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BRINGING QUALITY BUILT-IN ENVIRONMENT TO THE URBAN POOR:

EXPERIENCES OF UNIQUE COMMUNITY-LED HOUSING INITIATIVES BY SHELTER ASSOCIATES

Ar. Pratima Joshi & Geetanjali Deshmukh

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ABSTRACT:

Architects at the Pune-based non-profit collective Shelter Associates (SA) are creating a paradigm shift in slum development by following a city-wide multi-stakeholder approach to urban development by recognizing that slum communities are an inevitable part of our cities.

SA gives slum-dwellers a voice by arming them with data about their community, empowering them to take decisions making them partners in the developmental process. This data is the ultimate evidence of critical gaps in the service delivery system bringing the Urban Local Bodies (ULB), communities, and the civil society on a level-playing field.

Understanding lived experiences, cultural practices, and preferences of slum-dwellers has helped SA architects break the chains of their academic discipline. Involving communities and ULBs in the process of designing is leading to innovations both in design and processes setting precedents for a multi-stakeholder approach to slum rehabilitation.

Using data and technology, SA accurately targets the vulnerable communities and their needs leading to the efficient allocation of resources contributing to degrowth. As environmentalists, SA architects don't just consider land and other commons as resources but as life-sustaining forces and therefore nudge all stakeholders to jointly work towards the preservation of the commons.

This article attempts to highlight the phenomenal success architects can achieve as facilitators and enablers owing to their technical abilities and the sensitivity and humane touch they bring to the process of social development. Their ability to take along diverse groups like ULBs, civil society, and slum communities for the transformation of the lives of the urban poor. Demonstrating the transformation that collectively designed built-in spaces bring about.

INTRODUCTION:

The Non-profit organization Shelter Associates (SA) was founded by three architects in 1994 with a passion to ensure equitable rights and access to essential services for the urban poor. Over time, professionals from diverse backgrounds including Engineers, Data Scientists, Geographical Information Systems (GIS) experts, and social workers joined SA to design and implement data-driven solutions in Sanitation and Housing.

SA is a pioneer in using spatial data for social impact in Maharashtra and its core sanitation project called the One Home One Toilet (OHOT) has facilitated individual toilets to 1.5 lakh individuals leading to vast improvements in their health and well-being.

SA's has gained expertise in housing the poor through the implementation of three major resettlement projects in Pune and Sangli-Miraj, which are quite different from each other. These projects demonstrate a workable alternative to the typical slum rehabilitation projects that are prioritised by the government which: fail to take cognizance of ground realities; do not view the issue of housing for the poor at a city-wide level; and are implemented in an intrusive and opaque manner.

The housing projects implemented by SA are: (1) based on accurate data which has been spatially organised; (2) generated from a city-wide approach that considers housing as an integral part of the city along with areas of employment, healthcare, education, and convenience; and (3) implemented in partnership with beneficiary communities.

Another path-breaking work SA undertook recently is the city-wide slum rehabilitation research project with ATE Chandra Foundation and Pramiti Foundation that advocates Creating citywide spatial data to have a clear understanding of the on-ground situation to identify vulnerable slums within the city and also proposes innovative yet simple solutions to design a resilient social housing for the poor.

Learnings from the city-wide research has led to a unique slum rehabilitation project at Bondre Nagar in Kolhapur which is currently being implemented under the 'Beneficiary Led Construction' model under the Pradhan Mantri Awas Yojana.

A TIME TESTED APPROACH TO SOCIAL HOUSING: Three decades back when SA started studying the urban slum space, it observed that many social housing projects fail because they are designed without considering the city that it is situated in, its surrounding, economic activity and practices of the communities. Lack of accurate on ground data meant many missing pieces of information, critical to the acceptance of the very people it is intended for. This led to the development of SA's own approach to implementing housing solutions -

THE APPROACH BY SHELTER ASSOCIATES



GRANULAR SPATIAL
DATA



CITY-WIDE
PERSPECTIVE



MULTI-STAKEHOLDER
ENGAGEMENT

Granular Spatial Data: The settlement level and socio-economic data collected provides an accurate description of the lifestyle of the residents, their on-ground condition, and the issues they face while living in dire conditions. The collected data is leveraged during multi-stakeholder interactions to ensure that extensive engagement with the community informs decisions in design development. It ensures (1) tenure security (2) well-designed internal spaces and (3) infrastructural amenities.

