The Role of Civil Society in access to energy


Workshop on energy access for urban and peri-urban poor
Energy Sector Management Assistance Program (ESMAP) and
the Cities Alliance
Case study of two cities - Pune and Sangli in the state of Maharashtra, India

Pune is the 7th largest city in the country with a population of 3.1 million (2011 census).

Sangli is 240kms south of Pune with a population of a little of half a million (2011 census). Known as the sugar belt of the state, it has hardly any industrial growth.
- household and settlement level surveys carried out by trained slum dwellers
- plane-table maps of every slum by professional surveyors
- Integration of spatial and socio-economic data on GIS software by SA
Inclusive Slum Rehabilitation: IHSDP in Sangli & Miraj

Receiving Sites

Approximate Distances

Slums to be relocated under the proposed IHSDP...
IHSDP: Sangli & Miraj
Community Participation

The communities are involved in all stages of the rehabilitation process, including the design of the residential units.

Shelter Associates formed slum committees which assisted with the process of social mobilization and will become the co-operative societies once the buildings are finished.

The co-operative societies will have the responsibility of operating and maintaining the new buildings.
Status of Fuel use distribution and BPL ration cards covering 3470 households across 28 slums

**SMKMC 28 SLUM FUEL USED**

- Coal: 1%
- LPG: 15%
- Rockel: 22%
- Wood: 41%
- Rockel and Wood: 22%
- Gobar Gas: 0%

**SMKMC 28 slums Ration Card Status**

- Orange: 53%
- Yellow: 47%
Two slums will be rehabilitated on this land which was occupied by the Aba Dhotre slum.

Detailed mapping and socio-economic data was collected from every household for both the slums with the help of the communities.
Residential Units have a built up area of **25m²** (269 square feet).

There are **31 Residential Units** per (G+3) building.

All Residential Units are arranged around a **central courtyard**.

Space is allocated on the Ground Floor for **two-wheeler parking**.

**Animals** can be accommodated in the recesses of the buildings.
The VAMBAY project implemented in 2003 has been a great example of how a non-inclusive approach and lack of data about communities can lead to disastrous projects. The kitchens in the 14.8 sq. mts. tenements were provided with cooking platforms which were totally unsuitable for women who now spill out on the corridors and cook on traditional chullahs. Hence the introduction of smokeless chullahs was very relevant in this context.
Status of electricity distribution covering 3470 households across 28 slums

Sangli 28 slums electricity status

- Yes 76%
- No 24%

Sangli 28 slums electricity status

- Own 59%
- Borrowed 17%
- No 24%
Cost of access to electricity and LPG fuel by households residing in slums in Sangli city

It works out to almost Rs.2500 ($48) per household. But families who own metered connection in 15-20 sq.mts. huts, run moderate bills from Rs. 80 to Rs. 150 on an average and this includes two lights, a fan, a TV and occasional use of grinder.

The capital cost of getting an LPG connection is almost Rs.4500 ($87) which is very steep for most families whose per capita income is less than Rs. 600 ($11.5)/ month.

However, it is our finding that the monthly expense on fuel can be higher than an LPG connection if households have to buy kerosene in the open market. The ration card allows them access to barely 4-5 litres of kerosene depending on the family size. On an average a family of five requires 12-15 litres per month and the cost in the open market is Rs.40-45/ litre ($ .8) while the ration card subsidized kerosene is Rs. 15/ litre ($ .3)
The organization of data
Slum Data Directory for Pune and Sangli

Interactive data on slums wardwise of Pune city on SA website
Pune City-The organization of data
Slum Data Directory

Pune Gholeroad administrative ward no.2

This is an administrative ward of the Pune Municipal Corporation. The area of this ward is 14.5 square kilometer (according to Google Earth). This ward is divided into 6 electoral wards and has 45 slums in all. This administrative ward under zone no.1 and Mr. Zailabhate is the zone commissioner.

