the project received 60% of the total available points, it was sanctioned.
5. **Unit rates:** The per sqm rate of a residential unit can be less than or equal to the Ready Reckoner rate. In case there was a considerable difference in the market rate and the Ready Reckoner rate, the unit's per sqm rate can be elevated by a maximum of 20% of Ready Reckoner rates after consultation with PMAY.
6. **Allotment:** The allotment of units to beneficiaries was based on a first come first serve basis.
7. **Opening of PMAY units to open market:** If the units under PMAY were not sold within 3 years from the date of commencement or if within these 3 years the developer failed to identify a potential market in PMAY, then the apartments can be sold in the open market. The remaining subsidy amount against the number of units to be given in the open market was returned.
8. **Profits for builders:** The government has ensured certain benefits for developers by providing a direct basic FSI of 2.5 under PMAY. For projects other than PMAY the developer has to pay additional fees to avail FSI more than 1.1. The developer can also avail relaxation in the development fees. With growing urbanisation, the number of beneficiaries in EWS are more in demand. The PMAY department identifies customers for the developers thus reducing marketing costs.
9. **Effect of pandemic:** Many registrations were cancelled during the pandemic. Furthermore, an increase in construction costs has led to increased unit costs for new customers.

3. Beneficiary Interviews and understanding issues faced during implementation:

Beneficiary interviews who had taken part in the (1) AHP and the CLS vertical (2) BLC vertical and Ramai Awas Yojana provided information on the implementation, financial condition, subsidy received, plot area and ownership, on-going stages of construction time taken for completion of the project etc.

i. AHP and the CLS vertical

Name	Property Name and Type	Area (In SqMt)	Date of booking /shifting	Previous Residence	Flat cost	Bank Loan amount Interest rate Year Duration	Income range	Subsidy amount
Mr. Magdum	Gangai Terraces	1BHK - 46 SQM	Dec'18 - July'21	Rental flat, Sambahji Nagar	₹ 17,00000	Axis Bank ₹ 15,00000 9.5% Interest 2018 20 years	Less than ₹ 6,00,000 per annum	₹ 2.67 Lakhs
Mr. Umesh Bagul	Gangai Terraces	2BHK - 70 SQM	Dec'20 - June'21	Rental flat Rajarampuri	₹ 27,50000	Axis Bank ₹ 20,00000 (10.95% Interest for a period of 20 years)	₹ 55000 per month	Subsidy approval remaining
Mrs. Kamble	Gangai Terraces	2BHK - 68 SQM	Nov'20 - July' 21	Rental flat	₹ 25,00000	₹ 20,00000 (9.5 % Interest for a period of 20 years)	Less than ₹ 6,00,000 per annum	Not deposited yet

Mr. Rupesh More	Swayambhu Apartments – 1BHK		Nov' 18 - Dec' 20	Pune	₹ 1900000	2018 Axis Bank (₹ 1700000 * Interest rate changed from 8.45% to 6.85% for a period of 20 years)	Less than ₹ 450000	₹ 267000
	Rudra Heritage 1 BHK		Dec' 20	With Family members (No previous ownership)	₹ 1900000	17.50 lakhs 8.75 % 20 years	Less than ₹ 16,00000	Stuck due to no sale deed available.

Table 4.2 Experience of beneficiaries availing PMAY benefit under CLS vertical:

Of the 5 families surveyed It was observed that 3 families received the Credit Linked Subsidy within a year. However due to the pandemic, the recent applicants have not received any funds till date. Till now there have been 2800 beneficiaries under CLS in Kolhapur (as informed by the PMAY department).

Issues identified :

1. No slum dwellers have taken benefit through the CLS vertical as they do not fall into the income bracket.
2. The developer has not yet received any instalment of the PMAY benefit.

ii. Ramai and BLC:

In order to gauge the process of availing benefits from BLC and Ramai, SA has conducted structured interviews with beneficiaries residing in Ambedkar Nagar and Awachit Nagar. The interviews have given an insight on implementation, financial condition, subsidy received, plot area and ownership, on-going stages of construction time taken for completion of the project, delays in financial disbursement, etc.

Ramai: The surveys were conducted for 9 beneficiaries who had availed from Ramai in Ambedkar Nagar. The beneficiaries had taken part in the Ramai Awas Yojana from the years 2014 to 2018

Name of Beneficiary	Name on Property Card	Time Taken for permissions (in Years)	Year of enrolment	Area of built - up	Structure	Stages of Construction and supervision	Subsidy Received	Setback rules	Rules followed	Separate Parking requirements
Praful Mohan Kamble	Praful Mohan Kamble	1 - 1.5 Years	2014	200-300 Sq.Ft	Ground Floor	Completed	2.5 Lakhs	Front & Back	Yes	No
Vishnu Subanna Kamble	Subanna Kamble	1 Year	2015	300-400 Sq.Ft	Ground Floor	Completed in 2017	2.5 Lakhs	Front & Back	Yes	No
Kamal Hariba Kambale	Kamal Hariba Kambale	1 Year	2018	100-200 Sq.Ft	G+1 Structure	Completed - 2020	2.25 Lakhs	Front & Back	Yes	No
Shakti Dilip Nandrekar		1 - 1.5 Years	2014	200-300 Sq.Ft	Ground Floor	Completed	2.25 Lakhs	Front & Back	No	No
Akash Dattatreya Kamble	Akash Dattatreya Kamble	1 Year	2016	100-200 Sq.Ft	Ground Floor	Completed	2.5 Lakhs	Front & Back	Yes	No
Pandurang Omana Kamble	Omana Kamble	1 Year	2014	100-200 Sq.Ft	G+1 Structure	Completed	2.25 Lakhs	Front & Back	No	No
Nitin Vasant Kambale	Nitin Vasant Kambale	1 Year	2018	200-300 Sq.Ft	Ground Floor	Completed	2.25 Lakhs	Front & Back	Yes	No

Shivaji Ashok Varale	Ashok Varale	1 - 1.5 Years	2016/2017	200-300 Sq.Ft	Ground Floor	Completed	2.5 Lakhs	Front	Yes	No
Shivaji Nana Kamble	Nana Kamble	1 Year	2014	400-500 Sq.Ft	Ground Floor	Completed	2.5 Lakhs	Front	Yes	No

Table. 4.3 Beneficiary interviews - Ramai

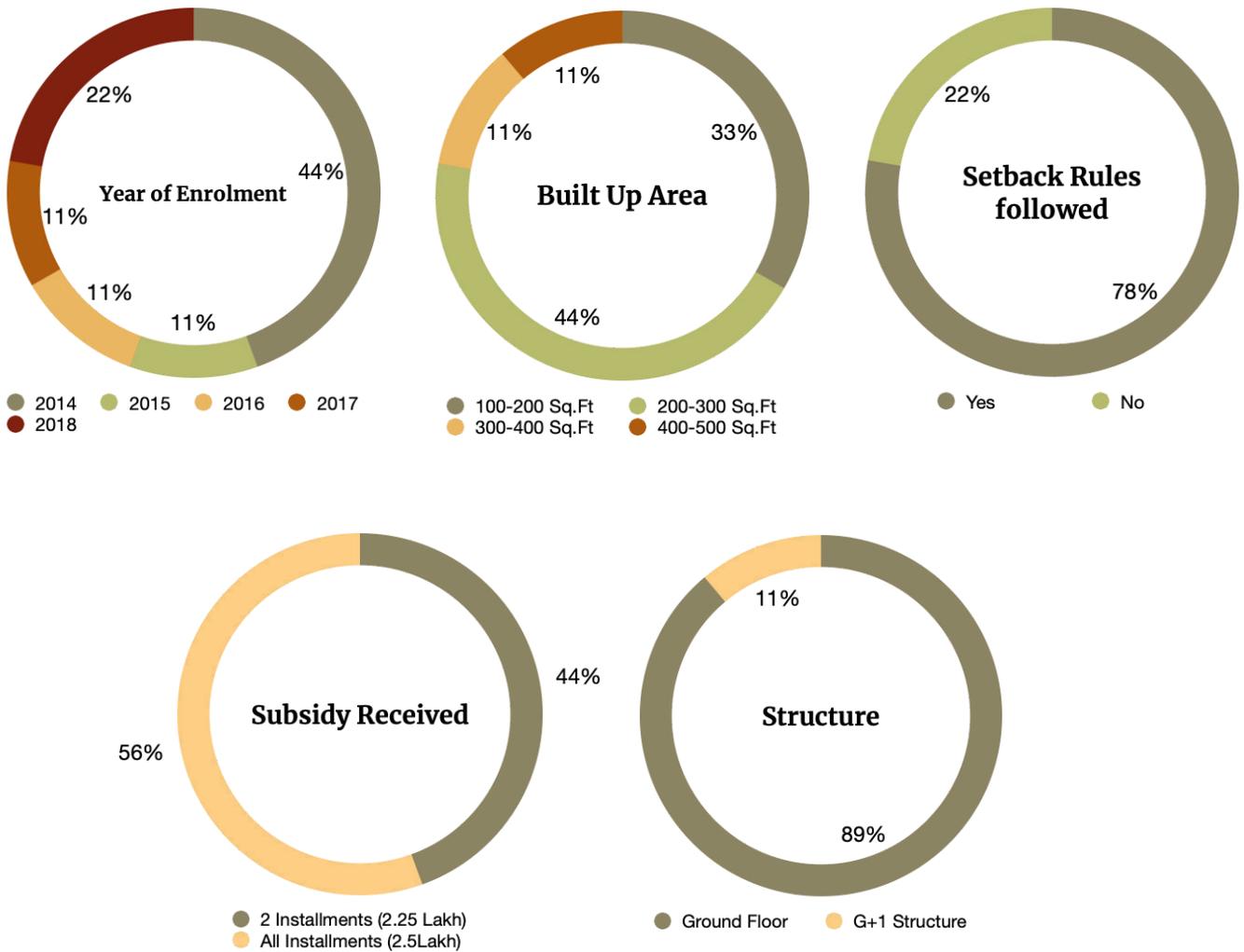


Figure. 4.10 Ramai analysis of interviews

NOTE: Above data needs to be verified by the concerned departments. In Ambedkar Nagar, a majority of the families have taken part in the scheme in the year 2014 (44%), and the rest in the years 2015, 2016, 2017. It was observed that beneficiaries who have enrolled in the year 2018 or later have not received the last instalment.

BLC: The surveys were conducted for 7 beneficiaries who had availed from PMAY. The beneficiaries had taken part in the PMAY

Built Up area	Parking Requirements	Setbacks/ Any other rules to be followed	Permissions required	Cost of Building permissions	Time required for Permissions	Enrolled in the year	Construction as per approved layout	Construction Stage	Remaining Construction	Subsidy received at intervals	Subsidy remaining
30 Sq.M	-	Front (F) -10Ft Back (B) - 5Ft	Building permission	₹ 25,000	6 Months	2018	No	Completed	-	₹ 40,000/- After Plinth ₹ 40,000/- After FF Slab	₹ 170000
35 Sq.M	-	-	Building permission	₹ 35,000	1 Year	2016	No	First Floor Slab -	Parapet, Painting	₹ 40,000 After Plinth ₹ 1 Lakh after Second Slab	₹ 110000
35 Sq.M	Ground Floor Parking	F - 5 Ft	Building permission	₹ 25,000	Don't Know	2018	No	GF. Slab	First Floor	₹ 40,000 After Plinth	₹ 210000
53.05 SqM	Ground Floor Parking	F- 5 Ft	Building permission	-	Don't Know	2018	Yes	Top Slab Level complete	Parapet, Painting	₹ 40,000 After Plinth ₹ 1 Lakh after Second Slab	₹ 110000
15 Sq.M	-	F -15 Ft	Building permission	₹ 20000	6 Months	2018	No	Top Slab Level complete	Painting	₹ 1.1 Lakh Received	₹ 140000
45 Sq.M	-	F - 5 Ft	Building permission	₹ 25,000	6 Months	2018	Yes	Top Slab Level complete	Painting	No subsidy received	₹ 250000

Upon visiting a household near Awachit Nagar slum who had taken part in the BLC under PMAY, SA gleaned that they had received no benefits from the subsidy. Though the family had begun the construction of the house they could not complete it due to lack of funds. The house remains under construction till date and the family has left the city.

Table 4.4 Beneficiaries interviews - BLC

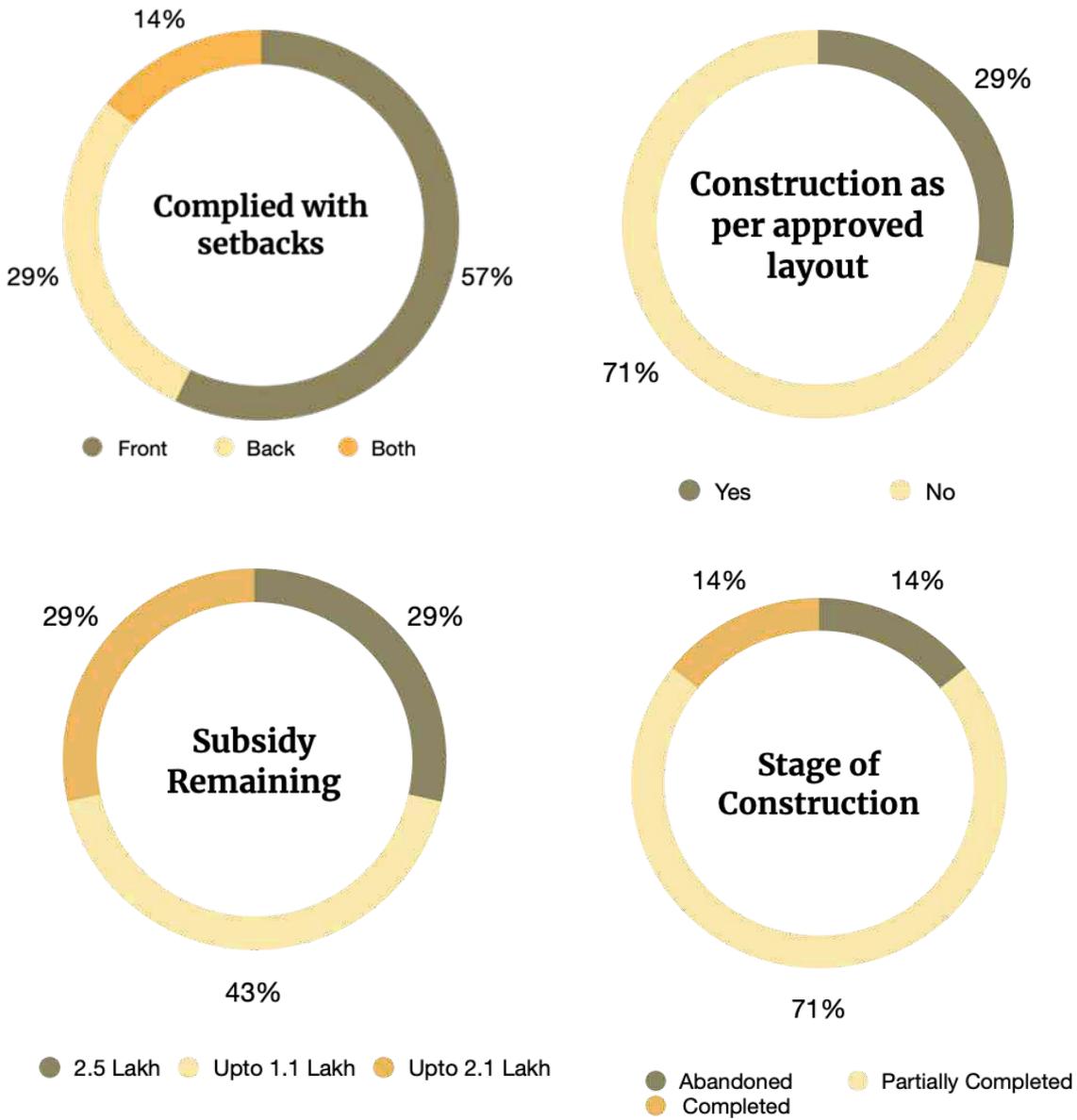


Figure. 4.11 PMAY analysis of interviews

NOTE: Above data needs to be verified by the concerned departments.

