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july '06 > view all entries > **entry**

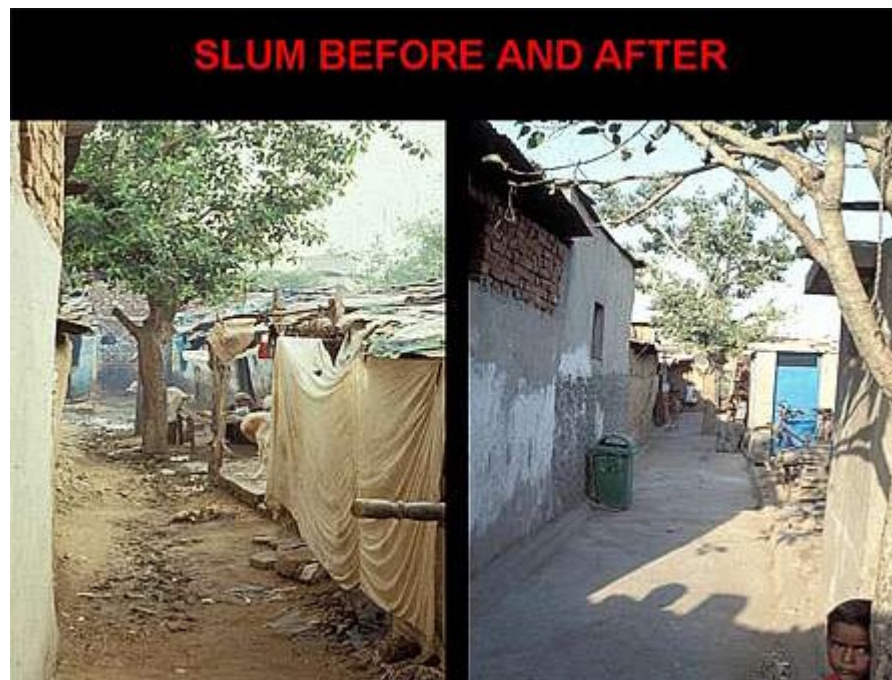**< Previous | Next >**

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Slum Networking - Transforming Settlements from Within

Country: India

Organization: Himanshu Parikh Consulting Engineers

2) Focus of activity: Technology

3) Start Year: 1987

4) Positioning in the mosaic of solutions:
- **Main barrier addressed:** Dearth of complementary goods (e.g., land and infrastructure)
- **Main principle addressed:** Enable long-term investment

5) Description of housing product/service offering: Slum Networking uses water and environmental sanitation as a catalyst to radically change the habitat of the poor and alleviate poverty, cheaper and faster than most development alternatives.

A third of the urban population globally lives in shanties. Can this change? Slum Networking exploits the powerful correlation between slums and natural drainage paths to transform the environment and infrastructure of distressed cities. Slums are no longer liabilities but, instead, wonderful catalysts of change.

The first impact of Slum Networking is a huge spurt in the investment by the poor in improving their shelter. Physical services, social status and tenure security are cited in descending order as the three stimuli of investment. The governments of developing nations cannot afford to house all their poor. This strategy achieves the same end goal at one fifth of the investment in housing by the state, tapping into

the latent potential of the poor to raise their own resources. As the private sector and local economic forces join in partnership, the cost to the state reduces even further. Most unexpectedly, surveys show that knock-on effects on health, education, incomes and social conditions of the poor are massive.

The work has so far covered a million people in many cities of India and questions our assumptions about "poverty" and the resourcefulness of the "poor". The approach challenges the conventional paradigms of development and uses technology and constructive partnerships to multiply resources, reduce aid dependency and facilitate mechanisms of secure tenure, micro-banking and democratic decentralization.

The plight of rural areas is not much better than slums. 70% of the population in India lives in villages without decent physical infrastructure and housing. The concepts of Slum Networking are equally valid for these rural settlements. The recent work attempts to extend the "Networking" concepts from urban to rural to reach this larger population.

6) Description of innovation: My first exposure to low cost housing was in the eighties, when I realized that building houses per se through state funding and aid just cannot meet the huge shelter demands of the poor.

In 1987, we were invited by Indore Development Authority to design infrastructure for a city slum programme aided by British government. Whilst the engineering concepts of Slum Networking were first conceived there, the subsequent maintenance went astray as the aid finished and the city authorities lost interest. All subsequent innovations in Slum Networking in other cities and villages have been on developing self-sufficiency and alternative implementation strategies. The underlying philosophy is as follows:

* Physical infrastructure, particularly water and environmental sanitation, can transform human habitat at a fraction of the cost of rebuilding new settlements. It stimulates massive community investment in its own shelter, especially when coupled with constructive partnerships with the government and the private sector. The knock on impact on health, education and incomes is substantial and rapid.

* We have demonstrated that the `poor' can, in conducive circumstances, mobilise huge resources to change their lives. This latent strength is tapped to remove aid dependency.

