



IHSDP in Sangli Miraj & Kupwad

CASE STUDIES OF COLLECTIVE HOUSING IN ASIAN CITIES SERIES • JULY 2020

In this large and complex “land readjustment” project, families living in 22 slum communities on “un-tenable” public land, were to move to “tenable” public land occupied by seven existing slums, where new, higher-density cooperative housing blocks would be built, which would provide decent, permanent housing for all 3,640 poor families in the 29 slum communities. The project was only half completed, but it demonstrated a clear strategy for solving the city’s housing problems more comprehensively, on limited land resources, by using a more participatory, collaborative and citywide approach.

- **Project** IHSDP land readjustment housing
- **Location** Sangli, Miraj & Kupwad Municipality, Maharashtra State, India
- **Size** 1,395 households
- **Finished** 2015
- **Type** Part relocation and part on-site redevelopment of slums into cooperative housing blocks, with collective long-term leases to the public land they occupy

PROCESS AND PARTNERS

Context of the project:

Megacities like Mumbai and Delhi are not the only ones with big problems of slums. Smaller Indian cities have done no better at providing decent housing options that are affordable to their working poor citizens, with the result that millions of families in smaller cities are living blighted lives in squalor and insecurity in informal slums. In the state of Maharashtra, for example, there are 30 cities with populations of less than 500,000, and all of them have serious and long-standing problems of slums, with only a few scattered housing projects that show a better way.

Sometimes, though, smaller cities offer opportunities to try innovative things that would be impossible in larger and more politically complex cities. This is the story of one small city which worked with a national housing program and a local NGO to solve its slum housing problems in a more collaborative and more comprehensive way. The project introduced innovations in participatory slum surveying, GIS spatial data, participatory housing planning, cooperative tenure structures and a more citywide strategy for delivering housing, rather than the usual project-by-project approach.

The city:

The Sangli, Miraj and Kupwad Municipal Corporation was created in 1998 when three small adjacent towns in southern Maharashtra were incorporated into one "mini metropolitan area." One of new municipal corporation's first goals was to address the housing problems of those living in slums. In 2001, they hired the NGO Shelter Associates to work with the FIRE-D Project to conduct a rapid appraisal of the city's slums. Shelter Associates had worked in other cities to develop techniques for surveying and mapping slum settlements in ways that were quick, accurate and participatory. In Sangli, Miraj and Kupwad, they counted 99 slums, with a total 10,876 dwellings that accommodated 12.45% of the city's population.

To address these housing problems, the municipal corporation began in 2004 to initiate slum resettlement projects under the VAMBAY scheme, relocating residents from slums which came in the way of development projects or other municipal reservations to 3-story housing blocks built by the city on the outskirts of the city. 2,198 of these units were built, in four locations. But because that housing was so badly constructed, so badly serviced and so far away from people's former communities - and because the units were so small, with only 14.8 m² of space - the project was a failure, and those forced to move there had difficulty surviving.

In 2005, the central government launched a new program called the Jawaharlal Nehru Urban Renewal Mission (JNNURM) which supported the redevelopment of housing and infrastructure in urban slums. Under the program, small cities of less than a million were eligible for support under the Integrated Housing and Slum Development Program (IHSDP), where a fixed grant was sanctioned for building housing at a subsidized rate. In 2008, the Sangli-Miraj-Kupwad municipal corporation prepared a first proposal to the IHSDP program to resettle nine of the 18 slums that were on municipal or state-owned land that didn't come in the way of any development plan reservations. All but one of those projects, however, failed to start.

Community process:

Against this backdrop, Shelter Associates was invited in 2008 to come back to help the city develop a better housing strategy. Their first step was to carry out a second city-wide slum survey. This time, they found only 78 slums in the city (with 8,851 dwellings). 35 of the slums were on land reserved for other purposes in the development plan or under a planned road-widening scheme and could not redevelop their housing in the same place. But the municipal corporation didn't have enough land to resettle all the families from those 35 slums - a common problem for local governments, who often complain they don't have land for housing the poor.

Shelter Associates' strategy to help the city to develop a comprehensive citywide housing plan was guided by three principles:

- preparation of spatial information
- adoption of a city-wide vision
- meaningful engagement with the municipal corporation and the affected communities

During the second survey, Shelter Associates started to engage with the city's slum communities in several ways: organizing meetings, workshops and focus-group discussions that targeted various age groups and

audiences. They encouraged community women to form savings groups and link together in federations to support each other and represent their common interests in negotiations with the city. To boost incomes and empower the community women, they launched a "Cloth Bag Project," in which women made multi-purpose cloth bags that were sponsored locally, nationally, and internationally.