Inferences:

The delay in instalments through PMAY (BLC) had far reaching effects on the beneficiaries. The lengthy process of seeking permissions and the delays in receiving all three instalments of the subsidy had led to incomplete construction resulting in a dire state of living conditions. While one of the houses visited was abandoned due to incomplete construction, other families had given up all hope of receiving the remaining instalments.

Of the 7 beneficiary families, 1 completed their construction at their own cost, 5 had partially completed their dwellings and 1 abandoned their construction.

Financial Comparison between PMAY (BLC) and Ramai:

1. The main difference was in the efficiency of financial disbursement. While Ramai beneficiaries had received instalments within manageable delays, the PMAY (BLC) beneficiaries had suffered through tremendous delays and still the final instalment is outstanding.
2. Through Ramai the subsidy was provided entirely by the state government, but for the PMAY it was provided partially by the state and partially by the central government. The first instalment for Ramai was ₹1,25,000 which helped the residents reimburse the cost of construction of plinth, building permissions, etc. The first instalment for PMAY (BLC) was ₹1,00,000 and the amount was divided into ₹40,000 by the state and ₹60,000 by the central government. However some PMAY (BLC) beneficiaries had received only part payment from the first instalment either the central or the state government portion. As a result the PMAY (BLC) beneficiaries were forced to apply for loans or borrow money from friends or family to complete the construction.
3. Overall it was observed that through better financial disbursement the dwellings under Ramai were better implemented than PMAY (BLC).

Through discussion with the beneficiaries and officials concerned in implementing the BLC scheme (Ramai scheme follows the same process), SA understood the process of implementation.

Implementation Process for Beneficiary Led Construction

Stage 1: The eligible applicants filled out the required forms and submitted all necessary documents, identity proofs, etc. The collected data was uploaded on the MIS portal to check the eligibility. Once enrolled, a unique code for each BLC beneficiary was allotted.

Stage 2: Simultaneously the residents were to seek approval for the proposed layout from the Town Planning department. Based on the scheme, area and the current rate, the fees were to be paid to the Town planning department for obtaining building permission. As a concession to the above regulation, the building permission fee of ₹ 700/Sq Mt was reduced to ₹ 350/ Sq Mt for PMAY beneficiaries. After approval, the PMAY department prepared a Detailed Project Proposal (DPR) to be submitted to the state government and later to the central government for final approval.

Stage 3: Once approved, the construction phase commenced. The first instalment (PMAY - ₹ 1lakh, Ramai - ₹ 1.25 lakhs) was received after the construction (upto plinth level) was completed as per the approved layout. Surveyors from the PMAY department visited the site of construction for inspection and uploaded a picture of the same on the MIS web portal for release of the first instalment.

Stage 4: The second instalment (PMAY - ₹ 1,00,000, Ramai - ₹ 1,00,000) was received after the construction (upto lintel level incase of ground floor construction and upto first floor slab level in case of G+1 construction) was completed as per the approved layout. Surveyors from the PMAY department visited the site of construction for inspection and uploaded a picture of the same on the MIS web portal for release of the second instalment.

Stage 5: After the completion of all the construction, a final visit was carried by the surveyor from the PMAY department to check if the construction was according to the approved layout. After all stages of construction were verified by the surveyor the beneficiaries received the final instalment (₹ 50,000 for PMAY and ₹ 25,000 for Ramai)

4. Concerns identified through case studies:

Introduction and Objective:

SA undertook structured interviews with beneficiaries who had availed benefits from the housing schemes and site visits to gauge the hurdles faced during implementation. The issues around (1) Land ownership and (2) Following Town Planning rules and regulations, were highlighted during discussions and site visits to slum residents.

1. Land Ownership in Slum

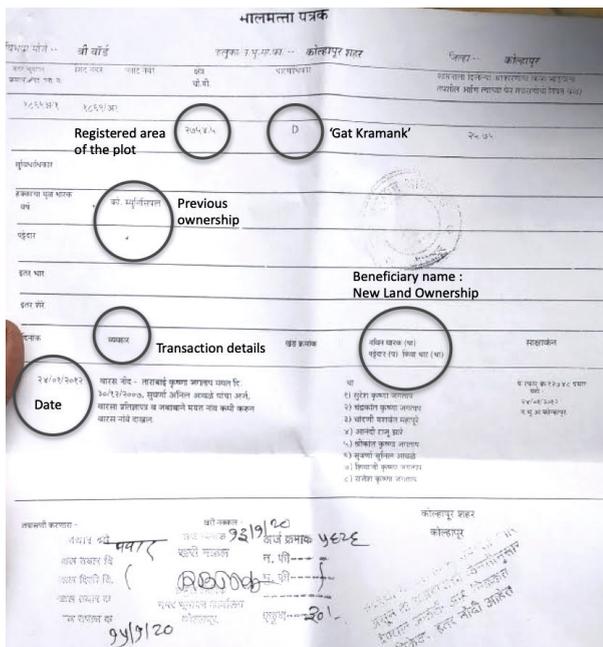
During the socio-economic surveys and subsequent analysis, information on land ownership of every dwelling in the settlement was recorded. Through collected data and spatial analysis, SA identified that for a few dwellings, the land ownership had been transferred to private owners from the government by issuing property cards.

NOTE: Depending on the on-going housing schemes, the decision for issuing property cards was taken during the general body meeting conducted by the ULB. Property cards were assigned with a 'gat kramank' which noted the details of land ownership. Complete transfer of ownership from government to private was denoted by the gat kramank "a"

Land ownership details of different letters denoting the 'gat kramank' are described below.

a	Private Ownership in goathan areas
b	Government ownership transferred to private ownership under certain conditions
c	Private Ownership in non-congested areas
d	Only Government ownership
e, g, f	Government ownership transferred to private ownership under certain conditions

Reading the property card:



Points to be checked in the property card :

- Area (in SqMt)
- Gat Kramank
- Land ownership
- Date of Issue
- New owners of land

Fig : 5.1 Property card sample

Understanding issues due to property cards through case studies:

SA came across instances wherein a few families who resided in the locality since the times of Shahu Maharaj had private land ownership. It was difficult to understand the exact number of slum dwellers that had been issued a property card, as the ULB did not hold aggregated data for each slum.

SA had collected the data through multiple on-ground surveys to gauge the extent of dwellings with private ownership. As property cards were awarded to a few dwellings it had resulted in pockets of private ownership scattered throughout the slum.

Following map shows slums in Kolhapur where dwellings have been awarded a property card.

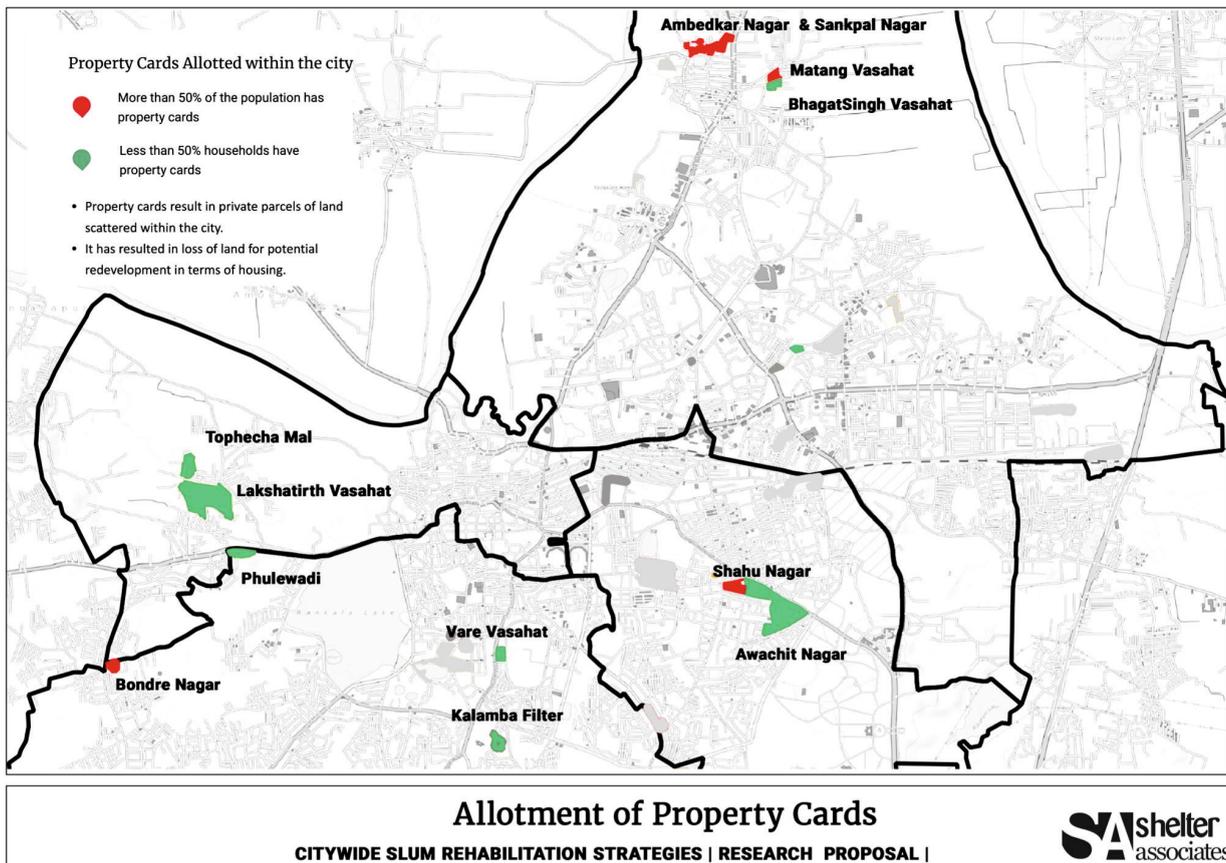
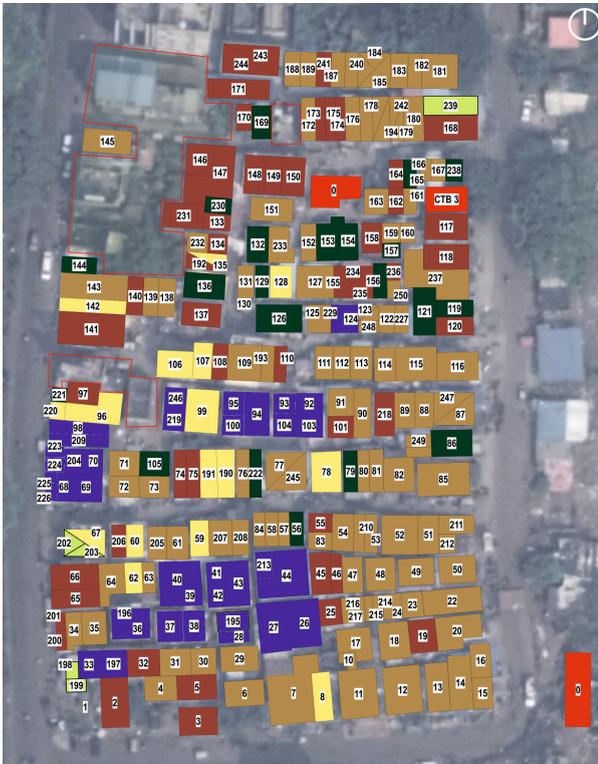


Fig: 5.2 Property cards issued in different slums in Kolhapur.

SA conducted detailed analysis of two slums (1) Vare Vasahat and (2) Ambedkar Nagar where property cards had been distributed to understand its implications.

i. Case I Vare Vasahat :



Location : West of Ganjimal at 0.2 KM east of Rankala Lake
 Declared slum
 Land Ownership : Local Government
 Open Plot Rate : 5040 Rs
 DP Reservation : No reservation.
 Property cards issued to 25% of the families.

Fig. 5.3 Property card distribution in Vare Vasahat

Implication of private land ownership:

The implications of private land ownership scattered in the slum is explained through a hypothetical case for a road facing house. When the plot would be developed, 4 families would be required to share a 121 SqMt plot of land. While constructing a house, the residents would have to follow Town Planning regulations. As per the regulations the permissible built up area available would be 76.65 SqMt (63.3% of the plot area.) Only a kutchha to pucca transformation of the house would be possible and it would add very little value in improving the quality of life. Thus even after taking benefits from a housing programme, the quality of life of the residents will not improve.

NOTE: The process of issuing property cards has been mapped by SA by leveraging experience from Bondre Nagar and through multiple follow ups and visits to the CSN and Mojani office.

