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WATER & SANITATION IN THE WORLD'S CITIES

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Resource Box

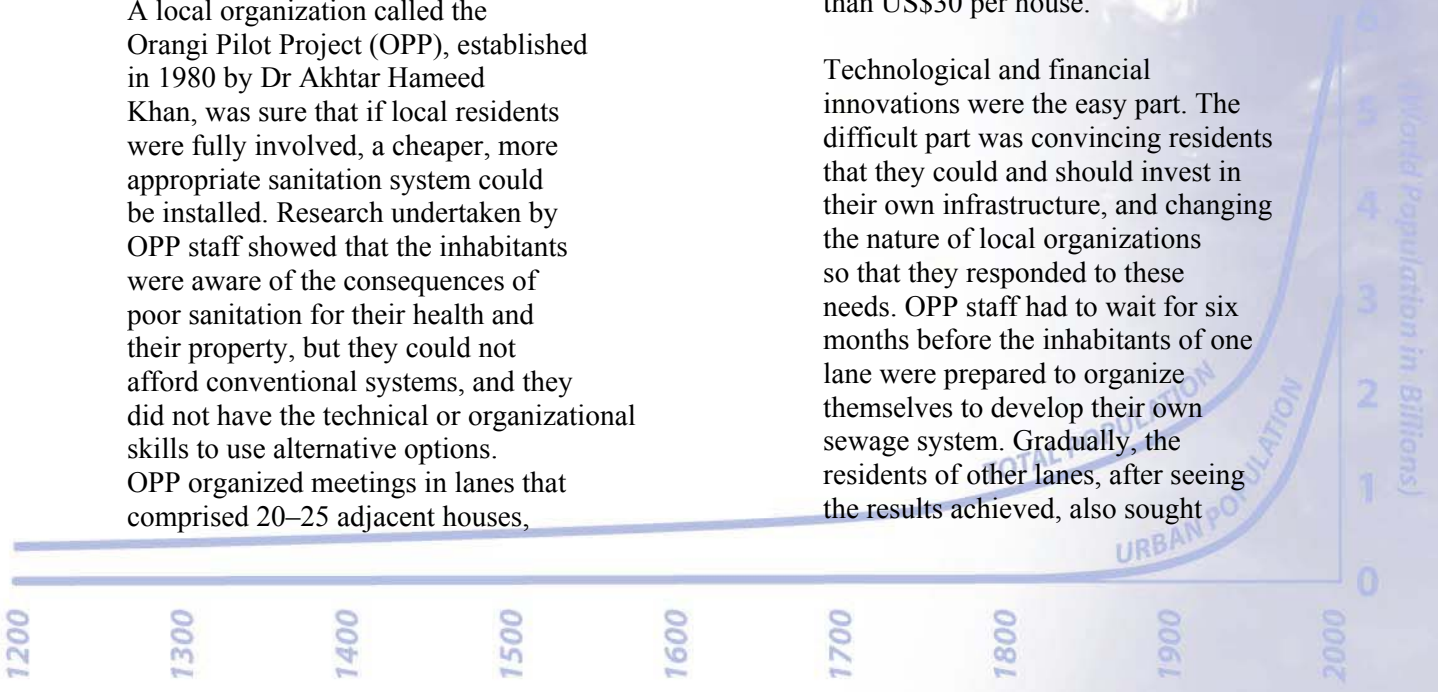
Beyond Pilot Projects In Orangi

Orangi is a low-income settlement extending over 10,000 acres (or 4160 hectares) with some 1.2 million inhabitants. The informal settlement began in 1965, and now most of the 113 settlements within Orangi have been accepted by the government, and land titles have been granted. Most inhabitants built their own houses and none received official help in doing so. There was no public provision for sanitation as the settlement developed; most people used bucket latrines, which were emptied every few days, usually onto the unpaved lanes running between the houses. More affluent households constructed toilets connected to soakpits, but these soakpits filled up after a few years. Some households living near creeks constructed sewerage lines which emptied into the creeks. The effort of getting local government agencies to lay sewerage lines in Orangi was too much for local residents, who felt that these should be provided free.