Shelter Associates worked with the communities to collect household and settlement data on each of the 78 slums in the city and enter it into a GIS system that linked the data from each household with their hut on the map. The data from each slum was then put together to form a city-wide profile. That kind of spatial and demographic data is essential for planning appropriately and sensitively for the urban poor as it allows an accurate profile of the surveyed area to be generated. This process creates information which is used to formulate rehabilitation strategies that are context specific and enable limited resources to be directed on a priority basis.

Initiating the project:

A citywide land readjustment for 29 slum communities: Since the funds available from the IHSDP scheme were not enough to solve the whole city's slum problems, and since land for redevelopment was scarce, a decision was jointly made to begin with a large project that would address the housing needs of those 29 slums which were on public land. The data showed that of the 29 slums (with 3,640 households), 22 slums (with 1,360 households) were on land that for various reasons could not be used for housing. But seven of those slums (with 2,280 households) were on land that was already designated for residential use and was *tenable* for housing. The city profile also showed that all 22 *untenable* slums were within a few kilometers of one of the seven *tenable* slums. That fact suggested an idea: why not move the families in those 22 *untenable* slums to the land occupied by the seven *tenable* slums, and build new, higher-density housing blocks on those seven sites which would make room for everyone, using subsidies from the IHSDP scheme? What better way to provide decent, secure, permanent housing to 3,640 poor families, and make efficient use of limited land resources, without evicting anyone or banishing anyone to the outskirts of the city?

After much discussion and development of this "land readjustment" strategy, with the communities and with the city, the idea took hold. Shelter Associates then prepared a formal proposal for the development of four-story housing blocks on those seven sites, which would not only accommodate the 3,640 households in the 29 slums, but add an additional stock of 158 units of rental housing, bringing the total to 3,798 units (housing 43% of the city's total slum population).

The plan was submitted to the city in January 2009. It was Shelter Associates' hope that this project would demonstrate to the government the value of institutionalizing community participation, and taking a more citywide planning approach to solving the city's housing problems. The central government's Ministry of Housing and Urban Poverty Alleviation agreed. In February 2009, the project was approved and allotted a budget of Rs. 951.74 million (US\$ 20.69 million) under the IHSDP scheme, as a special case, considering "the robust approach and implication for the country if city-wide slum upgradation strategy was embraced by all municipal authorities."

Support groups and partners:

- **Shelter Associates (SA)** is a Pune-based NGO, founded in 1993, whose work focuses on ensuring access to housing, infrastructure and secure tenure for the urban poor, using their core competencies in poverty mapping, housing and sanitation.
- **The Valmiki Ambedkar Awas Yojna (VAMBAY)** was a government scheme to provide housing subsidies to slum dwellers in need of relocation, in which half the subsidy amount came from the central government and half from the state.
- **FIRE-D Project** (Financial Institutions Reform and Expansion - Debt and Infrastructure) was a USAID-funded project (1994 - 2011) which partnered with municipal governments in 16 Indian states to expand water and sanitation access to the poor.
- **Jawaharlal Nehru Urban Renewal Mission (JNNURM)** was a central government program, launched in 2005, to redevelop the housing and infrastructure in existing slums, using a cost-sharing strategy where the national and state-level governments share the costs, so the people get free housing. The program ended in 2014.
- **Integrated Housing and Slum Development Program (IHSDP)** was a sub-program, under JNNURM, which provided free housing, secure tenure and essential services to the urban poor in cities of less than a

million population. That program ended in 2014, and was replaced by the Pradhan Mantri Awas Yojana (PMAY) scheme.

- **Sir Dorabji Tata Trust** provided additional funding support to Shelter Associates to boost community participation and central involvement of communities in all aspects of the project - a crucial aspect of slum redevelopment housing projects that is never covered by government scheme budgets.

LEGAL FRAMEWORK FOR THE PROJECT

The 3,640 poor families who lived in the 29 slums that were to be part of this project were all technically squatters, in communities they had built themselves, on public land that was owned by either the municipal or state government. In Maharashtra, slum dwellers who have resided on any public or private land before 1995 are protected from eviction and eligible to take part in various government slum redevelopment schemes, like the IHSDP scheme.

Land tenure:

In most slum redevelopment schemes built on public land in India, the land ownership remains with the public agency, and the land is leased (usually for free, and long term) to registered cooperative housing societies, in which the beneficiary families become shareholders. Depending on the project, these cooperatives might include all the households in one block, in one building, or on an entire site. The cooperatives function as a kind of buffer between the low-income residents and the market forces, to protect vulnerable families from being bought out and to ensure vulnerable families retain their housing.

