

 <p>16th WEDC Conference Infrastructure for low-income communities Hyderabad, India 1990</p>	<p>Low-cost sanitation programmes - Orangi</p> <p>Ms Perween Rahman</p>
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1. THE PROBLEM OF KATCHI ABADIS:(1)

The urban crisis in Karachi has many aspects, but perhaps, the most dangerous aspect is the growth of katchi abadis. At the beginning of this decade, according to KDA estimates, there were 362 katchi abadis (unauthorised settlements) in Karachi. Now there are more than 450, and most probably in the coming years there would be many more.

The emergence of katchi abadis is caused by powerful economic and social trends, which first appeared with the industrial revolution, and are now moulding the developing countries in Asia or Latin America. It is a problem whose magnitude has grown with each decade in Pakistan.

2. FROM BULLDOZING TO UPGRADING:(2)

At first our planners thought that they could get rid of the katchi abadis by bulldozing them and settling the squatters in official colonies like Korangi and Landhi. But the number of squatters grew enormous and the capacity to build colonies dwindled. Moreover, the squatters acquired political clout on account of their numbers. While most of them could not be settled in official colonies, neither could they be bulldozed with impunity. Bowing to the doctrine of necessity katchi abadis were to be regularized and upgraded; our planners had to follow international precedents.

3. THE DILEMMA OF UPGRADING:(3)

Upgrading means providing the same facilities to the katchi abadis as are provided to the affluent quarters, of the city - roads, piped water, electricity, and above all sanitation and underground sewerage.

Upgrading is necessary and urgent for many reasons: first, of course, is the human reason, the imperative of social justice. Secondly, as international experience has shown, it is dangerous to have large and neglected slums which may become the breeding ground for class conflicts. The early migrants may be docile, but their children are militant.

However, the conventional cost of these facilities is quite high specially of sanitation and underground sewerage. Official and commercial agencies can realise the cost from solvent customers, but cannot do so from low income settlers.

The hope of optimistic planners to upgrade katchi abadis with foreign loans ignores the fact that the beneficiaries cannot repay the cost.

4. THE KATCHI ABADI OF ORANGI:(4)

Settlement in Orangi began in 1965. After 1972 it grew rapidly, at present extending over seven to eight thousand acres, and

housing (according to popular estimates) one hundred thousand families. It is still growing. The settlers bought land from dallals (touts), and built houses without any government help.

The majority belong to the lower classes - labourers, skilled workers, artisans, shopkeepers, vendors, clerks, etc. There is a sprinkling of middle class entrepreneurs and workshop owners. Sample surveys indicate that the average monthly family income is around one thousand rupees.

The population includes Mohajirs (old immigrants from India), Biharis (Urdu speaking immigrants from East Pakistan - now Bangladesh), Pathan immigrants from the Northern areas, immigrants from Punjab, and local Baluchis and Sindhis.

5. ECONOMIC AND POLITICAL STRUCTURE:(5)

Familiarity with Orangi reveals that a population as large as that of Gujranwala, Colombo, Amsterdam, etc., receives scanty services from official agencies.

The people of Orangi depend mainly on "informal" (often underground) sources. Land is obtained through dalals; credit, material and advice for housing is obtained from thallawalas (block manufacturers). Self supporting private schools and coaching centres teach their children; private doctors and quacks (physical and spiritual) treat their ailments. They continuously resort to the black market and the bribe market for business facilities or welfare amenities or peace from harassment.

That this huge informal sector and its black market is many times the size of the formal or official sector indicates the weakness of government planning for the poor.

At the same time it indicates the vitality of the poor themselves and their skill in the art of survival.

Besides their vitality is demonstrated by the presence everywhere of "anjumans" and "associations" which lobby intensely all the time, presenting claims and guarding gains.

It is further demonstrated by the growing consciousness, specially among the new generation, of their collective vote power and street power.

6. ORANGI PILOT PROJECT (OPP):(6)

OPP as an NGO began to work in Orangi in April 1980.

OPP considers itself a research institution. Its objective is first to analyse outstanding problems of Orangi and then, by prolonged action research and extension education, discover possible solution.

OPP itself does not construct sewerage lines or set up welfare clinics or schools or industrial homes etc. It promotes self-finance and self-management. By means of research and extension it tries to change attitudes so that the practice of cooperative action may grow among the Orangi residents.