* Slum Networking exploits the correlation between slums and the natural drainage paths of the city to improve the environment and provide high quality, gravity based, house- to-house services at costs lower than the conventional 'slum' solutions such as public standposts and community latrines. The various components of infrastructure are bundled for economy and designed in an integrated way from

micro to macro level with respect to contours. It uses innovations such as holistic computer modeling, topography management, constructive landscaping, using roads as storm channels, miniature appurtenances, storm flushing of sewerage and self ventilated manholes to improve performance and reduce cost.

Correlation Between City Slum Fabric and Natural Drainge Courses – Indore.
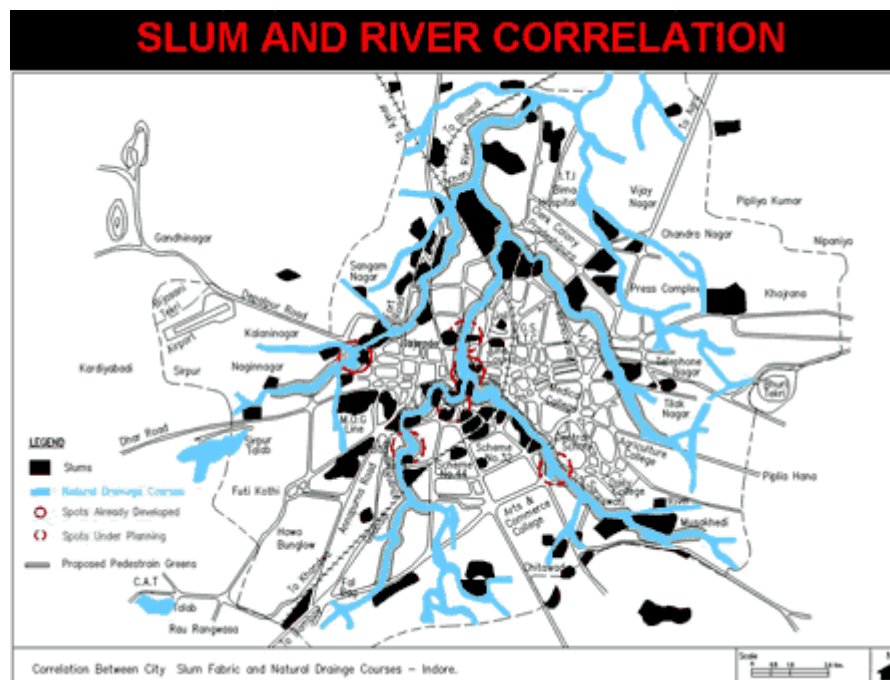
7) Benefits to clients: A good way to reach out to people is through the word of mouth advertisement of work done. The Baroda slum dwellers were motivated to take up Slum Networking after they visited Indore and Ahmedabad slum communities took their cue from Baroda after they had seen the work there and spoken to the people.

It also helps to tap into existing networks. In Ahmedabad, Arvind Mills took up slums where their workers resided. The village initiative in Andhra was launched in the districts from where the Chairman of Byrraju Foundation originated. The Baroda and Mumbai projects were piggybacked on the existing presence of NGOs there and their goodwill.

To ensure that the delivery model is appropriate to the community needs and sustainable, we subject our proposals to the following yardsticks:

* There must be tangible and measurable results. The communities are weary of patronizing platitudes of development and false hopes. A wise old lady in Ahmedabad slum when asked if she would like community awareness programmes and participatory learning replied politely "that would be nice son but can we have the water first?"

* The approach must make good business sense to attract private capital and lift the development out of the realms of charity for it to be upscaled.

* The community must be a capital partner. This ensures its total commitment to the project and also the subsequent maintenance of assets. It is also a good test of the efficacy of the solutions. The community will not invest its hard earned money unless the solutions are appropriate to its needs.

* There must be a huge multiplier built into the development process so that the initial investments leverage at least 10 fold ultimate investment from the community beyond the project funds.

We draw the most marginalized into the development by persuading their better off neighbours to cross subsidise. The community as a whole decides on the hardship cases and the extent of subsidy to achieve the common good.

8) Key operational partnerships: There are three main partners in the model, namely, the community, government and business.

The community's role is that of a client, consumer and a capital partner, not a "beneficiary". It also subsequently manages local maintenance within the settlements.

The government partner channels its development budgets into the project. However, as much as the resources, its partnership helps to develop policy framework and address issues of tenure. In the cities the civic authorities are partners whereas in the village it is the Rural Ministry.

Apart from funds, businesses bring planning, implementation and management skills to the project. In Baroda this was done by United Way set up by the Federation of Baroda Industries. The Mumbai project was run by a result oriented NGO YUVA. In Ahmedabad pilot slums, Arvind Mills, a city textile group, ran the project on behalf of the community and the municipality through its own NGO Sharda Trust, supported by Saath. The Vice President of Arvind Mill sees this as "enlightened self interest" and not philanthropy. The Andhra villages are managed by Byrraju Foundation, set up by Satyam Computers, a software giant of India. Similarly, Royal Society of Arts and Manufacturing (RSA) in UK has also supported us.