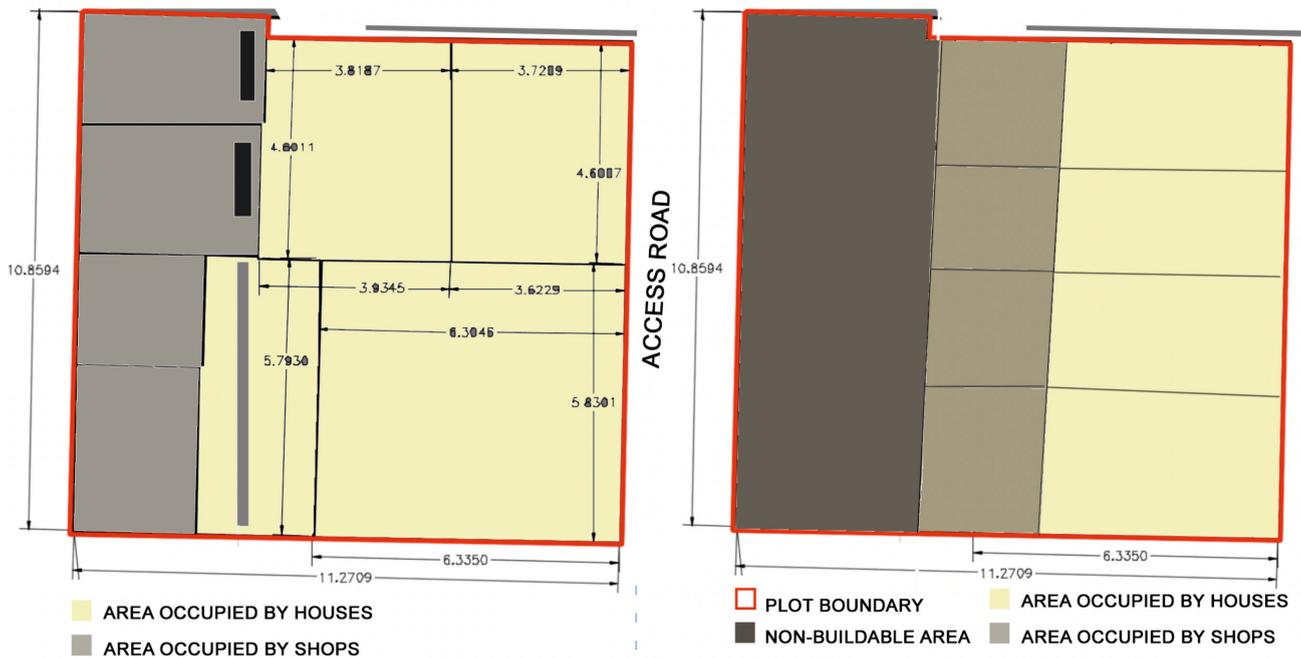


Fig. 5.4 Demonstration of built up available on individual development

Furthermore there was lack of clarity surrounding the exact area of the property card. There was a huge discrepancy in the plot area on property card and on-ground condition.

Plot area	121 SqMt.
Area as per Property Card	2754.4 SqMt

NOTE : The above information needs verification from the concerned departments.

ii. Case II: Ambedkar Nagar

Declared slum

Land Ownership : State Government

Open Plot Rate : 4780 Rs

DP Reservation : Residential

Area : 2.66 Hectare

Dwellings: 395 (148d/h)

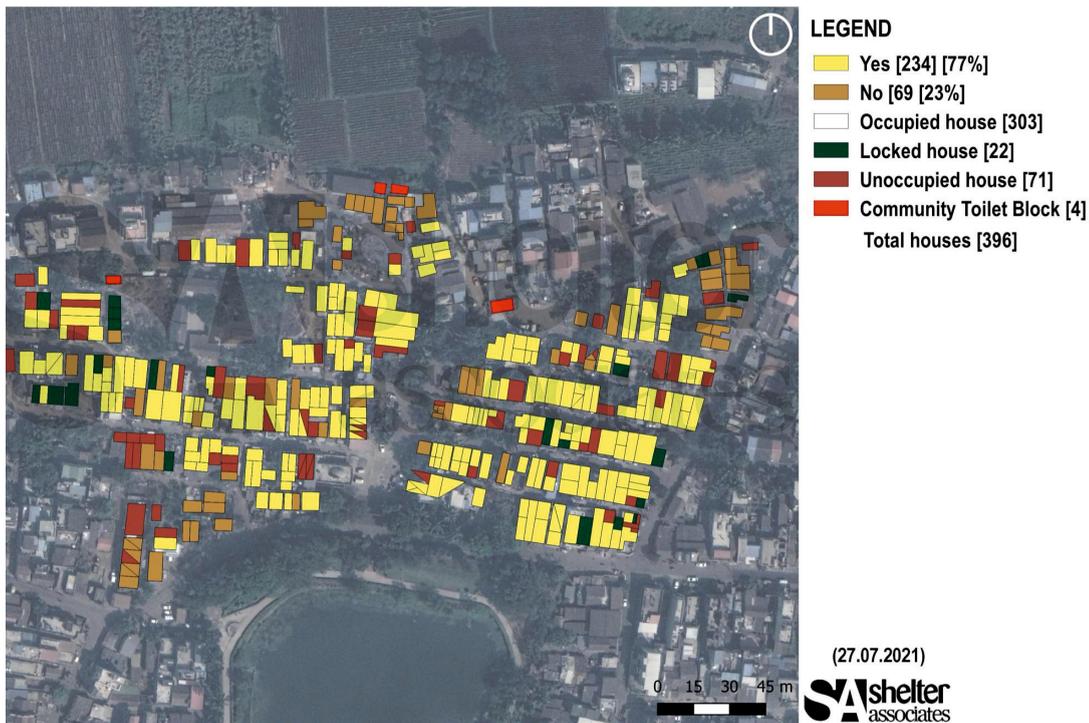


Fig: 5.5 Ambedkar Nagar Slum

Following spatial map shows dwellings that have a property card
 For optimum utilisation of land, SA analysed the dwelling density and potential extra housing stock that could have been created had property cards not been issued.

Total Households	395
Land Area	2.66 Hectare
Current Dwelling density	148

If the land had not been locked by property cards:

Additional extra dwelling density	202
Approximate additional number of households	145

There is no optimum utilisation of government land

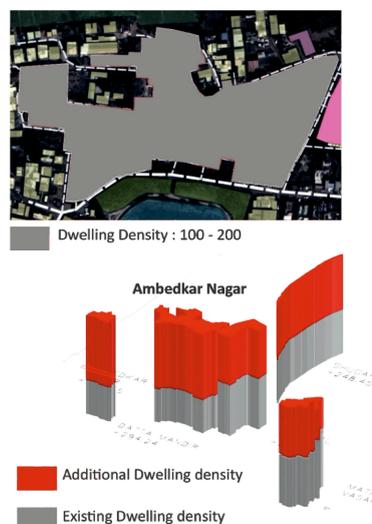


Fig: 5.6 Case for Ambedkar Nagar

2. Following Town Planning rules and regulations:

Similar to Vare Vasahat, pockets of private land ownership were scattered across different slums within the city. As property cards had been allotted to only a few plots, construction as per town planning norms was followed by only a few families, leading to inconsistent development within the slum. Thus at the slum level, SA observed that leaving front setbacks led to open space flanked by adjacent walls of structure. It resulted in a tethered road edge with adjacent nebulous open spaces that did not serve a significant purpose. This development has resulted in a kutchra-pucca transformation rather than a holistic development. The following was a case study of a beneficiary who have availed benefit from the PMAY under the BLC category

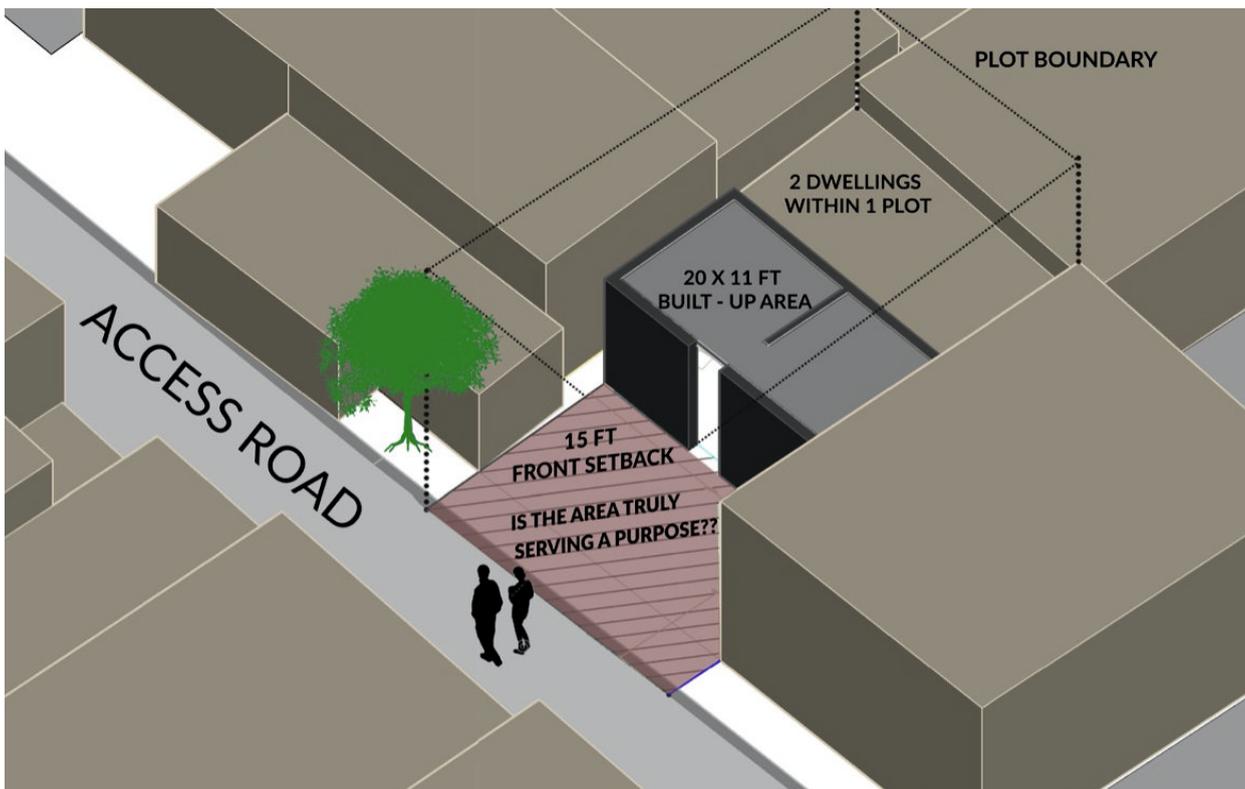


Fig: 5.7 3D representation of a beneficiary dwelling in Awachit Nagar

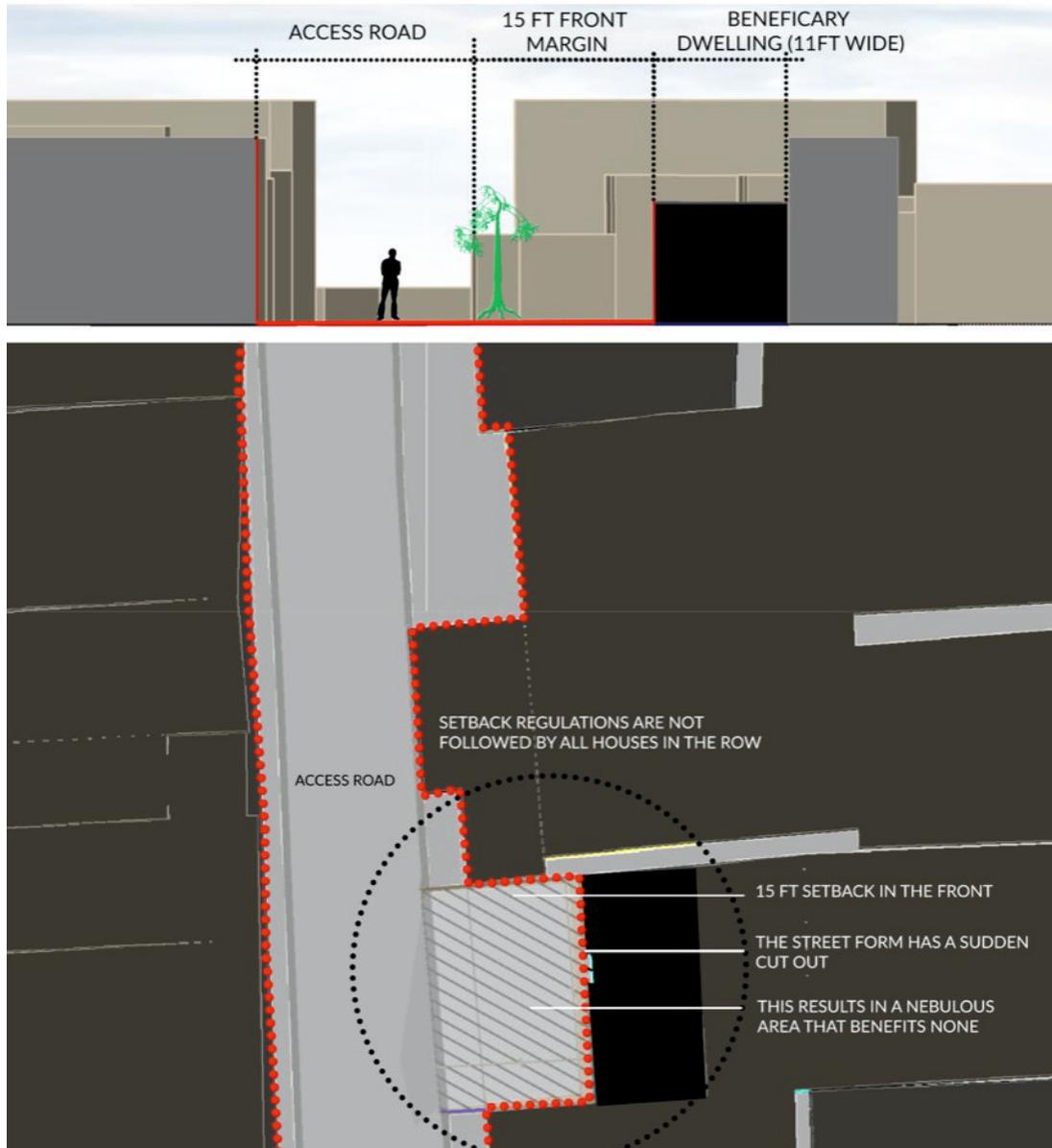


Fig: 5.8 Plan of a beneficiary dwelling in Awachit Nagar

3. Inferences:

1. **Participating in PMAY:** Slum dwellers in Ambedkar Nagar had been issued property cards for the pre allotted plots of land. More than 75% of the population has private land ownership in the slum. However, from the total population, 9.9% people had taken part in the Ramai Awas Yojana and 2.32% from PMAY. People had constructed permanent dwellings by taking benefits from the above schemes and loans from national banks or micro-finance institutions. Through informal discussions we came across the issues faced by the residents:
 - i. The process of land transfer being tedious and lengthy, many residents are unable to comply with all terms and conditions for ensuring the transfer of land rights.
 - ii. Many are unable to take necessary follow-ups with the governing officials.