Furthermore, it also takes into consideration factors such as the location of (re)settlement, and the provision of amenities available to people within the neighborhood. These factors are equally important for conducive development but often neglected during social housing. The design developed with such an approach results in houses that are teeming with natural light and ventilation. They have unique areas such as (1) spaces for keeping cattle, (2) terraces to carry out traditional domestic chores such as: making papads; exposing grain to the sunshine; cleaning beds, etc. (3) Open spaces that are essential for forging community spirits and promote health and mental well-being.

City-wide Perspective: Mapping and analysing the slum location along with their level of vulnerability helps in

prioritizing and planning the housing projects. It helps in resource allocation and planning logistics well in advance.

Multi-stakeholder Engagement: SA advocates for involving both communities and ULBs in the planning, designing and financial decision making of the projects. All of SA's housing projects have been successful due to the active involvement of communities who have even contributed financially, taking micro loans.

PREVIOUSLY COMPLETED HOUSING PROJECTS

Dattawadi Housing project (1996-1998): Moving Mountains



Our first project was initiated in Pune, during the first rains of the monsoon, with the sudden demolition of an informal settlement known as Rajendra Nagar by the city administration. We worked with the community to ensure that 56 families were resettled into formal housing within a kilometer of the existing slum with financial support from HUDCO.

This was a unique experiment in Pune where the beneficiary families assisted with the design, monitoring and construction of their own homes. It has resulted in a healthier, hygienic lifestyle that has upgraded their education and employment options.

Kamgarputala Housing project (2003-2005): Disaster averted



In 1997, Pune faced one of its worst floods and the city administration invited us to carry out detailed surveys of 6 informal communities along the river which flows through the city, the river Mutha. Kamgar Putala, one of the oldest informal settlements in Pune, was the worst affected by the floods due to its location at the confluence of the Mula and the Mutha Rivers. We worked with the 176 flood-affected

families of Kamgar Putala to help them secure formal housing away from the flood-prone banks of the river.

The community accumulated the capital for contributing to the construction of new homes by forming micro credit groups and building savings. Since flooding along the river Mutha was an annual occurrence and the community of Kamgar Putala was determined to find long lasting solution for the safety and future of their children.

Thus a well structured, liveable and safe housing was designed while respecting the traditional way of living of the community. The floor area of each unit is 200 sq. ft. divided into two bays. Each unit includes a toilet, a bathing area, a kitchen area and a multipurpose living-dining- sleeping area in the front bay.

IHSDP/City-Wide slum housing project, Sangli-Miraj-Kupwad (2009-2013): Multistakeholder success



We were appointed as consultants for the Integrated Housing and Slum Development Programme (IHSDP) in Sangli-Miraj-Kupwad, a peri-urban area about 400 kms south of Mumbai on the banks of the river Krishna, with a population close to 550,000. Our city-wide design proposal, informed by our poverty mapping and use of GIS technology, optimised use of the limited land available to meet the rehabilitation and relocation needs of the families living in 29 slums across the city.

The IHSDP had been introduced by the Government of India (GOI) for the improvement of slums in cities and towns under the Jawaharlal Nehru Urban Renewal Mission (JNNURM). The critical objective of the IHSDP was holistic slum development with a healthy, and enabling urban environment, by providing adequate shelter with security of tenure and basic infrastructure facilities.

The housing stock created would be sufficient to provide formal housing, with security of tenure and improved sanitation, to the families in 29 slums, almost half of the slum population of the peri-urban area.