Similarly, in the 29-slum housing project in Sangli, the agreement was that on all seven sites, each beneficiary family would become a shareholder of the cooperative that leased the land from the municipal government. As part of the project negotiations, it was agreed that the women and men would have equal rights to the apartments, to ensure that women could not be kicked out by their husbands, as often happens when housing rights are in the husband's name. The cooperatives would be responsible for maintaining the buildings and all the common infrastructure and amenities. By June 2020, several cooperative housing societies had been registered, but only where people had moved in. But their land lease contracts with the municipal corporation were still pending. It was agreed that the lease will be free, and that the people are to pay no rent, but there was still some uncertainty about the lease period, in which 99 years used to be the standard, but under the subsequent PMAY scheme, that had been reduced to 30 years.

Government support:

Since this project was implemented under a national housing scheme, it was supported by many government partners. Funding from the central and state government constituted a substantial part of the JNNURM scheme - both housing subsidies and infrastructure. The municipal corporation in Sangli-Miraj-Kupwad also helped get the necessary compliances and regulatory permissions, monitored the progress during the implementation phase and disbursed the subsidies. It was the municipal corporation's job to allot the completed units to the identified beneficiary families, and in this task, they have fallen far short. For reasons of bureaucracy, changing municipal priorities and sheer apathy, the process of allotting apartments in the finished buildings to their rightful beneficiaries has been held up by the municipal corporation. By July 2020, only 527 of the total 1,395 units that had been completed had been allotted and were occupied by the beneficiary families. Although their new apartments are ready and waiting for them, out of the remaining 868 families, 311 continue to stay in their dilapidated transit camps while the rest 557 are in their existing huts.

PROJECT FINANCING

Project costs and who paid for what:

The total budget sanctioned by the IHSDP scheme for the 29-slum project (to build 3,798 units, on 7 sites) was Rs. 951.74 million (US\$ 20.69 million), which included:

1. Housing: Rs. 602.71 million (US\$ 13.10 million). 3,798 units @ average Rs. 158,688 (US\$ 3,450) per unit, which included:

- Rs. 243.07 million (US\$ 5,284,174) as a subsidy from the central government (40%)
- Rs. 200.32 million (US\$ 4,354,934) as a subsidy from the state government (34%)
- Rs. 127.97 million (US\$ 2,782,065) as a contribution from the municipal corporation (21%)

- Rs. 31.35 million (US\$ 681,521) as a contribution from the beneficiaries (5%)
- 2. Infrastructure:** Rs. 223.78 million (US\$ 4,864,848), which included:
 - Rs. 179.02 million (US\$ 3,891,870) as a subsidy from the central government
 - Rs. 44.76 million (US\$ 972,978) as a subsidy from the state government
 - 3. Social infrastructure:** Rs. 38.73 million (US\$ 842,130) as a subsidy from the central and state government
 - 4. Other expenses:** Rs. 43.26 million (US\$ 940,485), as a subsidy from the central government to cover the administrative and overhead expenses for the municipal corporation.
 - 5. Consultancy fees:** Rs. 43.26 million (US\$ 940,485) as a subsidy from the central government to cover the other expenses for the municipal corporation.

Per unit construction costs: The IHSDP scheme provided a per-unit subsidy of Rs. 1,51,251 (US\$ 3,288) for housing projects, which included.

- Rs. 64,000 (US\$ 1,391) as a subsidy from the central government
- Rs. 53,000 (US\$ 1,152) as a subsidy from the state government
- Rs. 34,251 (US\$ 744) as a contribution from the municipal corporation

When you add the expected beneficiary contribution of Rs. 8,000 - 9,600 (US\$ 174 - 209), depending on the family's category, that brought the total per-unit budget to Rs. 159,251 - 160,851 (US\$ 3,462 - 3,497). The problem was that even in a small city like Sangli-Miraj-Kupwad, in 2011, that wasn't nearly enough to build a complete housing unit in a multi-story concrete building. So after some negotiation, the state government agreed to top off the per-unit subsidy with an additional Rs. 100,000 (US\$ 2,174), bringing the total per-unit budget to about Rs. 250,000 (US\$ 5,435), which was just barely sufficient. Finally, the municipal corporation in Sangli, which under the terms of the IHSDP scheme was supposed to contribute 21% of that amount, was not able to contribute anything. The absence of that municipal government contribution was one of many factors that created problems in the project as it moved ahead.

DESIGN AND CONSTRUCTION

Design Process:

Detailed socio-economic surveys were carried out from every household of 29 slums by trained community workers from the same settlement. The architects at Shelter Associates used the survey and mapping data, as well as a range of participatory planning techniques to develop the designs for the new housing blocks. Drawings and scale models were used to help community people take active part in designing the site layouts, the buildings, the individual apartments and the communal spaces and amenities. Once layouts were finalized, the architects created a life-size drawing showing the layout of the apartments, and laid it down on the roof terrace of their office. This allowed the families to walk over the drawing to get a sense of the actual size and arrangement of the rooms. After that, they fabricated a full-size model of the apartment, using bamboo and cloth. This full-scale model gave the community people an even greater sense of the volumes of each of the rooms within the apartment.