2. **Lack of Holistic Development:** Due to scattered private ownership, pucca houses had been constructed in pockets, thus resulting in a kutcha-pucca transformation rather than complete holistic development. In the case of Vare Vasahat, it was also observed that the area allotted on every property card was not the same. This discrepancy in the area of property cards prevented land sharing. SA observed the following:
- i. If one plot of land had a property card the adjacent plot did not necessarily have one.
 - ii. The plots of land with property cards had similar living conditions to that of dwellings without property cards.
 - iii. All plots had a common access lane, road side entrance, and even a common wall built during construction of the house.
 - iv. They had similar infrastructural facilities and structural conditions. It was also observed that once property cards are issued, the residents are not always keen to participate in a housing scheme. They face many hurdles in securing the required permissions and getting a plan approved from the Town Planning department.

5. Vulnerability Index

Introduction:

The structured interviews with beneficiaries and analysis of the current scenario for housing highlighted the need for a data driven holistic approach to social housing. SA advocated the citywide approach that leveraged the collected data to propose solutions for the urban poor. Analysis and comparison undertaken at a citywide level based on parameters identifying vulnerabilities was undertaken. The analysis resulted in the identification of vulnerable slum communities within the city.

Objectives:

The identification of the most vulnerable slums in the city enabled future planning of available resources to be prioritised and projects to be planned around them.

Parameters pertinent to identify vulnerability and their ratings :

i. Land Ownership and Land Reservation:

The ownership and reservation of the informal settlement determine if the settlement was: (1) Tenable (least vulnerable), (2) Partly Untenable, (4) Untenable (most vulnerable).

Slums on Public, Semi-Public reservation, transportation land, industrial areas, open space or No Development Zone, and slums affected by proposed road reservations were partly or completely untenable.

Ownership	Reservation	Tenable/Untenable	Score
State Government (Tenable)	Residential (Tenable)	Tenable	1
Local Government (Tenable)	Part Residential (Partly Tenable)	Partly Tenable	2
	Any other (Untenable)	Untenable	4
GOI Land (like Defence, Railway, Forest Dept. etc) (Untenable)		Untenable	4

Table 6.1 Land Ownership and Land Reservation:

ii. Based on Dwelling Densities :

A mid-rise high density development consists of a 3 storey construction. The maximum dwelling density for such construction in tier 2 cities was considered to be 450d/ha. Slums with lower dwelling density were least vulnerable.

Dwelling Density	Score
0-150 d/ha	1
150-250 d/ha	2
250-350 d/ha	3
350-above d/ha	4

Table 6.2 Dwelling Densities

iii. Based on the topographic challenges:

The greater the number of dwellings affected by topographic challenges, the greater was the vulnerability.

Percent of houses suffering from flooding	Score
0-15	1
15-30	2
30-45	3
45 above	4

Table 6.3 Based on Topographic challenges

iv. Based on the Structural Conditions:

Depending on the percentage of dwellings that: (1) were made of kutcha materials; (2) had been upgraded within the previous two years; and (3) average area per person, scores were provided. The greater the number of dwellings affected the greater was the vulnerability.

Percent of Kutcha/ Semi-pucca houses	Score
0-15	1
15-30	2
30-45	3
45 above	4

Table 6.4 Based on Structural conditions

Percent of people with average area per person below - below 50 SqFt	Score
0-15	1
15-30	2
30-45	3
45 above	4

Table 6.4 Based on Structural conditions

v. Based on the Socio-economic Conditions:

Depending on the percentage of families with: (1) members over 60 years of age; (2) members with a disability and/or mental health disorder; (3) a total family income below ₹5,000; (4) a loan above ₹20,000; and (5) families occupying their dwelling as tenants, scores were provided. The greater the percentage of families, the greater was the vulnerability.

Percent of people within the slum over the age of 60	Score
--	-------

0-15	1
15-30	2
30-45	3
45 above	4

Table 6.5 Based on Socio-economic conditions

Percent of physically and/or mentally challenged people within the slum	Score
0-15	1
15-30	2
30-45	3
45 above	4

Table 6.6 Based on health conditions

Percent of households with a total income below Rs.5,000	Score
0-15	1
15-30	2
30-45	3
45 above	4

Table 6.7 Based on income

Percent of households as Tenant	Score
0-15	1
15-30	2
30-45	3
45 above	4

Table 6.8 Based on ownership

Outputs:

1. Comparative matrix:

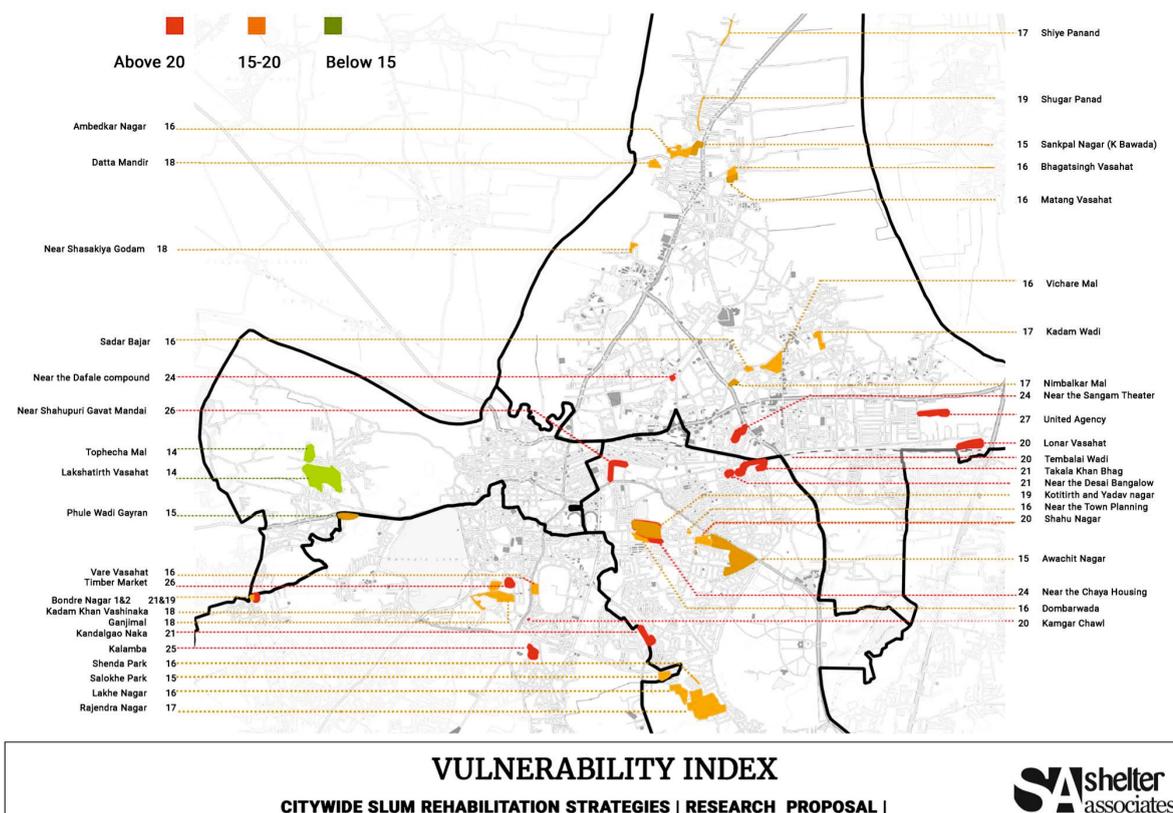
The scores for each individual category were totalled to provide a vulnerability score for the slum. The slums were then ranked from highest to lowest vulnerability score to produce the city wide vulnerability index. The categories considered for classification were: (1) Most vulnerable with scores above 20 (2) Vulnerable with scores within the range 15-20 (3) Least vulnerable with scores less than 15.

Process followed for classification:

Once the percentage of houses within each category were input, a score had been provided to each parameter depending on the slab the percentage falls in. These slabs were premeditated depending on the percentages that each category falls in. The scores of 1 to 4 were awarded to each category for each settlement. The total of all the scores identified the least and most vulnerable slums.

NOTE: A score of 1 to 4 was awarded as it was an even number and will prevent the selection of a middle number. For each category the range of answers were divided into four slabs. In the range from 1-4, the value 1 was used for the least vulnerable answer and the value 4 was used for the most vulnerable answer.

Based on the above scores, the following map provides an overview of the classification of different slums in the vulnerability categories.



VULNERABILITY INDEX

CITYWIDE SLUM REHABILITATION STRATEGIES | RESEARCH PROPOSAL |



Fig: 6.1 Vulnerability Index

NOTE : Refer Vulnerability Index attached in Annexe

Further classification of vulnerable slums on tenable and untenable land is analysed ward wise.

Vulnerable Slums on Untenable land :	
Ward 01 :	<ol style="list-style-type: none"> 1. Timber Market 2. Kalamba filter house
Ward 03	<ol style="list-style-type: none"> 1. Kandalgaon Naka 2. Near the Chaya Housing Society 3. Near the Shahupuri Gavati Mandai 4. Near the Desai bungalow, 5. Takala Khan
Ward 04	<ol style="list-style-type: none"> 1. Near the Sangam Theatre/ Indira 2. Near the Dafale compound 3. United Agency 4. Lonar Vasahat
Vulnerable Slums on Tenable land :	
Ward 01	Kamgar Chawl,

Table 6.8 Vulnerable slums in Untenable and Tenable land

Once the slums were organised into the vulnerability matrix different strategies were developed to identify the most vulnerable slums. The list of slums were grouped into ranges classifying their vulnerability category: (1) most vulnerable; (2) vulnerable; and (3) least vulnerable. The analysis resulted in the identification of vulnerable slum communities within the city.

The first step towards identifying vulnerable slums was by federating the data generated through mapping and socio economic surveys. The parameters were compared with the vulnerable parameters for each settlement with the rest of the slums in the city. This provided a comparative matrix that aided the analysis process.

6. Solutions

Introduction

Through the research project SA aimed to develop a framework for implementing social housing projects within the city. To contribute to the goal, SA had leveraged the findings from vulnerability index to develop solutions that had potential to be implemented. This stage included (1) understanding methods of rehabilitation (2) detailed socio economic survey of each dwelling in depth (3) carrying out rapid design development to understand the extent of housing stock (4) engagement with stakeholders such as potential beneficiaries, microfinance institutes and concerned departments with the ULB.

1. Exploring methods of rehabilitation:

SA has identified three ways for redevelopment of a slum :

i. In-situ Rehabilitation:

In case of a tenable high density slum with no possibility of any extra housing stock the slum was considered for in-situ rehabilitation.

Complete redevelopment: SA advocates for a complete redevelopment project as it ensures equitable distribution and judicious use of land to ensure holistic development.

Part redevelopment: However in cases where the slum cannot be completely rehabilitated due to multiple reasons such as issues with land ownership, land reservation, etc then part redevelopment has been proposed.

ii. Relocation to an open plot:

In the case of untenable slums, due to factors such as reservation, topographic challenges, etc., and without receiving pocket or any alternative plots reserved for slum rehabilitation, relocation can be proposed either on an open plot of land or nearby slums with extra housing stock proposed.

iii. Creating extra housing stock / relocation of untenable slums:

In cases where the dwelling density was lower than 350 d/h then the slum has the potential to accommodate additional dwellings. Extra housing stock upto 400-450d/h (see note below) can be generated thus making the slums receiving pockets for other untenable slums. Following this principle SA has identified potential receiving pockets within the slum for redevelopment.

Through rapid design development following town planning norms calculate the additional dwellings that can be accommodated. Depending on the neighbourhood analysis within the clusters, identify untenable slums that are within 2-2.5 km of tenable slums.

NOTE:

As per our rapid design development we consider 400-450d/h as optimum housing stock for a mid-rise high density development in a tier 2 city.

Approach used for proposing rehabilitation schemes.

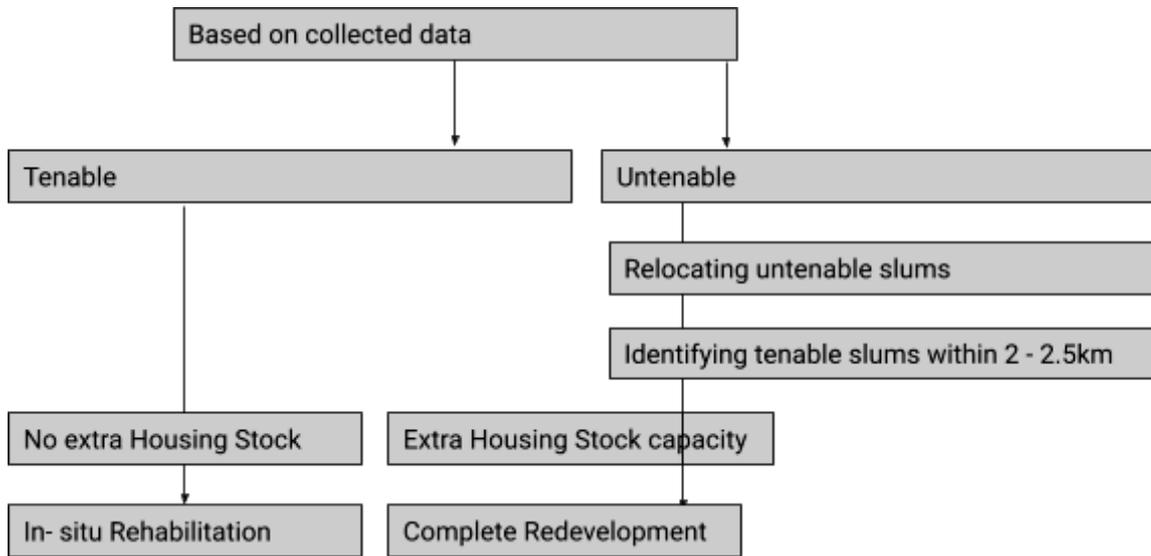


Fig: 7.1 Selecting methods of rehabilitation

The importance of the 2-2.5 km distance for the relocation of untenable slums:

As observed from past experiences, residents had a mobility range wherein all required facilities were available within 2-2.5 km be it their social requirements, places of worship, place of education, place of occupation or healthcare facilities. In order to ensure that the lifestyle will not be disrupted by relocating residents of vulnerable slums on untenable land to locations where their required facilities were not available, relocation strategies were limited to 2-2.5 km.