A critical aspect of our approach was that it did not involve moving the beneficiary families to faraway sites on the edge of the peri-urban areas which lack services (transport, water and drainage) and drives them deeper into poverty. Hence, relocation would not impact their access to places of employment, and amenities such as schools, health centres, emergency services and markets.

The GOI approved this project for its innovative, holistic and inclusive approach, which could be emulated in other cities.

This approach later became part of the Government policy framed under Rajiv Awas Yojana (RAY), which requires cities to map its poor using GIS and remote sensing technologies.

CITYWIDE RESEARCH PROJECT

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

Through data collection, mapping, socio-economic surveys and discussions with the concerned stakeholders the research project provides a detailed on-ground scenario for affordable housing in the city of Kolhapur.

Stage 01 | Gathering Data based on –

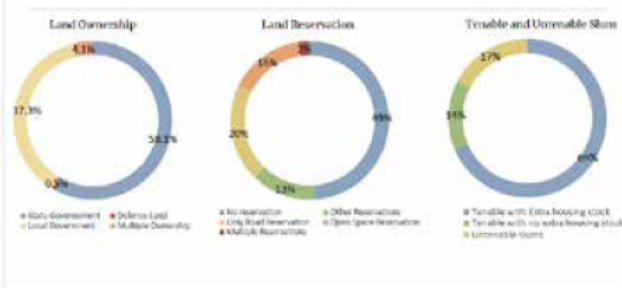
(1) Rapid Infrastructure Mapping (2) Study of Planning rules (3) Rapid Household Surveys

This highlighted loss of judicious use of land, issues due to lack of holistic development and lack of inclusive planning.

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.

SA strongly advocated that the research follows the core principles of (1) a Data-driven approach (2) a holistic citywide perspective to identify vulnerable settlements, and (3) Including diverse multi-stakeholders in planning. It follows a process of federating the data collected on a unifying base map leading to a citywide dataset that can be leveraged to make informed decisions in the planning and preparation of slum rehabilitation projects across the urban area.

Stage 02 | Analysis of collected Data



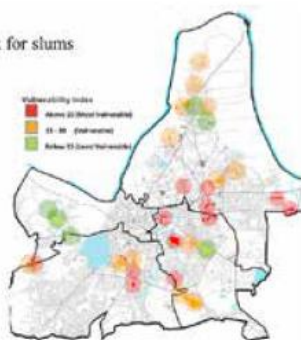
This ensures that an accurate profile of the surveyed area, whether a city, a neighborhood, or an individual slum, is generated.

Stage 03 | Creating a vulnerability matrix for slums

A rating is given to each slum based on some of the key parameters listed below:

- Land Reservation | Tenable | Untenable slum | Land Value
- Dwelling Densities | Avg. Area per person | Structural Conditions
- Based on the socio-economic conditions

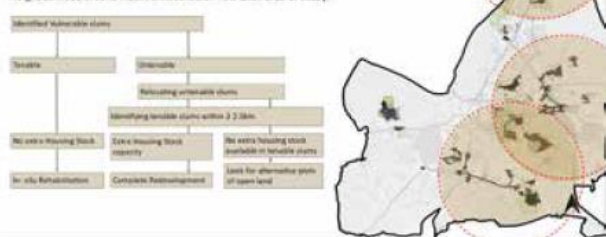
Understanding the percent of households that have highest percentages in all of the above parameters resulted in identifying vulnerable slums.



SA advocates that a city-wide approach and identification of the most vulnerable slums in the city will ensure optimum utilization of government land and an inclusive planning approach that will be beneficial for all concerned stakeholders.

Stage 04 | Identifying Neighbourhoods around vulnerable Slums

Neighbourhood around most vulnerable slum is a 2KM area of study:



Solutions based on the vulnerability matrix.