House Design and layout plans:

The apartments in each four-story concrete-framed building are arranged around a central courtyard, and the buildings are arranged on the sites to frame usable open spaces for various private and public uses (including keeping livestock!), to ensure that all areas are well-watched and well-used. Each building contains 31 apartments, with eight apartments on each floor, except on the ground floor, where one unit was removed to create an entrance into the internal courtyard and an area for two-wheeler parking. The buildings have accessible roof terraces which provide space for drying laundry, doing home-work and gatherings. The internal courtyards bring daylight and air circulation into the apartments, which have big windows facing out as well as into the courtyard, and this means lower bills for artificial lighting and fans. The wide corridors can be used for storage, drying clothes and growing things. The 25 m² apartments all have a kitchen, hall, bedroom, bathroom and toilet.

Ventilation was important because the slum survey showed that most women cooked on traditional wood-fired stoves, and smoke from those stoves can cause severe respiratory problems. To reduce that problem, Shelter Associates identified a local maker of "smokeless chullah" stoves, who sold them to families at a subsidized rate. The smokeless chullahs significantly reduced the indoor air pollution, without forcing the families to switch to more expensive cooking fuels like gas, which was unaffordable to many.

Housing construction:

After finalizing the designs with the communities, Shelter Associates prepared all the technical drawings and cost estimates and submitted them to the municipal government. The contractors who would build the housing blocks were appointed by the municipal corporation, through their regular tendering process. It was agreed that the construction would be jointly monitored by the municipal officers, Shelter Associates and representatives from the communities.

Before the seven "tenable slums" could be redeveloped to house the 3,798 IHSDP beneficiaries, the land had to be cleared and turned over to the contractor. That meant moving all the residents into transit camps, which the IHSDP regulations said had to be close by. The process of finding land for the transit camps proved to be a nightmare of delays, political interference and court cases. In 2011, two years after the project had been approved, work could start on only on four of the seven sites (the other three sites have never been cleared, and the slum communities are still there). By 2015, after three years of construction and innumerable problems, a total of 45 four-story buildings (with 1,395 units) had been built on those sites:

- SITE 1: Aba Dhotre, in Sangli: 3 buildings (93 units)
- SITE 2: Indira Nagar Gharkul, in Miraj: 26 buildings (806 units)
- SITE 3: Sanjay Nagar, in Miraj: 14 buildings (434 units)
- SITE 4: Sanjay Nagar Patra Chawl, in Sangli: 2 buildings (62 units)

At that point, the project stalled. The IHSDP scheme was scrapped by the central government, and another scheme was launched in its place: the Pradhan Mantri Awas Yojana (PMAY) scheme, which offered much smaller subsidies. Since then, the allotment of the 1,395 finished units has gone very slowly, and hundreds of families continue to languish in the squalid transit camps, waiting to move into their new apartments. Shelter Associates continues to support the families and push for the city to fulfil its obligation to house these IHSDP beneficiaries.

COMMUNITY AND PROCESS MANAGEMENT

Shelter Associates facilitated weekly meetings of all the stakeholders, to discuss the progress of the project and jointly address problems that came up, in a transparent and accountable manner. Those weekly meetings were instrumental in overcoming many problems and bottlenecks during the implementation. Once construction had begun, the beneficiary families made regular visits to the construction sites, to observe the progress and visit the model apartment the contractors built early on. These project visits helped to reassure some sceptical slum dwellers that the project would actually happen.

Project timeline:

- **2001:** Municipal corporation hires SA to survey the city's 99 slums.
- **2004:** Municipal corporation starts relocating some slum residents to VAMBAY housing blocks built in four locations in the city's outskirts.
- **2005:** IHSDP scheme is launched in Sangli.
- **2008:** SA conducts second survey of city's slums. 29 slums are chosen to be redeveloped under the IHSDP scheme.
- **2009:** SA submits detailed proposal for redeveloping 3,798 housing units on 7 receiving sites. The project is approved.
- **2011:** Construction starts on 4 of the 7 sites.
- **2015:** 45 buildings (1,395 units) are finished, on 4 sites. After that, the project stalls. IHSDP scheme is scrapped.
- **May 2018:** Some beneficiaries start to move into their apartments.
- **June 2020:** Only 527 of the 1,395 completed units have been allotted and occupied by the beneficiaries. 311 families still living in transit camps.

IMPACTS OF THE PROJECT

Successes:

Although the project was only half finished, it demonstrated a strategy for addressing a city's slum housing problems more comprehensively and more collaboratively, by taking a more city-wide approach, which allowed beneficiary communities to stay within the same neighborhood, and maintain their existing support systems and access to jobs and public services. The local government was included as important stakeholders in the design development process. The project impacted the central government's Rajiv Gandhi Awas Yojana (RAY) policy, which states that "a whole city, all slums approach will be adopted, rather than a piecemeal, isolated approach, to ensure that all slums within a city, whether notified or non-notified are covered".