Thus tenable slums within 2-2.5 km of the vulnerable slums on untenable land were identified as potential receiving pockets and feasibility studies were conducted of each potential receiving pocket to determine maximum housing capacity. In instances where no tenable slums with extra house potential were within 2-2.5 km, open spaces were considered as potential receiving pockets for absorbing the untenable slums.

This information was presented on a citywide plan to enable housing relocation strategies to be formulated where the residents of vulnerable slums on untenable land are accommodated on tenable slums, within 2-2.5 km, where proposed housing projects can be implemented.

Some identified clusters of 2-2.5 km radius are shown below:



Fig: 7.2 Vulnerable slum Kandalgao and the area within a 2.5 km radius

Kandalgao Naka, a slum with multiple reservations like Public-Semi Public, Open Space, Road Widening, etc. was a vulnerable untenable slum that would have to relocate in the near future. The 2 km radius around the slum was marked to identify potential receiving pockets that can create extra housing stock to accommodate residents from Kandalgao.

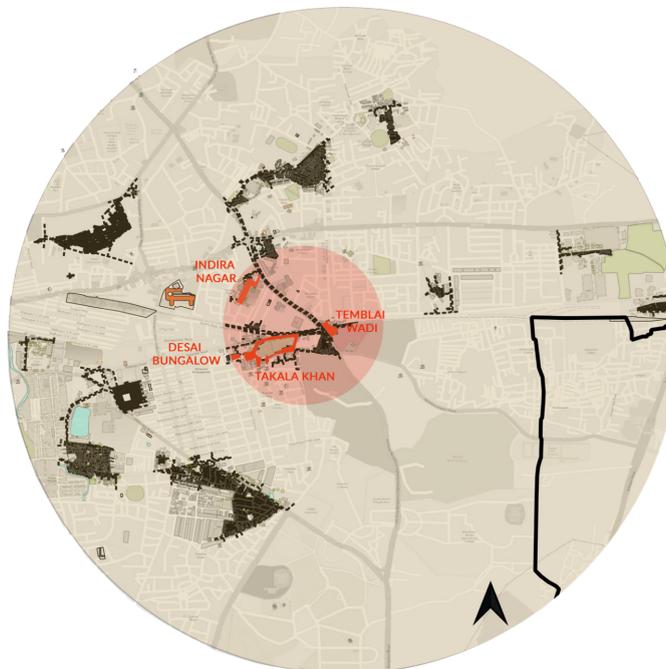


Fig: 7.3 Vulnerable slum cluster Indira Nagar, Temblaiwadi, Takala Khan, Desai Bungalow and the area within a 2 km radius of the central point

The slums Indira Nagar, Temblai Naka, Desai Bungalo are vulnerable and untenable slums due to multiple reservations. These slums form a cluster, from which a 2 km radius is drawn to identify alternate plots of open land and potential receiving pockets.



Fig: 7.4 Vulnerable slum Shiye Panand and the area within a 2 km radius of the central point

Shiye Panand residents suffer from flooding and part dwellings have been affected due to road widening. The residents will be forced to relocate in the near future and SA has developed alternate solutions for redevelopment using the 2-2.5 km approach.

2. Detailed Socio Economic Survey of Identified slums

Introduction/ Genesis:

From the list of vulnerable slums, SA identified slums that had a potential to be turned into viable/actionable on-ground projects. Some factors that were taken into consideration for selecting the slums for further development: (1) The feasibility of the project depending on ground complexities (2) response of the local residents towards redevelopment or relocation (if applicable) (3) response of local leaders and the ULB (if applicable)

Slums taken for a detailed survey were:

1. Kamgar Chawl
2. Vare Vasahat (as receiving pocket)
3. Kandalgao Naka

Objective: The selected slums were chosen for a detailed round of socio-economic survey to gather information pertaining to eligibility and financial condition for each household member of each dwelling.

Outputs: The data generated from the survey was analysed and presented in the form of spatial maps and diagrams. The detailed reports for the 3 slums are attached in the annexe. Following table provided an overview of the findings based on (1) House Ownership and Eligibility (2) Living Conditions (3) Financial Conditions

1. House Ownership and Eligibility

House Ownership and Eligibility				
Kandalgao Naka	% Tenants	% of people having a house somewhere else	% of people that have taken benefit from PMAY	% of people with no documents for proof of living
	2	8	0	0

Table 7.1 House Ownership and eligibility criteria

2. Living Conditions

Living Conditions			
Kandalgao Naka	% people in kutchra/semi pucca house	% of people with disability	
	85	8	-

Table 7.2 Living Conditions

3. Financial Conditions

Financial Conditions					
Kandalgao Naka	% of households with least income (below ₹ 5000/month)	% of households with expense above ₹ 20,000Rs	% of households with loan amounts greater than 1 Lakh Rs	% of households with missed Monthly Loan Repayment	% of households with no savings
	2	-	-	14	61.41

Table 7.3 Financial Conditions

3. Rapid Design Development

Introduction: Rapid design development was a critical stage to ensure that the projects envisaged/ ideas developed for probable solutions were viable. Once the slums that had potential for redevelopment were identified, it was necessary to undertake rapid design development to understand the exact extent of housing stock that can be accommodated.

Some **rapid design development rules that were followed:**

- i. Marking the plot boundary of the slum and all roads border or passing through the plot.
- ii. Following all TP guidelines related to road widening, setback regulations, open space reservation, etc.
- iii. Identifying all services, amenities, infrastructure and associated access requirements.
- iv. Calculating the available buildable area for the design development.
- v. Calculating the FSI requirements as per regulations and iterating design accordingly.
- vi. Calculate the requirements for vehicular parking and the accommodation of hand drawn carts and how much space can be accommodated within the layout.

The above principles were used to develop solutions for slums identified on the basis of (1) Vulnerability Index (2) Available methods of rehabilitation (3) On-ground conditions SA conducted multiple design iterations to provide solutions for social housing depending on the on-ground complexities and multi-stakeholder acceptance. The approach was Following are a few design solutions for the vulnerable slums and potential receiving slums.

Solution 01: Redeveloping Kandalgao:

Understanding Kandalgao:

According to the Development Plan(DP), Kandalgao had multiple reservations in different parts of the slum such as open space, public - semi public, road widening. (refer Dig). As a result the slum was completely untenable and would soon have to relocate to an alternative plot of land.

Process of proposing solutions for Kandalgao:

A 2 km radius around Kandalgao was marked and slums within the area were noted. The dwelling densities and extra housing stock potential for each slum was noted. The slums that were potential receiving pockets were identified on the basis of parameters such as (1) Dwelling Densities and extra housing stock (2) reservation (3) on-ground complexities

The slums were:

1. Vare Vasahat
2. Rajendra Nagar
3. Awachit Nagar

NOTE: Rapid Design Development was a progress that was continuous over the period of the research project. The design iterations were informed by changing on-ground scenarios, complexities around data discrepancies and after gauging the responses of concerned officials and residents.

Development of Vare Vasahat as a receiving pocket to absorb Kandalgao:

Kandalgao a slum located in Administrative Ward 03, had a vulnerability index of 22. The slum was under P-SP, Open Space and road widening reservation. The slum being untenable, the residents would have to relocate in near future. Informal discussions were undertaken with a few community members while the socio-economic survey was taken and SA gleaned that people were aware of their predicament. They showed willingness to relocate to alternate plots of land. SA then followed the 2 km approach to search for alternate tenable land areas. Tenable slums with extra housing stock potential within the 2 km from Kandalgao were identified.

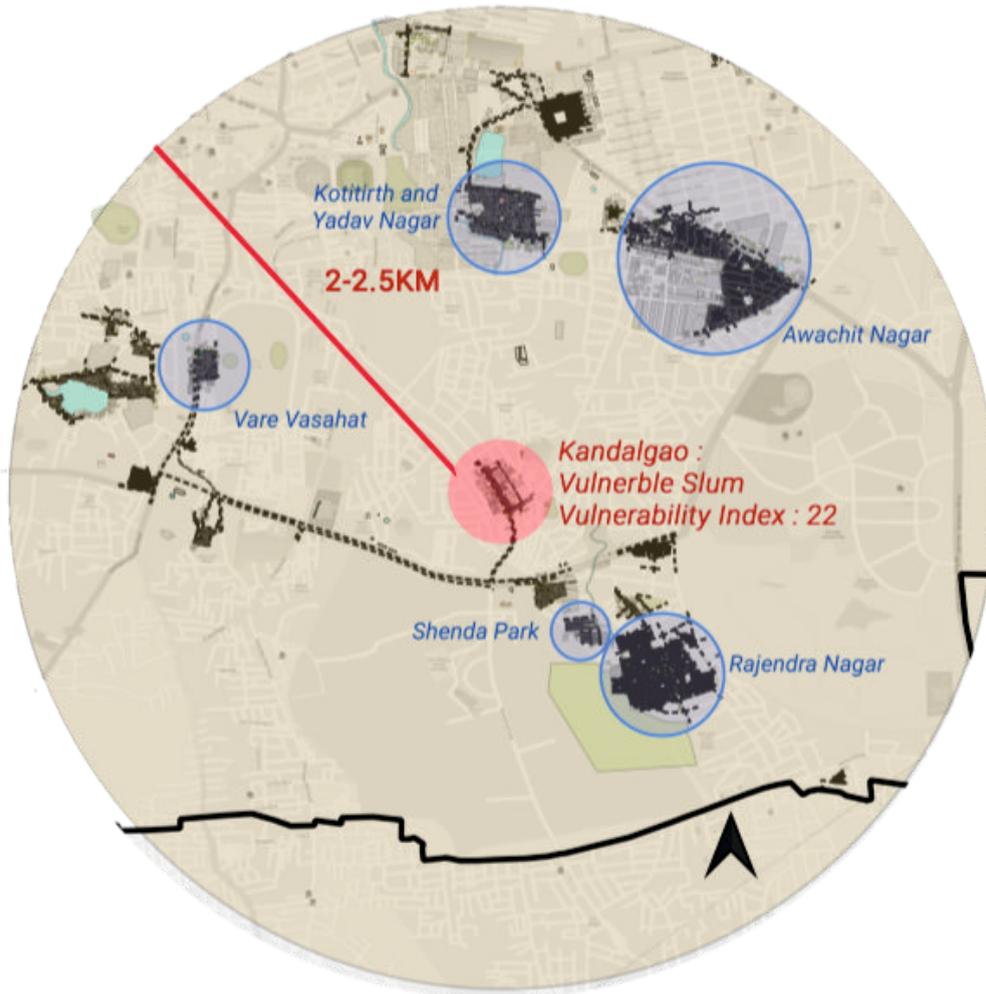


Figure 7.5 Selecting a potential receiving pocket - Vare Vasahat for relocating Kandalgao

Slum Name	Existing Scenario	Can it be a potential tenable slum for Kandalgao?
Vare Vasahat	25% of the population has property cards however decision on their validity was yet to be taken by the KMC	Yes
Rajendra Nagar	No extra housing stock possible	
Shenda Park	The residents will not be willing to accommodate residents for other slums	No
Kotitirth and Yadav Nagar	Better suited for redeveloping with slums in the vicinity. Complex onground scenario for complete redevelopment.	No
Awachit Nagar	Being one of the largest slums in Kolhapur SA proposed that while it will be difficult to completely redevelop Awachit Nagar, the most vulnerable pocket with the slum can be completely redeveloped.	Yes(Part)

Design Iterations:

The land area, dwelling density and location make Vare Vasahat an ideal scenario for complete redevelopment. Design development was undertaken in accordance with different data points that SA gleaned as the viability of Vare Vasahat as a potential receiving pocket was studied. Data around land ownership, property cards and various eventualities surrounding it were taken into consideration and 3 options for redevelopment were developed.

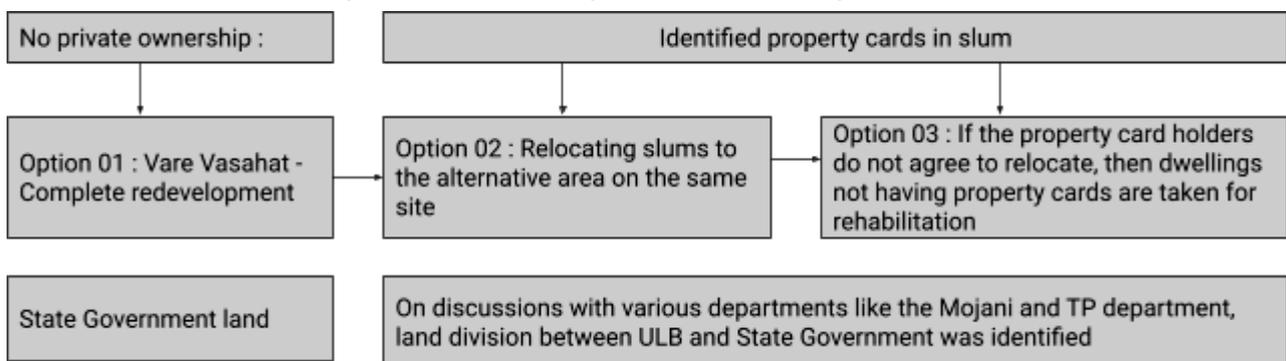


Figure 7.6 The way design progressed as SA gleaned new information

Option 01:

1. Mid-rise High density settlement (Stilt + 4) with adequate space for parking.
2. Optimum utilisation of government land
3. Conforming to town planning rules and regulations
4. Design with adequate natural light and ventilation
5. Ensures that community spirits are forged