SA's Approach to developing solutions



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

LIVE PROJECT: SLUM REHABILITATION AT BONDRENAGAR, KOLHAPUR

A few years back, the Urban Local Body (ULB) had proposed a slum rehabilitation scheme for the Bondre Nagar slum. The scheme proposed generation of extra housing stock to become the saleable component in the design. This approach was questioned as there was no demand for extra housing in the area. Furthermore the residents opposed the development of a multi-storeyed structure. Being farm labourers with lifestyles that were incompatible with a high-rise construction, the solution proposed by the PMAY

department was unsustainable as it followed a top-down approach. There was a need for a holistic solution that had the approval of all concerned stakeholders with the interests of the community at the centre. SA at the behest of the community intervened with its multi stakeholder approach and designed housing solutions based on the findings of the city-wide research project.

Bondre Nagar Slum Rehabilitation Project:

For the rehabilitation of Bondre Nagar SA engaged the community in an inclusive process of designing. From taking door-to-door discussions to engaging the residents in a to-scale mock-up plan, SA has given a clear understanding of the space and its functionality. The developed design is a low-rise, high-density development consisting of G+1 tenements planned such that the adjacent tenements share a common wall and a rear open space that doubles up to form a courtyard. The tenements are designed to have adequate light and ventilation and the developed design has the approval of all concerned stakeholders.

BONDRE NAGAR REDEVELOPMENT

Designing homes for 77 families considering the aspects of Affordability, The Community and the Site. One House unit design caters to the fundamental functional spaces. One unit is G+1 making the settlement a low rise.

The open to sky spaces play a vital role in Bondre Nagar Redevelopment plan as it makes a decisive difference between liveable habitat and claustrophobia as the design revolves for lower income group.

Spill over spaces like courtyards, backyards not only cater to informal activities but also increase the indoor living quality.

Repetitive units make a cluster and such clusters create spatial richness by minimalistic means leading a safer, healthier and affordable living environment



The road lengths have been modified as per the standards. The dwellings open onto the internal road making it easier to locate and reach. The massing of the unit has evolved in a grid pattern considering the spatial requirements from the community.



The density of the people does affect the living condition of the community. Here In Bondre nagar we have proposed permanent homes to the existing families with additions to their floor space index. The settlement proposed is well organized and follows all the by-laws. Houses are proposed in RCC making it a Permanent home for the family.

As many of the family members work in farms surrounding the site, people have preferred low rise housing complex rather than a high rise one.

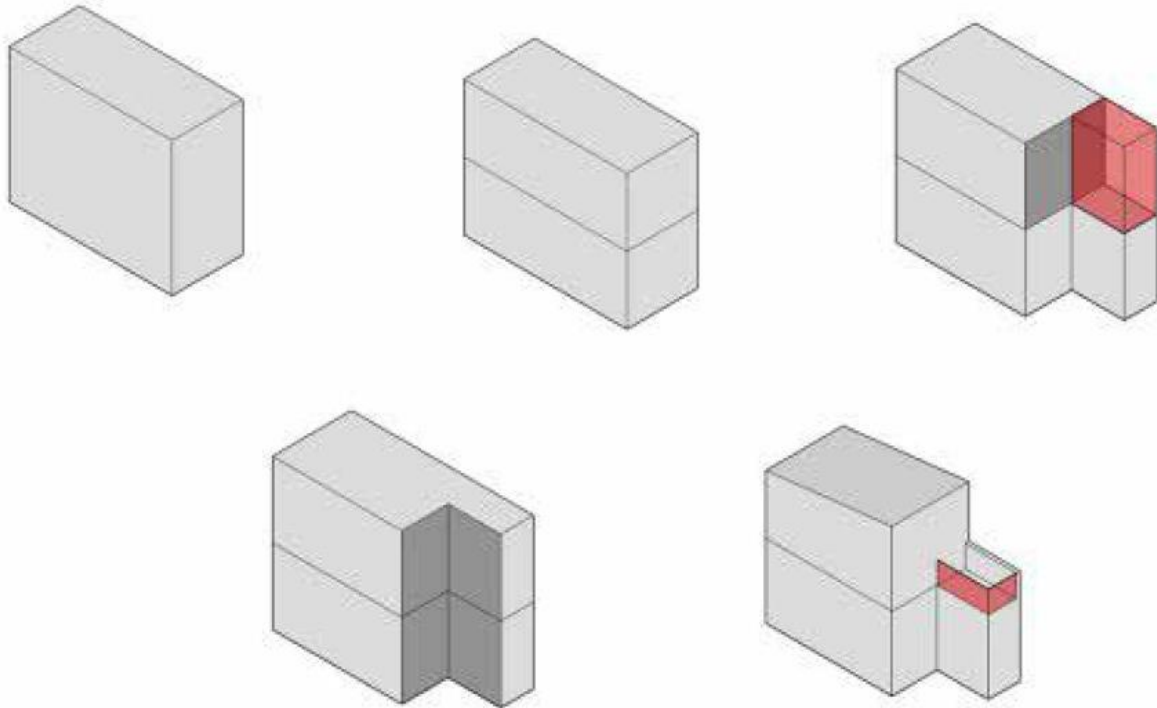
The urban migration rate from core of the city of Kolhapur to the outskirts is very low, hence the exact number of houses are given on the site.