Problems:

The 29-slum project was approved in 2009 as a path-breaking project for India. Through the project, 3,798 slum dwellers from 29 slums (43% of the city's slum dwellers) were to move from squalid slums into decent, well-serviced and permanent apartments. Finally, the project could be only partially completed, and 1,395 of the planned 3,798 units were actually built. What factors caused the project to stall?

- **Patronage politics:** Entrenched systems of patronage make any development project in Indian cities difficult, since local politicians, strongmen and influential people will be quick to interfere in any development goodie that is not seen as being given by them. Local politicians will also undermine any project which threatens the dispersal of their vote banks in slum settlements. There are also people in slums who benefit by the slum remaining a slum (rental rooms, shops, big houses) and they will often undermine efforts to improve the slum for everyone.
- **Bureaucratic delays,** obstruction and apathy among the administrative offices within the municipal corporation were another challenge, as official files and allotment papers gathered dust on various desks and administrative heads kept changing.
- **Suspicion among beneficiaries,** who have seen many forced relocation projects to far-away resettlement sites (VAMBAY) and were justifiably reluctant to trust new housing initiatives from the government.
- **Problems with transit housing:** Before construction of the new housing could begin on the seven sites, the people living on those sites had to be resettled in temporary transit housing. IHSDP regulations stipulated that transit housing be close to the slums being developed. Since vacant land in the inner city was scarce, the options for transit housing sites were limited. That gave an opportunity for local politicians and troublemakers to prevent transit site being developed, prevent the community people from relocating, and prevent the contractor from taking possession of the site.

What has the project taught us?

- That community participation is a necessary component of good governance and should be institutionalized as part of any slum rehabilitation policy.
- That meaningful engagement with communities is essential to build a consensus among beneficiaries from different slums and/or different religious groups who come together in a project.
- That transit housing needs to be an integral component of project planning.

Impacts on the communities:

In the buildings that were completed, families from different communities have become neighbors, and they coexist in harmony, share responsibilities and live as one community in their new buildings, without any differences and conflicts. Many of them have seen their incomes increase, and this has led to improved health, improved educational outcomes for their children and improved status in the city. The larger apartments have allowed many families to start small businesses at home and this has also boosted incomes. Many families report that now that they live in proper apartments, their daughters are better placed to marry into better and economically stable families. Families have also incrementally invested in making improvements to their apartments: finishes, tile floors, stand-up kitchens, etc.

Human stories:

Savita Dhaval, who had lived in the Chetana Apartment slum for 25 years, said *"Moving from a tin sheet hut into a permanent structure gave us huge satisfaction and happiness. I feel a drastic change in how we live now from how we lived earlier. Our children are being raised more respectfully and with more dignity."*

Sharda Kamble, a former resident of the Aba Dhotre slum, said, “We were happy to be a part of the design process that Shelter Associates carried out with us. We felt included and could voice our opinions. After staying in a transit camp for close to eight years, we were extremely relieved to finally move into our apartments in 2018. Now we have a lot of space to move around - both inside and outside our new homes.”

Mohan Magade had lived in the Aba Dhotre slum for 45 years. He said, “We used to be embarrassed of staying in slums, now that we have a permanent address, we feel proud to call our relatives over! Courtyards and terraces allow us to come together and spend time together effectively. Nefarious activities that used to take place in our slum earlier, have come to a halt now as the built and unbuilt spaces are designed such that there is good light, security and surveillance.”

FOR MORE INFORMATION ABOUT THE PROJECT

This case study was written by Resham Badri and Pratima Joshi, in July 2020

Please follow the following links to see several films about the project in Sangli, Miraj and Kupwad.

A film about the IHSDP project in Sangli and Miraj: <https://m.youtube.com/watch?v=esXHP-Mu0eY>

Inclusive Planning for the Urban Poor: <https://www.youtube.com/watch?v=6wVZ-KWzIT4>

Short film on Smokeless chullahs: <https://www.youtube.com/watch?v=1RpfcTiZcM0>

Workshops with children: <https://www.youtube.com/watch?v=36jH25av4qc>

Sangli speaks about SA: https://www.youtube.com/watch?v=qVNzUO5tIWY&feature=emb_logo

Model house exhibition: https://www.youtube.com/watch?v=ublwR9flsfE&feature=emb_logo

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PHOTOS



There were 78 slums like this one in the Sangli, Miraj and Kupwad Municipality when the project began in 2008, and they represent the only accessible, affordable housing option for some 8,851 of the city's working poor families.



This is the Aha Dhotre slum, which was redeveloped as one of the "receiving sites" for the project, and all 69 of its families eventually moved into free new apartments on the same site.