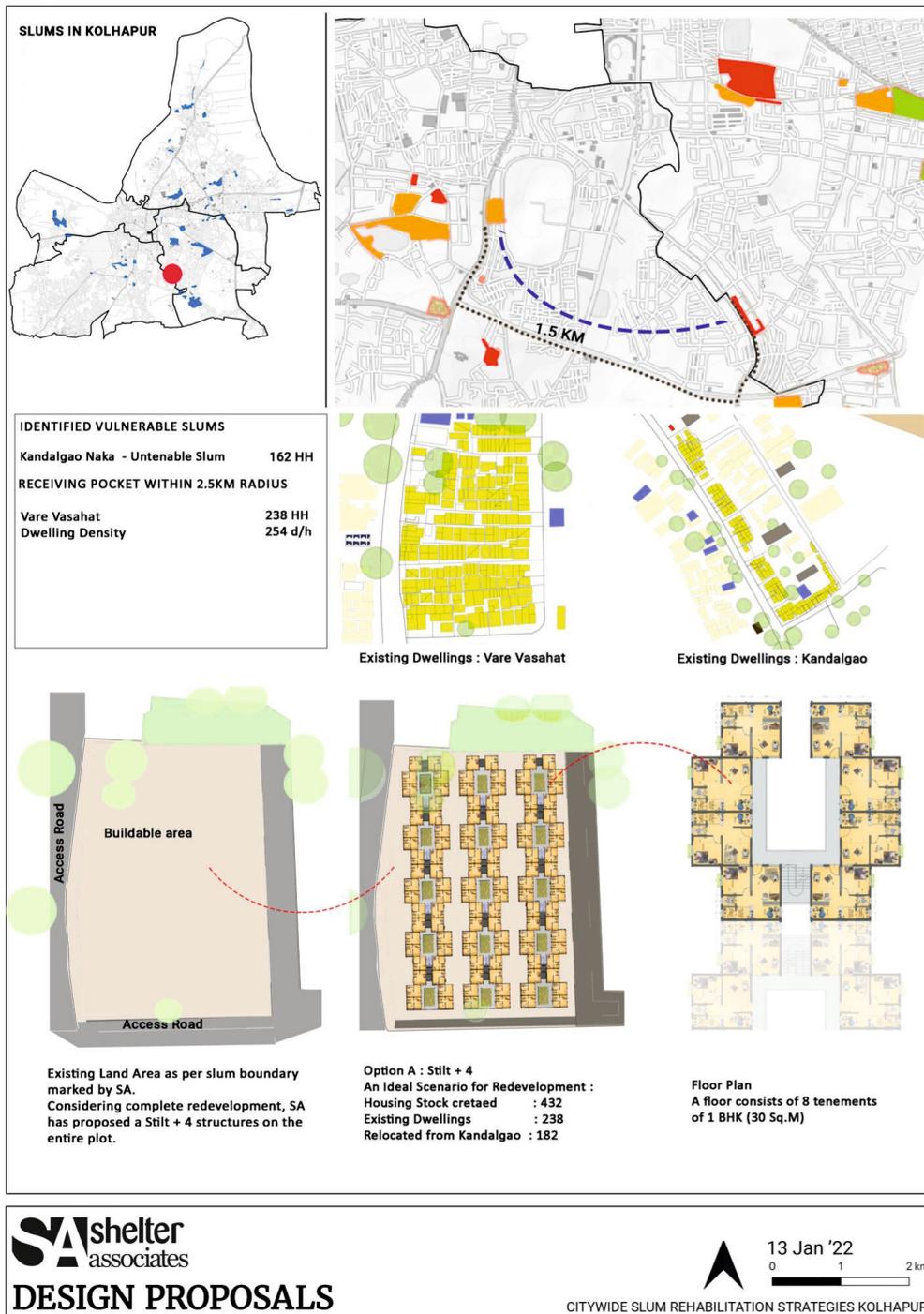


Figure 7.7 Vare Vasahat Option:01

However due to on-ground complexities as discussed like divided land ownership between state, ULB and the beneficiaries (due to haphazard issue of property cards) different design options were developed.

NOTE: In order for the above option to be successful, the ULB, Collector's office and the concerned elected representatives need to take unified decisions on clearing land ownership hurdles.

Description Option 02:

In the event that the concerned officials consider the property cards provided as legitimate and the beneficiaries refuse to relocate to a mid-rise construction, SA has proposed a layout consisting of G+1 row houses and Stilt + 4 construction. In this case the beneficiaries have been awarded a property card and are relocated to plots of land(as per area on the property card) after dividing the site in 2 parts as shown in the above Option B.

Description Option 03:

The option C was developed in the event that the beneficiaries refuse to leave their current place of dwelling which has been awarded a property card. In such a scenario, leveraging on spatial mapping, data collected and the information received through surveys, SA identified the slum area that had no private ownership and marked the boundary. The rehabilitation proposed included the residents within the marked boundary and residents from Kandalgao.

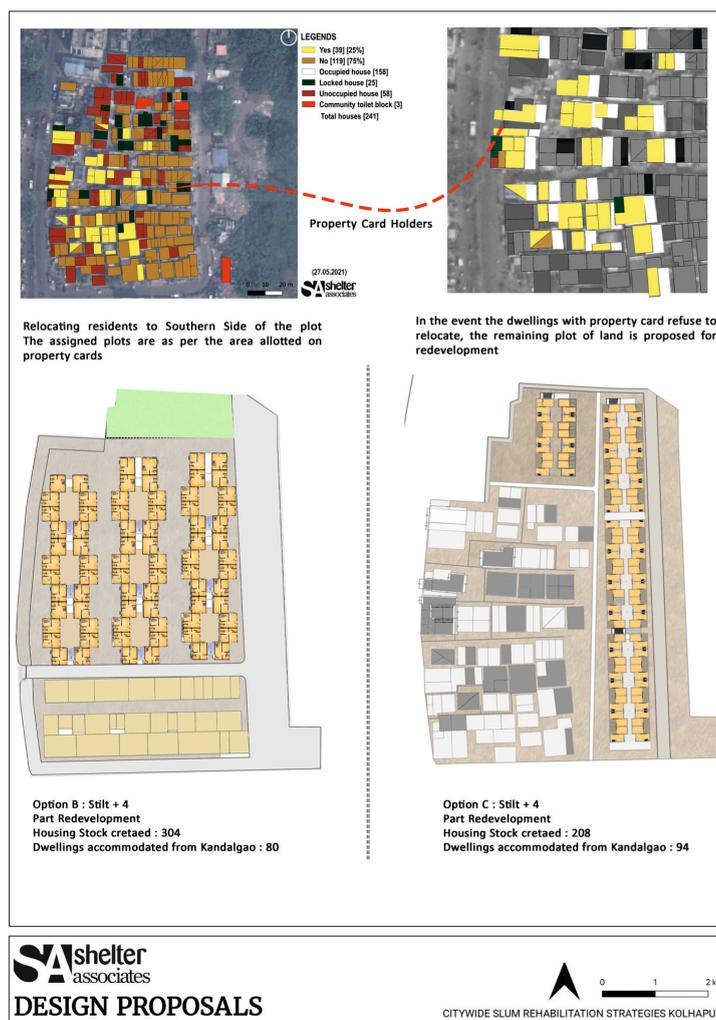


Figure 7.8: Vare Vasahat alternative options

Awachit Nagar: Awachit Nagar a slum located at distance from Kandalgao. SA has proposed complete redevelopment of the south-eastern pocket. A housing stock for 352 dwellings was planned which accommodates 253 current dwellings and 99 dwellings relocated from Kandalgao.

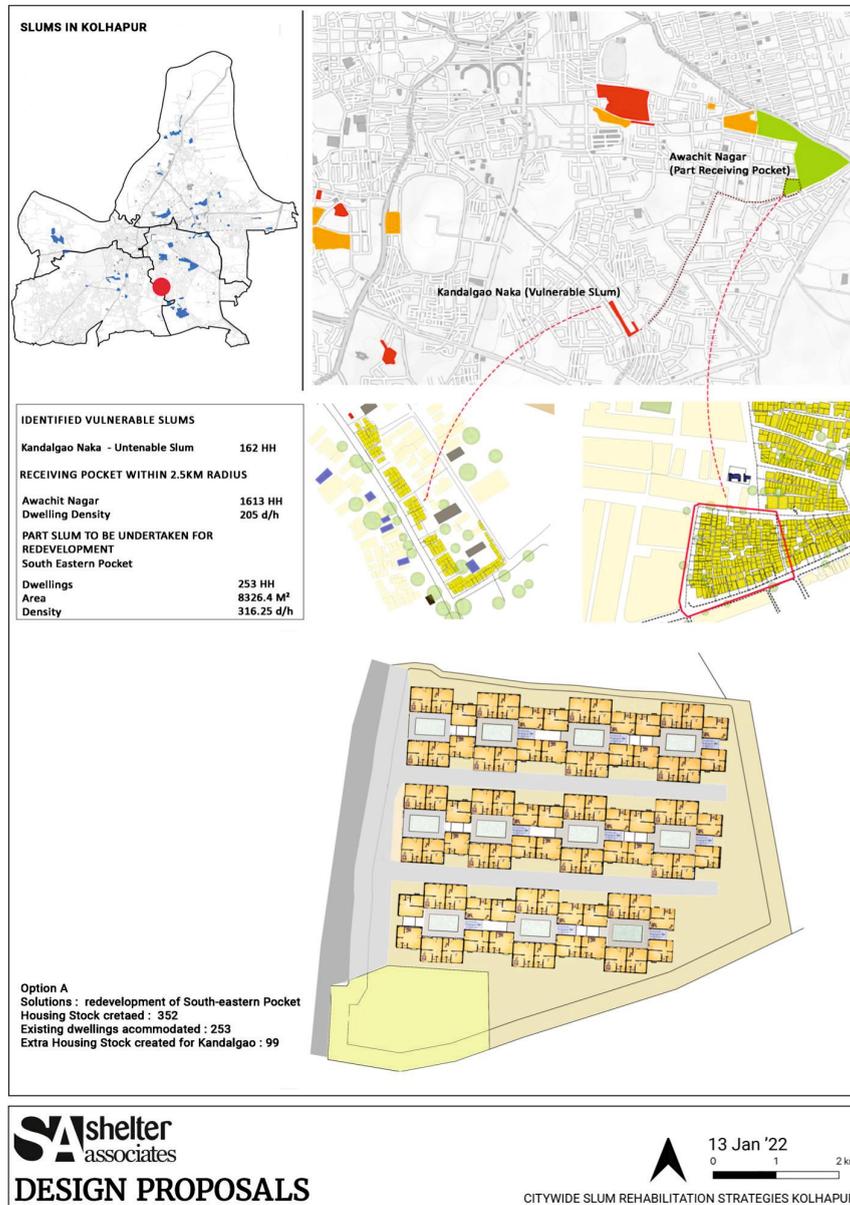


Figure 7.9: Awachit Nagar design options

Kamgar Chawl: Kamgar Chawl, a slum located in Administrative Ward 02, had a vulnerability index of 20. The slum had a dwelling density of 431 d/h. The slum occupied an area that had inadequate infrastructure and the residents suffered from poor sanitation facilities, unhygienic living conditions, narrow roads, inadequate parking, etc. SA identified the slum for in-situ holistic redevelopment that would ensure a well-planned mid-rise high density redevelopment.

NOTE : Through multiple focus group discussions SA initiated a dialogue with the community to introduce the concept of redevelopment.

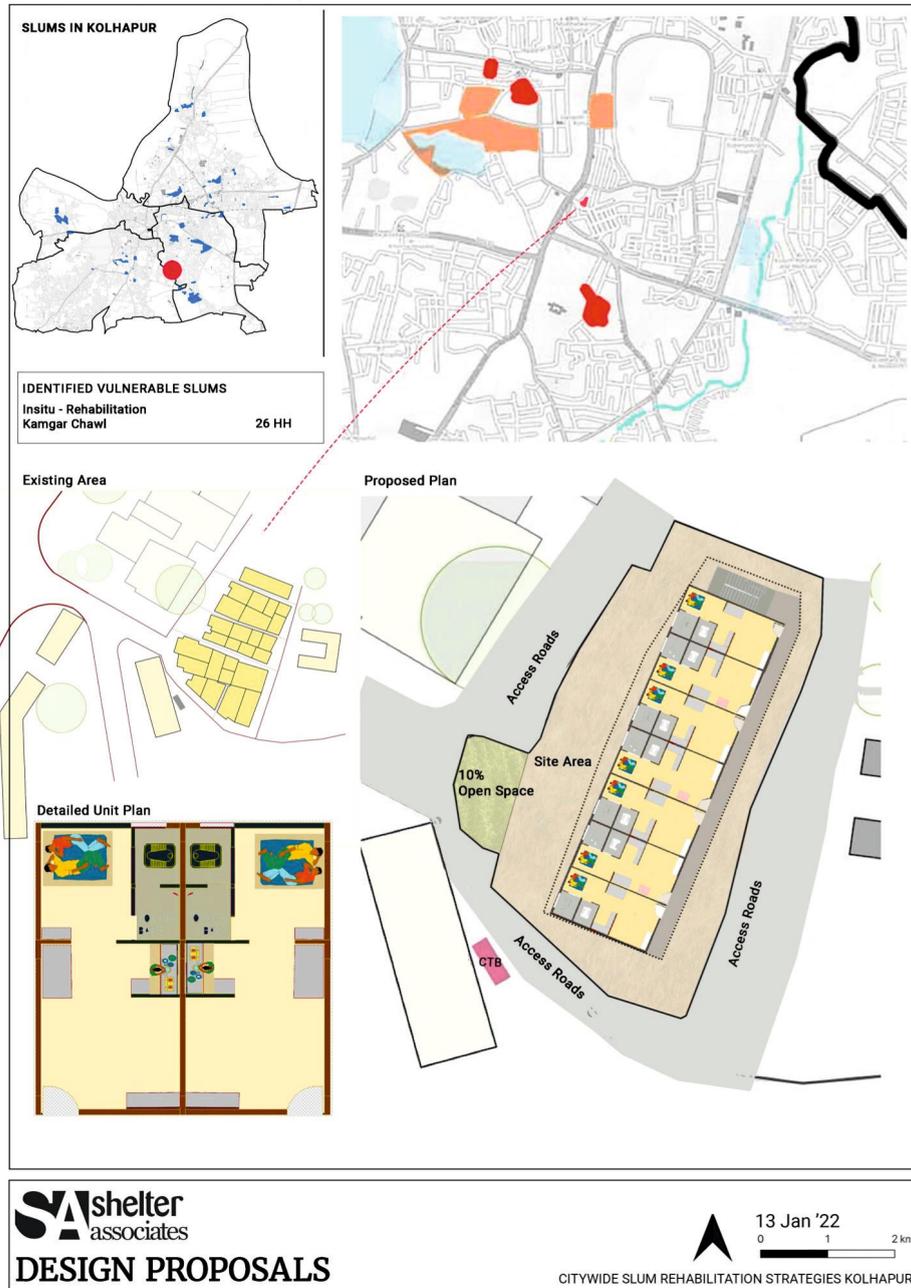


Figure 7.10 Kamgar Chawl design options

Datta Mandir

Datta Mandir, a slum located in the northern part of Kolhapur had a vulnerability index of 18. The slum was on partially untenable land with proposed road reservation of 30M and 18M wide roads passing through existing slum. SA superimposed the existing layout with the proposed site layout to understand the percent of families affected due to reservation and the available buildable area. The following map shows the existing condition and options for redevelopment. As per discussions with the ULB, the community, SA proposed 3 options.

1. Creating Extra Housing Stock:

Following SA's approach of ensuring judicious use of land, SA has proposed a mid-rise (G+3) high-density development that will absorb nearby vulnerable untenable slums. The development proposed with all town planning norms created a housing stock for 200 HH. SA identified two untenable vulnerable slums within a km distance from Datta Mandir - Shiye Panand(85HH) and Shugar Panand(60HH). The proposed 200 HH can accommodate 140HH from Datta Mandir and remaining 60HH from the 2 slums.