After the proposed layout each house has got equal areas, and each house has an accessible approach road.

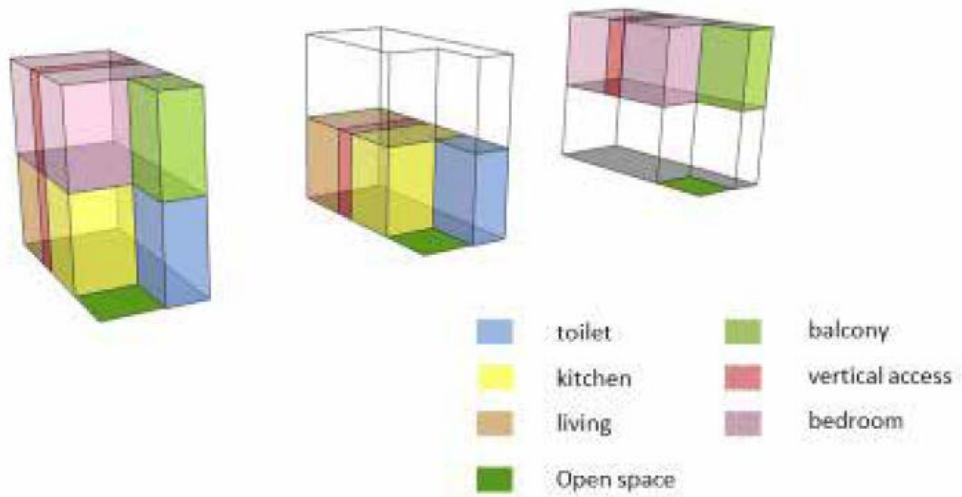
With community lead design we have finalized the design of individual houses leading then for a cluster plan.