City: Pune

Ward Office:
Gholer road ward office, Gholer road near Mahatma Phule Museum shivaji nagar, pune
Ward Officer: Mr. Vijay Landge Mob: 980095311

plot no. 15
Data not available
The organization of data

Slum Data Directory
The organization of data
Slum Data Directory
The organization of data
Slum Data Directory
Settlements covered under **Individual Toilets**

340 toilets have been provided under cost sharing basis scheme across these five settlements:

- **Shelke Vasti**
- **Samartha Nagar**
- **Sargam Chawl**
- **Shivrai Nagar**
- **Krushna Nagar**
Pune Slum Census using GIS (2000/2001)

Percentage of households with electricity

- Have electricity: 94%
- Do not have electricity: 6%

- Own metered supply: 30%
- Borrowed supply: 6%
- No supply: 64%
Methodology

- Ambedkar Nagar (a.k.a. Dhayari) and Panmala in Pune were used as case studies for the pilot. A **survey form** was created with the help of the MSEB.
Methodology

- Each slum house was assigned a unique number which corresponded with the digital map and the survey form.

Queries

SA and the community representatives eventually facilitated metered connection for 35 families where they were allowed to pay the capital cost in 2 installments.
Electricity Supply Type Query
Electricity Pole Connection Query

Legend

- Pole Numbers (15)
  - elecpole1 (15)
- Houses connected to pole 1 (45)
- Houses connected to pole 2 (60)
- Houses connected to pole 3 (27)
- Houses connected to pole 4 (24)
- Houses connected to pole 5 (45)
- Houses connected to pole 6 (45)
- Houses connected to pole 7 (31)
- Houses connected to pole 8 (13)
- Houses connected to pole 9 (8)
- Houses connected to pole 10 (3)
- Houses connected to pole 11 (18)
- Houses connected to pole 12 (41)
- Houses connected to pole 13 (7)
Pune Slum Surveys (2007)
Chaitraban & Siddharth

- Shelter Associates resurveyed two slums in 2007 as part of another research project. This survey included 2 slums (1153 households).
Siddharth Nagar Slum, Pune.

Survey in 2000

- Own (76%)
- Borrowed (11%)
- No (13%)

Survey in 2007

- Own (81%)
- Borrowed (16%)
- No (2%)
Chaitraban Slum, Pune.

Survey in 2000:
- Own (23%)
- Borrowed (52%)
- No (25%)

Survey in 2007:
- Own (56%)
- Borrowed (43%)
- No (0%)
Computerization effort and improvement in service provision by MSEB since 2006

Since 2006-07 electronic meters have been introduced. There is a security deposit of approximately $10 that is paid for acquiring a meter. The total cost of installation including deposit and wiring is approximately $48 but can vary depending on the wiring distance to the hut from the distribution pole.

MSEB has contracted out the bill distribution system

Meter readings are photographed every month and the jpeg image is included as part of the bill. This service is also contracted out. The billing is computerized and payments can be made online.

There are periodic checks carried out by MSEB squads to check on the borrowers in slums. They are encouraged to get their own meters.

However use of GIS technology for provision and monitoring supply of electricity is yet to be institutionalized.
Tariff and procedure for new electric connections in Maharashtra state

Documents required are: a) filled out application form (b) corporation tax receipt (c) Ration card/ photo Id provided by the government (d) a test report from an authorized electrician (e) an affidavit on a Rs. 100 stamp paper stating that you have never owned a meter previously.

For normal residential purpose the rate per unit is Rs. 2.57 for a slab up to 100 units consumption. It increases to Rs. 4.55 per unit for consumption of units between 100-300 units.

. There is a special rate for BPL families of Rs.1.5 per unit and max units allowed is 30. However nobody can avail of this in the urban areas as the first requirement is that families should be legal owners of their homes.
CITIES ALLIANCE/ESMAP/DONORS CAN HELP:
Help cities institutionalize the use of GIS technology so that all govt. departments are on one platform.
Fund pilot projects to test and develop new models e.g.
- Installment pay based meters,
- Shared meters
- Bulk piped gas supply
- Energy efficient lighting and appliances
Lend support to slum upgradation projects
in situ conversion from shanties to proper structures with title to obtain official "grid" connection and cooking gas supply
Link financial support to undertaking pilots at city level in developing countries with energy and clean fuel access for underprivileged connections in a few states of India.