NOTE : The eligible beneficiaries from Data Mandir, Shugar Panand and Shiye Panand are to be selected by the concerned officials.

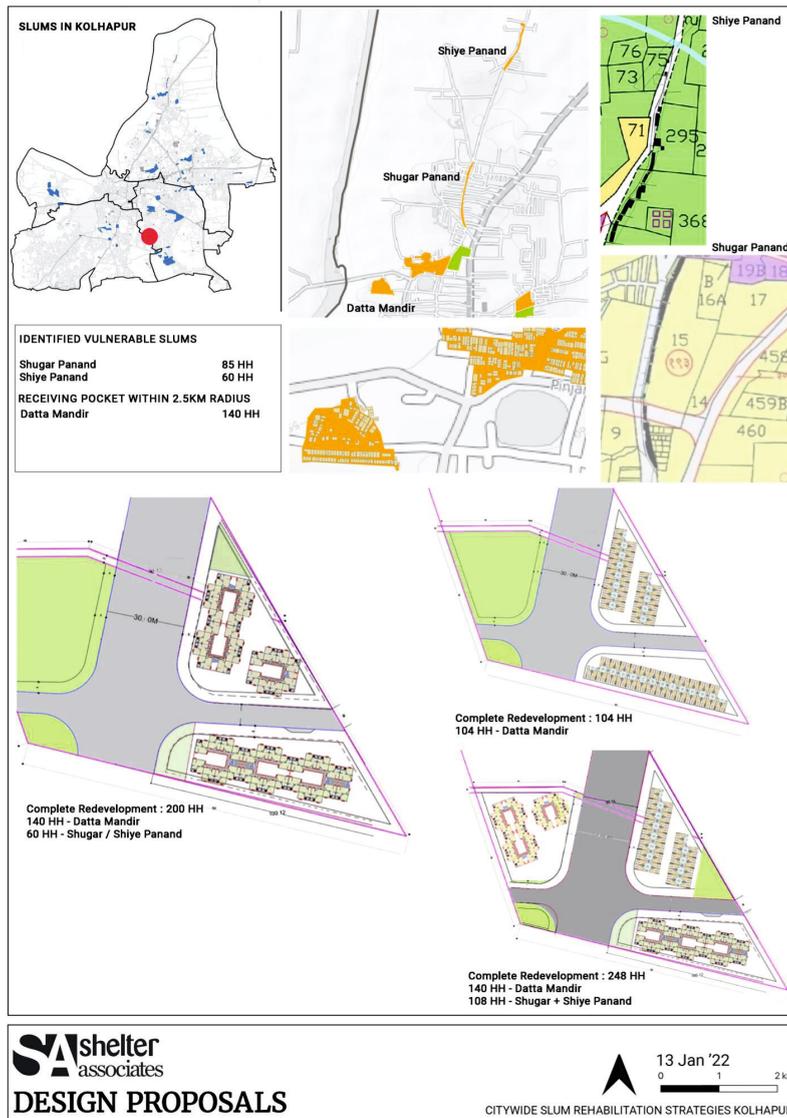


Figure 7.11 Datta Mandir design options

Rajendra Nagar

While developing solutions for Kandalgao, SA was exploring other tenable low density slums where extra housing stock could be created. When residents were relocated to the Rajendra Nagar as a part of slum rehabilitation scheme, they were awarded plots of 3 sizes - 15 Ft x 25Ft, 18Ft x 25Ft and 10Ft x 15Ft. SA carried spatial analysis to identify (1) kutcha, semi-pucca and pucca houses, (2) dwellings that have encroached on reservation land when the slum grew in size over the years (3) plots with sizes less than the ones awarded by the KMC.

SA aimed to identify pockets of slum that were vulnerable and had potential for redevelopment. The following options highlight the structural conditions, areas under reservation, and options for redevelopment. Through design iteration, SA inferred that redevelopment for Rajendra Nagar would create housing stock to accommodate residents from the slum itself. No extra housing stock can be created.

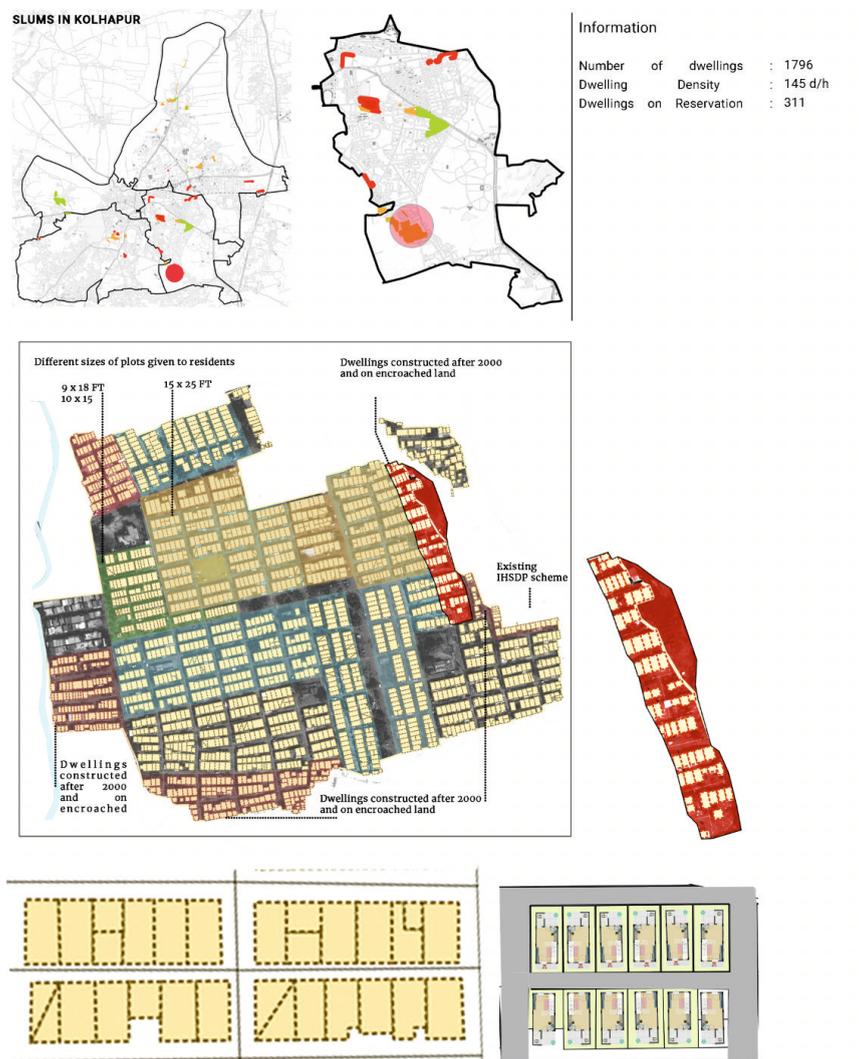


Figure 7.12 Rajendra Nagar design options

4. Engagement with stakeholders

Introduction:

Throughout the research project SA had ensured multistakeholder interaction during data collection and verification from the commencement of the project. This approach established a level of familiarity with the concerned officials that proved imperative for smooth implementation stages of the project in future.

The different stakeholders involved were (1) the different departments within the ULB (including the TP department, slum rehabilitation department, and all land records departments) (2) the community; (3) third party stakeholders (such as financing institutions).

1. Urban Local Body

NOTE : The first level of engagement undertaken by SA was with the ULB. In order to involve the ULB in the project since inception SA formed a Memorandum of Understanding with the concerned departments. The MoU clearly defined the roles of SA and ULB for the expected outcomes from the project.

NOTE: The KMC legal department insisted on a clause to be added in the MoU stating that once data was handed to the KMC, SA would have to inform KMC to publish and present aggregated data. SA strongly opposed the same and the MoU remains to be finalised.

2. Other Departments with the ULB

Following provides a brief description of other departments within the ULB that were involved at various stages during the project:

i. PMAY Department:

The department oversaw projects in different categories of affordable housing like in-situ rehabilitation, affordable housing in public-private-partnership, etc. SA initially held dialogues with the department to understand the eligibility criteria a

i. Town Planning (TP) department:

The TP department in the city overlooked the preparation of the development plan (DP). Once SA analysed the development plan and noted the reservations for various slums, the information collected was verified from the TP department.

ii. City Survey Office (CSO) and Land Survey Office / Mojani Office:

The CSO in Kolhapur undertook mapping and numbering of plots of land. The plots of land are numbered with a City Survey Number (CSN) and the ownership is noted. All the necessary data regarding survey numbers, land ownership of individual plots on the land was discussed with the CSO.

Anecdote with Vare Vasahat: While conducting the socio-economic surveys, it was observed that Vare Vasahat had many complexities around land ownership. In order to understand the percent of private ownership and the demarcation of state and local government ownership, SA undertook inquiries at the CSN office. However SA gleaned that though the property cards were issued to the residents, the process of indicating the plots of land with private ownership and City Survey Numbers were not assigned to the said plots of land. The department had no prior knowledge of any such cards being issued.

Anecdote from Bondre Nagar :

The Bondre Nagar slum rehabilitation project was sanctioned under BLC vertical and the land occupied by the slum dwellers was transferred to the beneficiaries by the Collector's office, and the 7/12 extract was issued by the Tehsil office.

iii. Implementing agency engagement with the communities and local elected representative (LER):

Community engagement should always be a central component of the planning process:

1. Engagement session with the community in the form of focus group discussion (FGDs), workshops, and presentations of the data collected.
2. Propose design solutions should be generated with community input.
3. Presence of community representatives during discussions with the ULB, throughout the process is necessary for the effective implementation and sustainability of the projects.
4. This approach ensures that balance between the needs of the community and the objectives of the ULB is achieved.

Promoting implementation of conceptualised projects:

In order to promote the implementation of design solutions that are conceptualised with a data driven, holistic approach, SA has presented the findings during a landmark meeting in the city of Kolhapur

January 2022: In a meeting with the Minister for State for Housing, Commissioner and the PMAY department SA presented the citywide approach undertaken for slums on government land. The data collated and analysed on parameters like (1) land ownership (2) land reservation (3) dwelling densities (4) identified vulnerable slums was shared. The process of identifying vulnerable slums based on a comparative matrix was explained and the most vulnerable taken for rehabilitation were shared. The analysis of the on ground situation of housing projects and the interviews with various beneficiaries from the schemes were presented which highlighted the issues in financial disbursement, hurdles faced in construction and the disadvantages of a piecemeal approach to slum redevelopment.

The meeting proved to be an important milestone in ensuring that the research translates into actionable projects. The Minister for State for Housing and the Hon. Commissioner for the city of Kolhapur agreed to discuss the project further by identifying 5 slums on ULB land that have the potential to be taken for redevelopment.

February 2022: SA detailed out solutions for a selected few slums that had the potential to be taken as development projects. At a notable meeting with the Minister for State for Housing, Commissioner, the PMAY department, TP department, the Tehsil Office and other stakeholders associated with slum rehabilitation, SA presented the findings of the conceptualised rehabilitation solutions for the slums : (1) Datta Mandir, (2) Rajendra Nagar. The meeting proved to be a milestone to ensure that the process of translating the conceptualised projects into actionable projects was initiated.

The solutions were met with positive feedback and the future plan of action in terms of (1) Beneficiary selection (2) Document Collection (3) Identifying exact plot areas and status of construction was prepared.

NOTE: For the slum Rajendra Nagar, Shelter Associates conducted a measurement study wherein all the structures were measured and correlated with the plot sizes to identify any anomalies with the provided plot area and the existing constructed structure.

झोपडपट्टीधारकांना सात-बारा, पंतप्रधान आवास योजनेतून घरे : मंत्री पाटील

कोल्हापूर : पुढारी वृत्तसेवा राजेंद्र नगर, डीलिंग नगर, शाहूदर नगर, संकपाळ नगर, मातोबा बससाल अशा अनेक झोपडपट्ट्या शहरात आहेत. पण या झोपडपट्टीधारकांना सात-बारा नाही. शक्य तिथे झोपडपट्टीधारकांना सात-बारा देणे, पंतप्रधान आवास योजनेतून घरे देणे असे महत्वाकांक्षी प्रकल्प कोल्हापूर महानगरपालिका राबवत असल्याची माहिती पालकमंत्री सतेज पाटील यांनी शासकीय विश्रामगृहात झालेल्या पत्रकार परिषदेत दिली.



कोल्हापूर : शासकीय विश्रामगृहात आयोजित बैठकीत अधिकाऱ्यांकडून माहिती घेताना पालकमंत्री सतेज पाटील. सोबत इतर मान्यवर.

राजेंद्र नगर झोपडपट्टीची जागा भाडेभावावर असल्याने याठिकाणी प्रॉपर्टी काई देता येत नाही, असे मंत्री पाटील यांनी स्पष्ट केले. ते म्हणाले, पहिल्या टप्प्यात झोपडपट्ट्यांचा ले-आऊट उभार करणे, सात-बारा देणे ही कामे करण्यात येत आहेत. दुसऱ्या टप्प्यात पंतप्रधान आवास योजनेतून त्यांना मंजुरी देण्याचे निवेदन आहे. पत्रकारांच्या शरतीत घरांची निर्मिती (एचएच) यामध्ये शहरात

पाच प्रकल्पांना मंजुरी मिळाली असून यातील तीन प्रकल्प सध्या सुरू आहेत. मोरे मनेनगर येथील महापालिकेच्या जागेवर आवास योजनेतील बहुमजती रिकवरी इमारतीस शासनाकडून मंजुरी मिळाली आहे, याची निविदा प्रक्रिया नव्याने करण्यात येणार आहे. या दोन्ही योजनेतून सध्या शहरात १२४३ घरांची कामे सुरू आहेत. शहरातून वैधानिक स्वरूपाचे घरकुल बांधण्याची

५८३ कामे सुरू आहेत, अशी माहितीही त्यांनी यावेळी दिली. यावेळी महानगरपालिकेच्या प्रशासक डॉ. कादंबरी बलकवडे, करवीर उपविभागीय अधिकारी वैभव नावडकर, अधीक्षक भूमी अभिलेख सुदाम जाधव, महापालिका आवास योजनेचे वरिष्ठ अधिकारी पं. एस. भोसले, युवराज दवडे अदी उपस्थित होते.