OPP publishes a quarterly progress report in English and Urdu bulletins, which contain financial statements and quarterly and cumulative tables of work. Besides numerous monographs and case studies are also published.

Since 1980, the following action research programmes have developed models of community participation and management:

1. Sanitation (started in 1981).
2. Housing (started in 1986).
3. Basic health education and family planning (started in 1985).
4. Women's work centres (started in 1984).
5. Education project (started in 1986).
6. Economic programme for family enterprises (started in 1987).

At present OPP has been upgraded into four permanent institutions. The sanitation programme is now a part of the Research and Training Institute.

7. CASE STUDY OF THE LOW-COST SANITATION MODEL:(7)

OPP has applied the Research and Extension technique to evolve a model of low cost sanitation - self built, self financed and self managed by the house owners.

The sanitation and sewerage problem in the katchi abadis presents a dilemma. OPP has demonstrated that it can be resolved by mobilising local resources - social, managerial and financial.

a) R & E approach in agriculture:

Research and Extension has been extremely successful in the case of small farmers. Its assumptions are:

1. The small farmers can and should manage and finance their own farms.
2. But departmental assistance should be provided to them in three respects:
 - Research e.g. improved methods and implements, HY varieties, plant protection, animal husbandry etc.
 - Dissemination and demonstration of research findings to small farmers (extension).
 - Provision of adequate and reasonably priced (sometimes even subsidised) services and supplies.

The position of low income house owners in a katchi abadi is analogous to the small farmers and therefore the above assumptions can be valid in their case too.

b) R & E for low-cost sanitation:

OPP has successfully tested the approach and its assumptions to introduce a sanitation system in many sectors of Orangi.

There are four levels of a modern sanitation system:

1. Inside the house - the sanitary pour-flush latrine.
2. In the lane - underground sewerage lines, manholes, and house connections.
3. Secondary or collector drains.
4. Main drains and treatment plants.

OPP found the house owners willing to accept the responsibility of constructing and maintaining the sanitary arrangements at the first three levels with their own finances and under their own management like the small farmers.

The first three levels constitute 80 to 90% of the system. The main drains and the treatment plants must remain, like main roads and water lines, the responsibility of a central authority.

c) Cost reduction and mobilisation through R & E:

The house owners accepted the responsibility for the construction of the sanitation system because the cost was drastically reduced through R & E.

Research consisted in:

1. Simplifying the designs.
2. Surveying and mapping.
3. Preparing standardised steel shutterings.
4. Writing instruction sheets, posters etc.
5. Preparing models, slides and audio visual aids.

Extension consisted in:

1. Finding activists in the lanes.
2. Training lane managers and mistris.
3. Providing accurate plans and estimates.
4. Loaning tools and shutterings.
5. Social and technical guidance and supervision.

d) People's investment in low-cost sanitation:

July 1981 to March 1990

Head	No.	Lgt/Rft	Cost/Rs	Houses
Sewerage lines	4176	1046255	14324340	64495
Secondary drains	328	429667	1555754	
Sanitary latrines	64495		32247500	
			48127594	
			US\$ 2291790	

The R & E approach drastically reduced the cost and widely mobilised the local managerial and financial resources.

OPP's investment in R & E from July 1981 to March 1990 has been

Rs 2.8 million as compared to peoples investment of Rs 48.12 million a ratio of 1:17.

But if we calculate according to conventional contractor's rate which is six times the peoples rate. Peoples investment in sanitation comes to over Rs 288 million and the ratio of expenditure on R & E to peoples investment comes to 1:100.

The sewerage lines and the sanitary latrines built with their own money, and under their own management are being maintained by the house-owner at their own cost. There has been no need for a revolving fund and no expensive botheration about recoveries and defaults.

e) Other impacts: socio-economic

i) Impact of underground sanitation on health and environment:

In Orangi bucket latrines and soakpits were being used for the disposal of human excreta, waste water flowed in the lanes. Poor sanitation was damaging health, poor drainage was causing waterlogging and thus damaging the value of property.