A local organization called the Orangi Pilot Project (OPP), established in 1980 by Dr Akhtar Hameed Khan, was sure that if local residents were fully involved, a cheaper, more appropriate sanitation system could be installed. Research undertaken by OPP staff showed that the inhabitants were aware of the consequences of poor sanitation for their health and their property, but they could not afford conventional systems, and they did not have the technical or organizational skills to use alternative options. OPP organized meetings in lanes that comprised 20–25 adjacent houses, explained the benefits of improved sanitation and offered technical assistance. Where agreement was reached among the households in a lane, they elected their own leader who formally applied for technical help. Their site was surveyed, plans drawn up and cost estimates prepared. Local leaders kept their groups informed and collected money to pay for the work. The laying of sewers then proceeded, and the maintenance was also organized by local groups.

OPP's research concentrated on whether the cost of sanitary latrines and sewerage lines could be lowered to the point at which poor households could afford to pay for them. Simplified designs and standardized steel moulds reduced the cost of sanitary latrines and manholes to less than one-quarter of the contractors' rates. The cost of the sewerage line was also greatly reduced by eliminating the profits of the contractor. The average cost of the small-bore sewer system is no more than US$30 per house.

Technological and financial innovations were the easy part. The difficult part was convincing residents that they could and should invest in their own infrastructure, and changing the nature of local organizations so that they responded to these needs. OPP staff had to wait for six months before the inhabitants of one lane were prepared to organize themselves to develop their own sewage system. Gradually, the residents of other lanes, after seeing the results achieved, also sought



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• OPP's assistance. There were problems in some lanes, and money sometimes went missing or proved to be insufficient. In general, OPP staff stood back from these issues (once they had persuaded the first communities to begin). Once a lane had ensured that the finance was available, they would provide technical assistance only. The first challenge was one that the communities had to realize by themselves.

The scope of the sewer construction programme grew as more local groups approached OPP for technical assistance and the local authorities began to develop the mains into which the sewers could be integrated. The concept of component-sharing between people and government evolved. The inhabitants could finance, manage and maintain the construction of latrines, lane sewers and small secondary sewers (known as internal development), and the government could take responsibility for financing, managing and maintaining the large secondary sewers, trunk sewers and treatment plants (know as external development). To date, nearly 6000 lanes have developed their own sewer systems linked to sanitary pour-flush latrines serving over 90,000 housing units, using their own funds (the equivalent of around US$1.4 million) and under their own management. One indication of the appropriateness of the model developed by OPP is the fact that many lanes have organized and undertaken lane sewerage investments independently of OPP; another is the households' willingness to make the investments needed in maintenance. The main reason why low-income households could afford this is that the work cost one-sixth of what it would have cost if it had been undertaken by the state.

Women were very active in local groups; many were elected group leaders and it was often women who found the funds to pay for the sewers out of household budgets.
OPP understood the need to simultaneously improve technical, financial and organizational options. At the beginning, it was established to provide a pilot scheme for the government. Its experience taught it that the government generally had little interest in what it was trying to do. But as local residents became more interested and involved, so too did their elected representatives, who now found that they were dealing with people who had a good understanding of infrastructure investments. There are now many project-level agreements between OPP, local communities and state agencies. In all of these settlements, the state is doing much more than it was before, although it is working within a model of sanitation that has reduced its responsibilities. The programme is now being replicated in eight cities in Pakistan by local NGOs, CBOs and local governments, and in 49 other settlements in Karachi by local governments and the government agency responsible for upgrading the informal settlements, the Sindh Katchi Abadi Authority.

Source: Hasan, Arif (1997), *Working with Government: The Story of OPP's Collaboration with State Agencies for Replicating its Low Cost Sanitation Programme*, City Press, Karachi, 269 pages; Orangi Pilot Project - Research and Training Institute (2002), *Katchi Abadis of Karachi: Documentation of Sewerage, Water Supply Lines, Clinics, Schools and Thallas, Volume One: The First Hundred Katchi Abadis Surveyed*, Orangi Pilot Project, Karachi, 507 pages.

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