Some of the slums in the city are densely crowded like this one, with narrow lanes and second rental units upstairs.



And some slums are more spread out, like this one, but most of them lack proper drainage, sanitation, water supply and metered electricity.



The process began with lots of meetings in the communities, in which the Shelter Associates team explained about the IHSDP scheme and invited the women to take part in the survey, start saving, develop their community organization and bring their ideas to the table to make best use of what the new project offers.



▲ The survey gathered detailed family information from each household, and that information was linked to the maps generated for each slum.



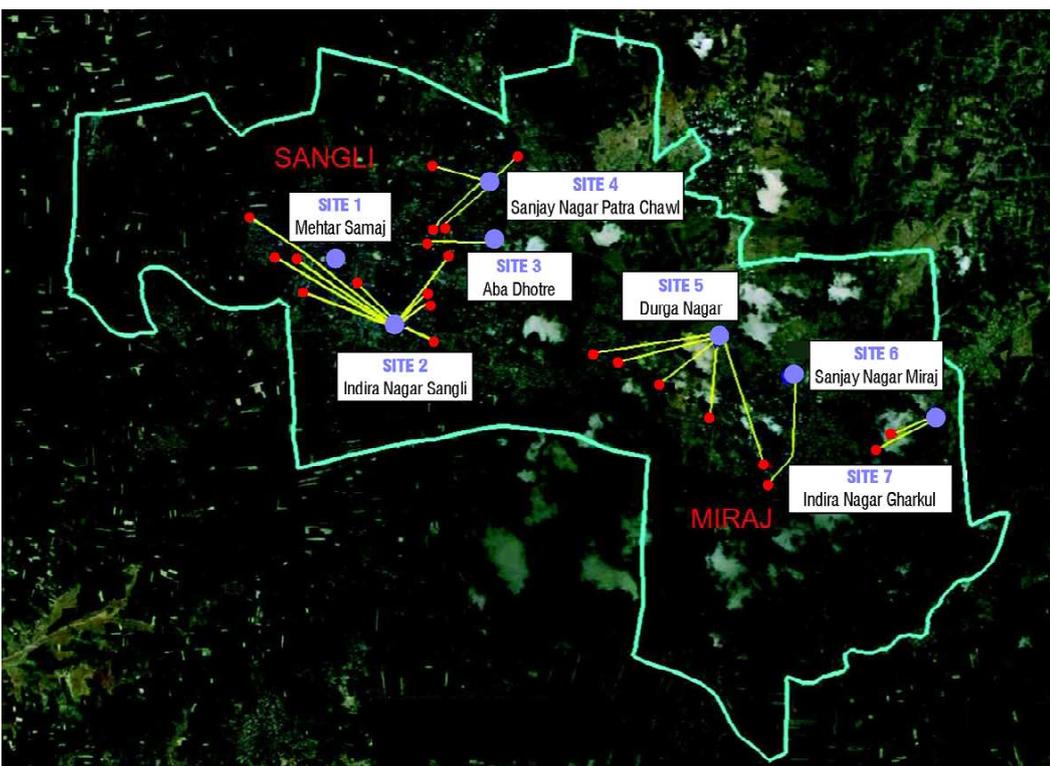
▲ For many community people, this was the first time they had seen a map of their settlement and been able to identify their house on it.



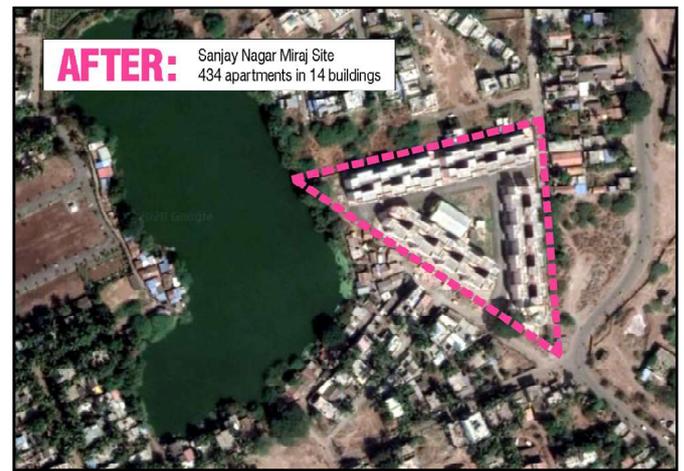
▲ One of the important tasks was to bring the GPS mapping of the slums back to the people, so they could understand the information.



▲ The citywide GPS mapping was important because it helped to understand the situation of all the slums and to develop a more comprehensive, more citywide housing strategy, based on actual information of land and existing slums.