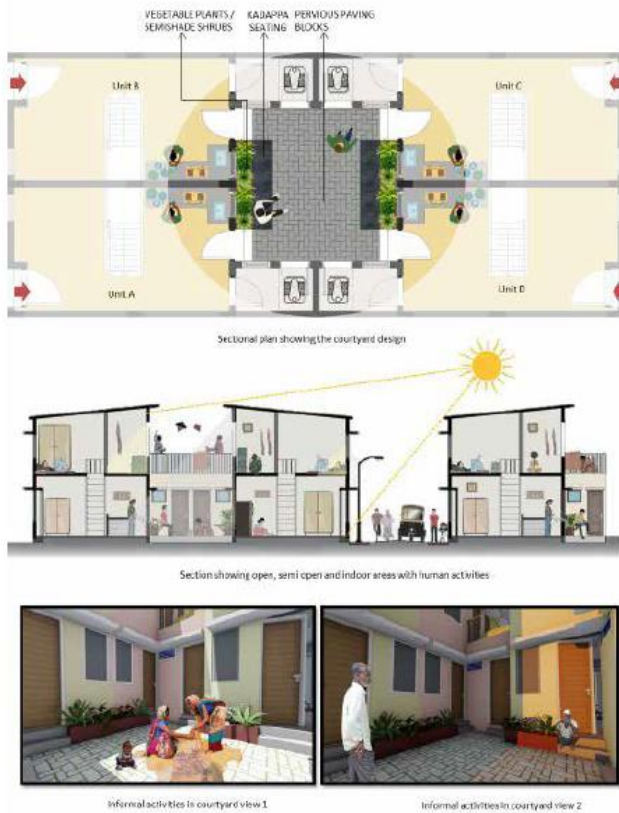


Massing of a unit



Space Analysis





The Detailed Project Proposal for Bondre Nagar was submitted to the government under the Pradhan Mantri Awas Yojana's -Beneficiary Led Construction category and has received subsequent approvals. The land has been transferred in the name of the beneficiaries thus providing tenure security. All approvals of various agencies including the town planning department. The residents have also formed a cooperative society and are applying for micro loans. The Kolhapur Municipal Corporation is also actively involved in planning the common infrastructure. The site has been cleared and the beneficiaries are now living in a transit camp nearby. We move towards the construction phase with great enthusiasm and hope for a dignified future.

Alongside Bondre Nagar, in the years 2022-24, SA would like to explore translation of the research project into actionable on-ground impact for social housing projects that will have a citywide impact. As SA strongly advocates the approach of focusing solutions for the most vulnerable slums within the city, planning future projects for them is of utmost importance. Projects that are planned around the vulnerable

slums will ensure optimum utilisation of prime government land. Alongside monitoring the Bondre Nagar Project, SA would like to develop solutions for the vulnerable slums that are conducive to on-ground scenarios and in accordance with the inclusive, multi-stakeholder involvement. SA would like to ensure that these settlements are undertaken for rehabilitation that benefit all concerned stakeholders.

CONCLUSION: LEARNINGS FROM DIVERSE EXPERIENCES

SA's holistic approach and involvement of the communities and ULBs have resulted in robust housing for thousands of urban poor. Residents now have a dwelling that is structurally stable and well-designed. The sense of ownership and responsibility further ensures the maintenance, cleanliness, and hygiene of the space. Their lifestyle transforms into one that is in stark contrast to the vulnerable living conditions in the slums. It is also observed that they strive to maintain this transformed lifestyle by promoting the economic betterment of the family. They also have a sense of financial responsibility as a new lifestyle also comes with awareness of savings for repaying loans, maintenance of their apartments,

Open Space



Street View



etc. This results in upward economic mobility and the future generations greatly benefit from it.

The residents of the completed housing projects now have a dwelling that is structurally stable and well-designed. The sense of ownership and responsibility further ensures the maintenance, cleanliness, and hygiene of the space. Their lifestyle transforms into one that is in stark contrast to the vulnerable living conditions in the slums. It is also observed that they strive to maintain this transformed lifestyle by promoting the economic betterment of the family. They also have a sense of financial responsibility as a new lifestyle also comes with awareness of savings for repaying loans, maintenance of their apartments, etc. This results in upward economic mobility and the future generations greatly benefit from it.

Changing the built-environment changes the perceptions of the society toward the marginalized communities. It leads to their acceptance and gradual assimilation into the mainstream. They can now forever leave behind the stigma of being slum dwellers.



Ar. PRATIMA JOSHI, Founder-Director, Shelter Associates

Who founded Shelter Associates in 1994, has pioneered the use of spatial data for slum development. Using concepts like multi-stakeholder consultation and participative governance, she has uplifted 4 lakh urban slum dwellers. An Ashoka fellow, Google Earth Hero, she is recognized as an eminent social architect by BBC and Forbes.



GEETANJALI DESHMUKH, PR Manager, Shelter Associates

Geetanjali is an Engineer by education, a Public Policy enthusiast passionate about social development. As a communications specialist, she has worked with various Non-profits contributing to fundraising, research, policy formulation, volunteer management and strategic planning. She is currently working with SA as a PR Manager. info@shelter-associates.org