लोकामत

बावड्यातील झोपडपट्टीवासीयांना लवकरच सातबारा : सतेज पाटील

अधिकाऱ्यांसमवेत बैठक : पुनर्वसनाबाबत नियमांत शिथिलता मिळवू

लोकामत न्यूज नेटवर्क कसबा बावडा : कसबा बावडातील मातंग वसाहत, दत्त मंदिर परिसर, संकपाळनगर, गोळीवार मैदान येथील झोपडपट्टीवासीयांना लवकरच सातबारा देण्यात येणार असल्याची माहिती पालकमंत्री सतेज पाटील यांनी दिली.



झोपडपट्टीधारकांना सातबारा देणे व पक्की घरे बांधून देणे, ले-आऊट तयार करणे, याविषयी ताराबाई पाकरीतील शासकीय विश्रामगृहातील राजर्षी शाहू सभागृहात पालकमंत्री सतेज पाटील यांच्या अध्यक्षतेखाली बैठक घेण्यात आली. यावेळी महानगरपालिका आयुक्त डॉ. कादंबरी बलकवडे, करवीर उपविभागीय अधिकारी वैभव नावडकर, अधीक्षक भूमी अभिलेख सुदाम जाधव, महापालिका आवास योजनेचे वरिष्ठ अधिकारी पं. एस. भोसले, युवराज दवडे अदी जिल्हा अधीक्षक भूमी अभिलेख सुदाम

कसबा बावडातील झोपडपट्ट्यांचे पुनर्वसन करण्याबाबत शासकीय विश्रामगृहात पालकमंत्री सतेज पाटील यांच्या अध्यक्षतेखाली बैठक घेण्यात आली. यावेळी आयुक्त डॉ. कादंबरी बलकवडे उपस्थित होत्या. (छाया : दीपक जाधव)

जाधव, तहसीलदार शीतल मुळे-भामरे, माजी नगरसेवक डॉ. संदीप नेजदार, पुनर्वसन खाते, यासाठी लागू नियमांमध्ये शिथिलता मिळण्याच्या

या झोपडपट्ट्यांना होणार लाभ

कसबा बावडातील मातंग वसाहत, संकपाळ नगर, दत्त मंदिर जवळील झोपडपट्टी, शिंदे पाणंद, जलपे मळा, रुतर पाणंद (गोळीवार मैदान) येथील झोपडपट्ट्यांचे प्रधानमंत्री आवास योजनेच्या निकषाप्रमाणे पुनर्वसन करण्याबाबतही पालकमंत्री सतेज पाटील यांनी संबंधित अधिकाऱ्यांसोबत चर्चा केली.

दुट्टीने नगरविकास मंत्री व नगररचना विभागाच्या संचालकांसोबत बैठक घेऊ, असेही त्यांनी यावेळी सांगितले.

Figure 8.1 News coverage of the meeting in Kolhapur



Figure 8.2 Explaining the design to officials

3. Community Engagement

The multistakeholder approach followed by SA, ensures that the community is the central to the project and their requirements are met while developing solutions. This engagement with the community during future stages of the project can prove essential.

Choosing from the list of vulnerable settlements SA identified probable settlements for rehabilitation. Kamgar Chawl, a community of 26 households, had one of the highest vulnerable index rates with a 420 dwelling density per hectare. The 160 residents lived in 26 dwellings on 515 SqMt of land. Other parameters such as average area per person less than 50 (Sq.Ft) accounted for more than 33% of the population. With this background SA team conducted focus group discussions to understand the issues faced by the residents, their thoughts about housing and future aspirations.

The Covid-19 vaccination drive, which had been conducted in different slums within Kolhapur, introduced SA to the community. Once a level of familiarity was established with the community, a Focus Group Discussion was planned with the female members of the community.

FGD 01: Understanding the history of the slum :

The meeting commenced with discussions around the history of the slum and the personal background of the residents. SA realised that many of the residents were from Pandharpur, Solapur, Maharashtra-Karnataka border. The community was formed when a few residents shifted to Kolhapur and occupied small plots of land. Over the years the residents have seen the surrounding area transform. Many residents being construction labourers contributed to the development. Though the surrounding area had developed, the slum condition has remained the same. As the families grew in size the dwelling area became inadequate to the growing needs of the residents. They lived in dire conditions with inadequate infrastructural facilities.

Outcomes of the FGD :

Following were the major problems identified from the discussions:

No home toilet: No dwelling in the slum had a home toilet and they were forced to visit the poorly maintained community toilet block which is a structural threat. Along with lack of proper waste management the perception of others towards the slum has led to unclean areas around the CTB. Poor hygienic facilities are proving harmful for the health of slum residents, especially the women.

Parking and access:

Internal pathway width was sufficient only for a single person to walk at one time, hence there was no space for vehicular mobility or parking. The residents were forced to park the vehicles on the main road.

Inadequate Infrastructure:

The pathways were lined with open gutters which would get blocked when the main chambers were not consistently cleaned. The residents had to suffer from overflowing wastewater, unhygienic surroundings, etc.

The focus group discussion gave the community members a platform to express their hurdles, concerns and they expressed gratitude as it was the first time anyone had taken efforts to understand their issues and made efforts to build a relationship with them.

This concluded the first focus group discussion with the community and the SA team promised further conversations in near future.

FGD -02: Understanding the Settlement

In the second round of the focus group discussions Shelter Associates shared the collected data with the community and summarised the problems faced by the residents.

The SA team presented all the data collected from location to land area, land ownership, dwelling density, etc. All data pertaining to the slum were shared statistically and spatially with the residents. The community listened attentively to the facts and verified the information.

Issues Identified:

SA highlighted the problems that the community shared in the first FGD.

Issues identified :

1. No home toilets and poor infrastructure facilities in the neighbourhood. The Community Toilet Block is in a dire condition and this has resulted in the unclean, unhygienic place of defecation. Overflowing gutters, inadequate sewage management is a source of worry for the residents.
2. Access to the houses is restricted through pedestrian pathways and they do not have space for parking. This has frequently led to many arguments within the slum for parking.
3. The residents do not have any access to an open space or any amenity space for the residents
4. The dwelling size is inadequate for the number of family members living in the house.

Outcomes:

1. Approach to housing:

At the end of the discussion the community were asked whether any thought had been given towards uplifting their conditions and resolving the current problems faced by the residents. A few residents then volunteered information about a housing scheme that had been proposed to accommodate the 26 households in a mid-rise construction. However no action came from the discussions and the matter was forgotten. **Though the residents were keen to participate in a housing scheme the talks did not result in any practical output.**

2. Inclination to a low rise development:

On further discussions SA realised that though many residents showed willingness to participate in a housing programme, they were keen to have individual houses limited to the ground/first floor with an internal staircase.

SA agreed to study the requirement further to understand whether spatially all dwellings can be accommodated in the identified area.

As SA was aware of the lack of adequate space, the idea of mid-rise construction wherein the residents would share a staircase and common access passages was introduced. SA advised the community to visit the Sangli-Miraj housing project to see the successful implementation of a mid-rise high density slum redevelopment. This would help residents dispel any doubts around the quality of construction and the apprehensive attitude towards social housing projects. SA described the people's efforts and the involvement of the community in various projects and highlighted the success behind the projects laid in the united strength of the community. The project can truly be successful only when the community is willing to participate in a housing scheme. Their collaborative efforts play a vital role in furthering the housing project.

The intention behind explaining the approach was to make the community aware of the difference in execution, quality of construction and the inclusive design approach followed by SA while designing Aba Dhotre and the low quality construction and the top-down approach by the nearby government led rehabilitation project that currently lies in a dire state. With this background SA encouraged people to consider having a dialogue with all members of the community to hear their thoughts on the topics discussed in the meeting.

The community promised to be in touch with the SA team soon to carry discussions further.



Figure 8.3 Explaining the Kamgar Chawl proposed plan to the community



FGD -03 Managing spaces with the community

In the third round of the focus group discussions Shelter Associates aimed to help the residents visualise their area requirements. In the earlier discussion the residents felt apprehensive towards a mid-rise high density redevelopment. They were keen on having a design that provided them with individual house construction limited to ground floor or first floor.



As per our earlier inferences the slum had a plot area of approximately 515 SqMt. SA conducted a rapid design development on the available area to understand whether a low rise design was viable. Following the Town Planning rules the available built up area measured to 252 SqMt. Ensuring adequate natural light and ventilation, well planned access for 26 households of 30 SqMt required a mid-rise high density planning. The community's requirement of independent houses with ground floor or G+1 construction was impractical. In order to successfully help the residents visualise the lack of spaces SA team designed an activity with scaled plans of the settlement. The activity included helping the residents visualise the site plan and the access roads. The site plan was laid on the floor as residents peered on the canvas to see their area. The 30 SqMt plots were shown in pieces of 5M x 6M rectangles. The SA team distributed the rectangles that represented their houses. They were then asked to arrange the rectangles on the site plan. With occasional guidance from the SA team the residents managed to place 6 rectangles on the site. Upon realisation that out of the 26, only 6 were accommodating the residents began animatedly discussing solutions to the problem.

Solutions and Problems to the above situation :

1. A few of them suggested that since there is a secondary road with less traffic on the we should include them in our plot.
 - i. SA explained the rules and regulations of the town planning authorities and encroaching on government infrastructure can lead to trouble. Furthermore SA highlighted the necessity to take into consideration the neighbour's requirements as well as well one cannot think only for oneself.
2. Another suggestion was to develop in-situ existing areas and not 30 SqMt.
 - i. However, the SA team explained their current space requirements. The current inadequate spaces were a major concern in the slum community and redeveloping Kutcha to Pucca would fail to solve any problems. Furthermore the residents should consider their growing family requirements as well and make provision for adequate living spaces as well.
3. SA pointed out that after upgrading their current houses with a provision for roads, setbacks and other TP norms would reduce their existing footprint and force them to construct upto 3 storeys. This also reduced the usable floor space within the house.
4. An area of concern shown by women is that frequent fights broke out within the community when garbage was thrown by the door of the neighbours. In case of multiple floors the garbage will be thrown on the balcony below. The residents were reluctant to deal with such a scenario. SA then explained the means with which cleanliness and hygiene can be enforced within the community. After much discussion the members promised to think more on the possible solutions available within the community and get back to SA with an informed decision on the way forward.

4. Micro-Finance experience

During multiple interviews with beneficiaries who have taken part in PMAY and Ramai Awas Yojana observed that the financial subsidy received was inadequate to fulfil the cost of construction for BLC or cost of tenement under AHP. The residents with low income groups turn to national level banks or micro-finance institutions to apply for loans and fulfil the financial requirements.

As was the case of Bondre Nagar, the project cost surpasses the PMAY subsidy and as a result, the beneficiaries will need to take a loan. In order to better understand the eligibility criteria and credit worthiness of the beneficiaries. SA initiated a dialogue with a Micro-finance institution providing home loans to the beneficiaries. Their team visited Bondre Nagar and collected all the required financial information of the families.

Each family were asked the questions based on the below parameters:

1. Number of family members
2. Number of earning members
3. Income range
4. Expenditure
5. Amount of Loan availed
 - i. From where have you taken a loan
 - ii. Loan duration and instalment amount

Such questions helped form the beneficiary profile which will be required to understand if the beneficiaries are creditworthy.

The micro-finance team explained the process of securing loans to the beneficiaries and the way forward. The next step would be to open recurring bank accounts so that the beneficiaries inculcate the habit of repaying loans through instalments every month. This will also ensure that the beneficiaries will repay the loan amount in the upcoming years. Once the amount of loan for every beneficiary is calculated, further financial planning of the project based on the amount can be carried out. We further interviewed the Svatantra Microfinance institution to have a better understanding of the process undertaken for providing housing loans to the beneficiaries.

Loan Amount:

The institution has a pan India presence and provides housing loans in peri-urban and rural areas. They do not have any customers within the city limits, only in the outskirts of the city like Baramati, Satara Road, Nashik Road, etc. The housing loan ranges from a minimum amount of Rs. 1 Lakh to a maximum of Rs. 35 Lakh. It is observed that 99% of the loan seekers are first time home buyers

The process of providing housing loans involves the following steps.

Once the beneficiary approaches the institute the team meets beneficiaries and their family members to carry out the due diligence.

They create a family profile that gives detailed information about their financial condition. They glean their family income ranges. In some cases they meet with their employees and get the data verified.

Once the loan is approved the beneficiaries have to fulfil the mandate of opening bank accounts so that the first instalment is deposited and the EMI is deducted from their individual bank accounts.

Risk Assessment:

In case a beneficiary fails to pay an instalment, the microfinance team begins counselling sessions. They identify the issue at hand and help the beneficiaries resolve it. After 90 days of failing to repay, such beneficiaries are termed as non-performing assets. After 6 months of failing to repay, the beneficiaries are sent a legal notice. There are different ways the money is tried to be recovered, either by taking possession of the property or they guide the beneficiaries to sell the property and repay the said amount. According to last year's assessment, they had 1.2% Non-performing assets.

7. Conclusion

The research project follows a data driven process that will help achieve SA's vision of implementing holistic, inclusive social housing projects in the city of Kolhapur. It highlights the process of data collection, data organisation, and data analysis to create usable information. It demonstrates the process of federating the data collected on a unifying basemap leading to a citywide dataset that can be leveraged to make informed decisions in planning the preparation of slum rehabilitation projects across the urban area. This ensures that an accurate profile of the surveyed area, whether a city, a neighbourhood, or an individual slum, is generated. The database generated was leveraged to undertake a comparison of all slums at a citywide level based on parameters identifying vulnerabilities. The analysis resulted in the identification of vulnerable slum communities within the city. SA advocates for an approach that focuses the available resources on the vulnerable slums. Projects are planned around the vulnerable slums such that it ensures optimum utilisation of prime government land.

In accordance with a data driven approach, socio-economic surveys and discussions with the concerned stakeholders the research project provides a detailed understanding of the current scenario for affordable housing in the city of Kolhapur. The discussions have highlighted the issues (1) Loss of judicious use of land (2) Issues due to lack of holistic development (3) Lack of an inclusive planning approach. Through the research project SA has observed that the lack of comprehensive data available with the ULB makes it difficult to take a holistic view of the entire urban area. This can lead to piecemeal slum rehabilitation projects which represent a suboptimal use of the limited resources, such as tenable land, and fail to leverage an economy of scale. It can also lead to hesitancy by the ULB in undertaking slum redevelopment projects due to complexities and conflicts that may arise during planning. The issues identified through the research project highlight the need for a data driven approach to be implemented with a balance of the top-down and the bottom-up approach. It is of utmost importance that facilitators of slum rehabilitation projects be working at all scales concurrently to adopt an informed and neutral position. Informed decisions based on SA's principles can facilitate impactful projects where the interests of the stakeholders have been balanced.

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