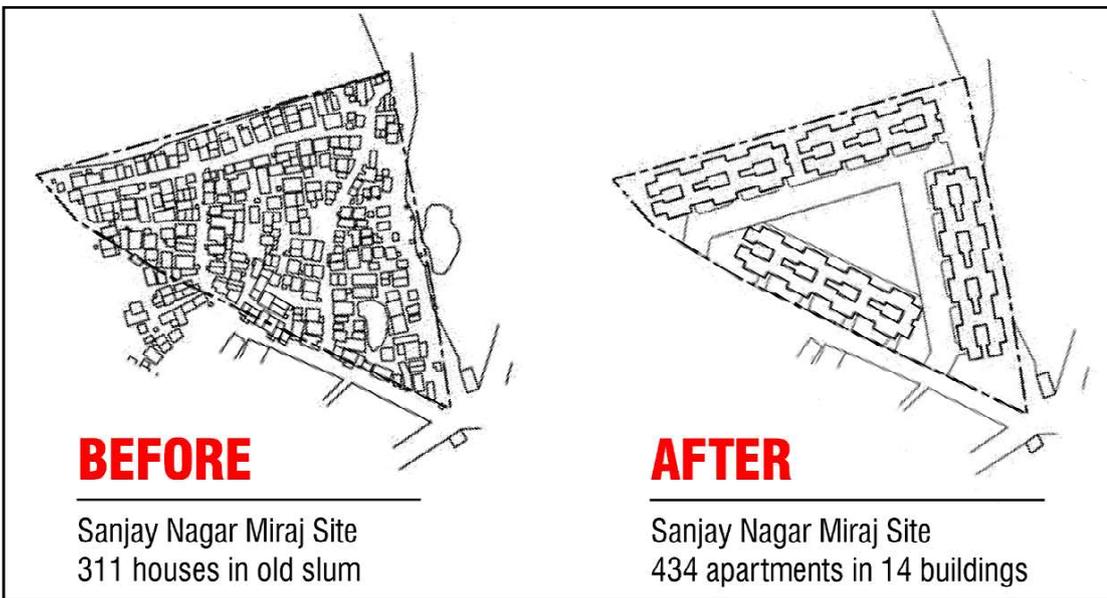


▲ In the “land readjustment” project that was finally proposed to the Municipal government and approved, the people who live in 23 slums on “untenable” land would move to 7 slums nearby that are on “tenable” land, and higher density housing would be built for them there. In all 7 sites, the project was to have provided permanent, decent housing to 3,798 poor families - almost half the urban poor in the city.



▲ Here is an aerial photo of one of the 7 receiving sites, showing the slum before it was redeveloped into higher-density blocks of walk-up flats.

▲ This aerial photo shows the same site four years later, when the slum had been replaced with 434 apartments in 14 blocks of housing.



▲ Here is the same site that is pictured in the aerial photos above. This before and after plan shows the crowded slum before redevelopment, and the same site after redevelopment, with all the families accommodated in cooperative apartment blocks.



▲ There were lots of meetings and workshops to develop the layout plans and apartment designs with the community women.



▲ The architects on the team found engaging and creative ways to include the community's junior members in the design of the new housing.



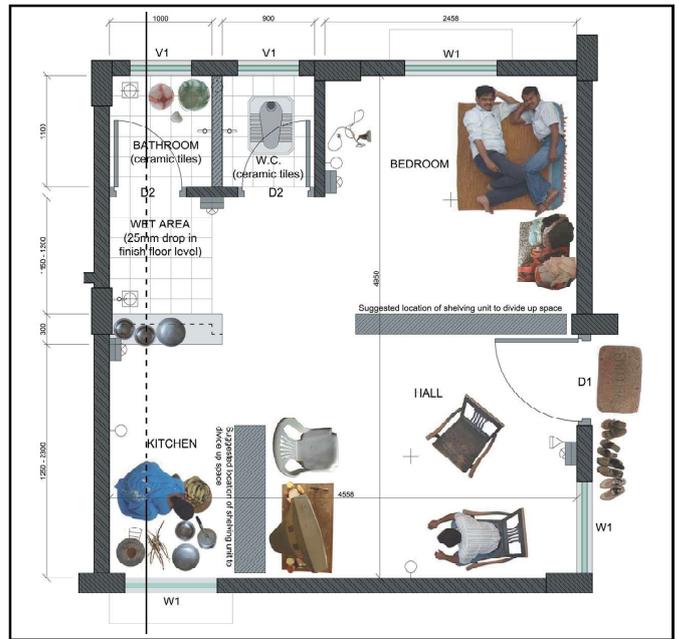
When a plan of the standard unit was finished, a full-scale drawing was made on the roof terrace of the office, so people could feel the spaces.



Once the plan of the standard apartment was finished, the next step was discussing how they would be arranged in the buildings.



The idea of arranging the apartments around an open courtyard, so all the units had windows on both sides, came from these design workshops.



And here is the same unit, after the architects have put it into a proper drawing, with illustrations, to help the people understand the plan.