Through sanitation programme, people saw clearly, the cause of damage to their health and property. With 4176 lanes out of 6247 having underground sewerage lines, the environment is now clear of filth. Health survey shows that 70 percent diseases have been controlled.

ii) Change in attitude/awareness/community spirit:

With sewerage lines laid in lanes, an informal association have developed among the lane residents.

People's attitude have changed. Confidence that problems can be solved by themselves is manifest in further steps towards development. Thus, roads have been laid in the lanes by the municipality, and garbage disposal has improved by 25 percent, 14,036 rft. of open drains built by the municipality has been converted into underground sewerage. People have become aware of higher standards of sanitation.

iii) Women's role - increase in economic activity:

Women have realized that inspite of social bindings they can participate in development. They have shown this in sanitation by undertaking motivation, money collection and maintenance. With this confidence they are increasingly joining the economic activities.

f. Upgrading OPP into a Research and Training Institute:

In 1988, the Planning Commission, Government of Pakistan evaluated the sanitation model. It recommended that OPP be converted into a Research and Training Institute, with Orangi serving as a demonstration. In 1988, OPP/RTI was registered. Presently, research and training is being undertaken to duplicate the model.

g. Extension outside Orangi:

Since 1988, assistance is being extended to organisations outside Orangi, who desire to duplicate the sanitation model.

OPP/RTI's role is to train, impart technical advise, and monitor. In four katchi abadis work has been undertaken in 16 lanes, meaning 1603 rft. Peoples investment has been Rs 49,478. At present work is in progress in 2 more katchi abadis.

8. CONCEPT OF PARTNERSHIP IN DEVELOPMENT:

The lesson learnt from the sanitation programme is a concept of development of katchi abadis, with people and government as partners. Orangi has shown that people can be mobilized to finance, manage and maintain a modern sanitation system at the internal level. The external development has to be the responsibility of the government. Thus, reducing government expenditure and extent of implementation, making recovery possible (8).

Time frame and targets:

While comparing the time required for mobilization and the targets, Orangi shows that the first lane in 1981 took six months to mobilize but today out of the 6347 lanes in Orangi 4176 (66 percent) lanes have an underground sewerage line self-financed, managed and maintained. Today no effort is required to mobilize.

Orangi itself had no precedent but for other settlements Orangi serves as the demonstration.

9. QUESTION OF REPLICABILITY:

With the success of the model in Orangi, efforts are being made for its replication.

There are two ways in which it can be replicated: 1) as a policy of the government, and 2) through NGO's and Community Action Groups (CAGs).

The issues related to the above are:

The government's attitude:

There is lack of acceptance of the concept of partnership. The attitude of patronage is ingrained having its roots in our feudal structure.

This attitude does not match with the development needs. The result is duplication and ill-planned development (often based on political patronage) alienating the people.

The NGO's, CAG's attitude:

Influenced by government's attitude it takes more time to organise people for self help. An added disadvantage is the attitude of the NGO's who are more welfare or lobby orientated. Their attitude needs to be orientated towards development (through empowering people with knowledge).

10. CHANGES REQUIRED:

Changes required at the:

- Government's level: acceptance of the concept of partnership, leading to a change in policy and the institutional structure.
- NGO's level: understanding of the R & E approach.

- CAG's level: changing from an approach of welfare and lobby to self help.

11. EFFORTS BEING MADE:

Setting up of the RTI:

We are focussing attention on establishing the Research and Training Institute to extend our model outside Orangi. Manuals, audio-visuals, monographs and reports have been prepared. Training of groups has become a regular activity. RTI's role is to train, monitor and document.

Training:

Contacts have been established with groups in the government sector, NGO's, CAG's as well international agencies which send members for training.

Bulletin:

A quarterly bulletin is published in local language for extension to groups in Pakistan.

12. DIRECTIONS FOR FUTURE:

a) Replication:

To undertake research and impart training at all three levels. Response is encouraging from the NGOs and CAGs.

b) Demonstration models in Orangi:

To continue programmes in Orangi which serve as demonstration.

c) Research/networking:

To develop an understanding of the development issues and alternatives.

Footnotes

- 1 to 7-a & b are excerpts from the monograph. Case study of OPPs low-cost sanitation programme by Dr. Akhtar Hameed Khan.
8. For details on the concept see report "Proposal for Development" evaluation of Asian Development Bank financed Karachi Urban Development Programme, April 1989. An OPP publication.