The women were all very keen to have good air ventilation and as much daylight as possible in the apartments, so they'd be comfortable even during power outages.



Sometimes 3-dimensional models like these ones made it easier for people to visualize how the buildings and apartments are arranged.



▲ This is one of the computer-generated drawings the architects on the team produced to show a typical ground floor plan of one of the new buildings. The apartments are arranged around a central courtyard, so all the units get plenty of air and light from both sides. The arrangement of the buildings was also designed to leave room for planting trees, putting in playgrounds, parking rickshaws and two-wheelers - and even raising cattle!



▲ When the design of the individual apartment unit was finalized, a full-scale cloth-and-bamboo model was built of it, and the whole city was invited to come to a Model House Exhibition to see the design ideas the community people had come up with.



▲ Once the project was approved and the budget sanctioned, the next step was to move all the families living on the 7 "receiving" sites to temporary transit camps nearby, where they would stay while the new buildings were being constructed. Finally, this is the step that caused the most trouble, and because of problems finding sites for the transit housing, work on 3 of the 7 sites could never begin.



▲ The beneficiaries and their partners in Shelter Associates made regular visits to the construction sites, to monitor the construction and build confidence that the project would actually happen.



▲ Weekly meetings with the Municipal Commissioner and staff from all the key departments involved in the project helped to smooth over some of the many, many problems and obstacles that came up during the long course of the project construction.



▲ Inevitably, problems and conflicts came up in the process, and Shelter Associates sometimes had to play the role of mediator between the government and the interests of the people.



▲ Here is a group of future residents making an inspection visit to their soon-to-be-finished cooperative apartments on the Sanjay Nagar Miraj site.



▲ That's the Sanjay Nagar Miraj site, in the later stages of the construction of the 14 buildings planned for the site, with 434 apartments.



▲ That's what the completed buildings looked like, after they'd been painted and were ready to receive their beneficiary families.



▲ Another photo of one of the just-completed buildings, with a peek into the inner courtyard, with the open walkways.



▲ Looking up from the central courtyard, which brings light and air into the building, and provides all the circulation spaces.



▲ Looking down into the central courtyard, where two-wheelers can be parked and vendors can come to sell things to the women above.



▲ This woman has rigged up a clever clothes-drying rack on the courtyard-facing open corridor outside of her apartment.



▲ To keep costs within the subsidy amount, each family was left to complete the internal finishes like tiles and wall paint themselves.

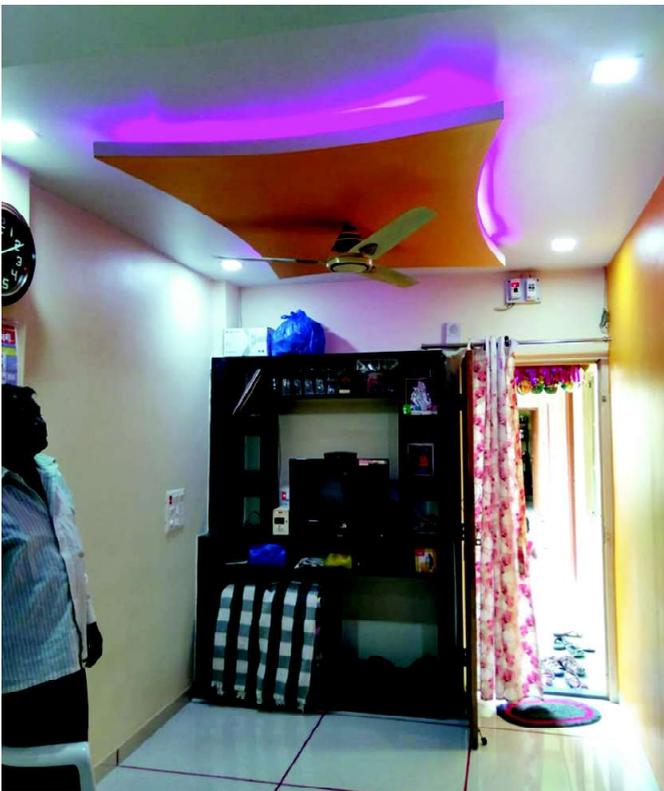


▲ You can be certain that lots of marvelous cooking will be done in this woman's fully-equipped stand-up kitchen, with all mod-cons.



▲ *This camera-shy young fellow is going to grow up in a clean, airy, healthy apartment, and will never have to wake up fearing the municipal demolition squad.*

▲ *And his mother has already proudly set out her collection of gleaming stainless steel utensils, in the compact and beautiful kitchen she has fitted out exactly as she has long dreamed of.*



▲ *If you had lived all your life in a small, dark, smoke-filled, dirt-floored, tin-sheet hovel in a slum, maybe you'd also put up pink disco lights in your first proper, decent, permanent home.*