Exceptionally, small grant inputs are accepted as long as they are catalytic. For example, in Bhopal and Baroda, UNICEF joined in to promote self financing and demonstrate to the skeptics that the poor can raise resources.
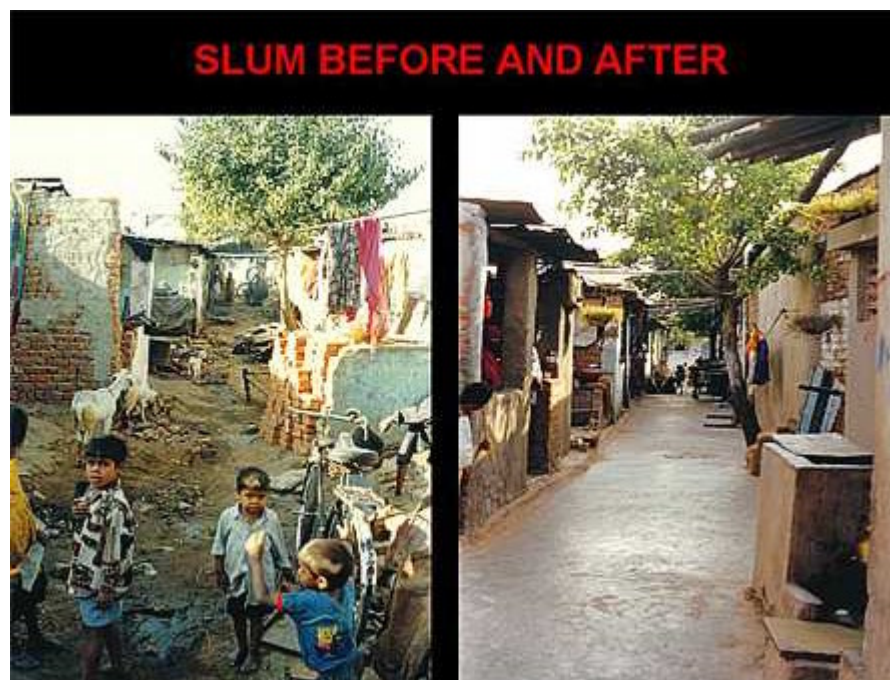
9) Financial model: The technology innovations bring quality, house-to-house infrastructure at costs half that of the conventional. Partnerships with government and the private sector further reduces the community's share of water and environmental sanitation to a third, releasing huge resources for its larger investment in shelter upgradation. For additional backup, Saving and Loan Societies provided the micro-banking in Baroda and Mumbai whilst in Ahmedabad this was done by Self Employed Women Association Bank. For the Andhra villages, Byrraju Foundation is in dialogue with formal sector ICICI Bank for community loans to the Panchayat (elected village council formed under the 74th Amendment of the Indian Constitution for democratic decentralization of power) with risks underwritten by the Foundation.

- **Costs as percentage of income:** 10

- **Financing:** The first project at Indore was financed by aid, but learning from its flaws, the

subsequent ventures have attempted self-sustainability.

Currently the infrastructure development costs are shared almost equally by the community, government and business, though the respective contributions can vary from 25% to 50% from project to project depending on their relative strengths and whether any additional partners have joined such as UNICEF or RSA. However, the significant additional costs of subsequent shelter improvements are met exclusively by the communities. Thus the communities eventually manage the lion share of investments, borrowing as necessary from friends and relations.

The community also then pays taxes to the civic authorities for the maintenance of their infrastructure.

10) Effectiveness

● **Project outcomes:** Slum Networking has reached around a million people in many cities. In an Ahmedabad survey, post project, the average investment in housing by slum families has been a whopping 58,000 rupees per family, an 18 fold multiplier on the government's 1/3rd share of the original investment in infrastructure of 9,000 rupees. Contrast this with an average housing investment of 8,600 rupees in the non- serviced slums. The other changes are no less striking. Infant mortality has dropped from 6% to 1%, working days lost to illness reducing from 64 to 9 per year per person and medical expenses almost halving. The number of children attending school has increased from 41% to 72%. The monthly expendable income has increased by almost 50% in real terms, the greatest increase being in female incomes.

● **Number of clients in past year:** We have focused on the replication of our urban slum experience in the rural areas. We have taken up two villages of Andhra Pradesh with 10,000 people and are now developing finance and implementation structures to start work.

● **Percentage of clients that are poor or marginalized:** 80

● **Potential demand:** India has 100 million poor living in slums and 700 million people living in villages, half of whom are poor. The aggregate potential demand is thus of 450 million poor people (75 million families). At rupees 15000 per family (1 $=45 rupees) for infrastructure development, the market size is 25 billion dollars. The complementary demand for housing finance is even greater at about 100 billion dollars! A partnership and catalytic approach is propagated as such funding is beyond the government budgets and aid. If extended to the global poor, the markets would increase several fold to mind boggling numbers.

In the near future we are aspiring to target half a million people (75,000 families) in the villages of

Andhra Pradesh for water and sanitation at the cost of 25 million dollars to be raised in partnership between the people, government, businesses and the banking sector.
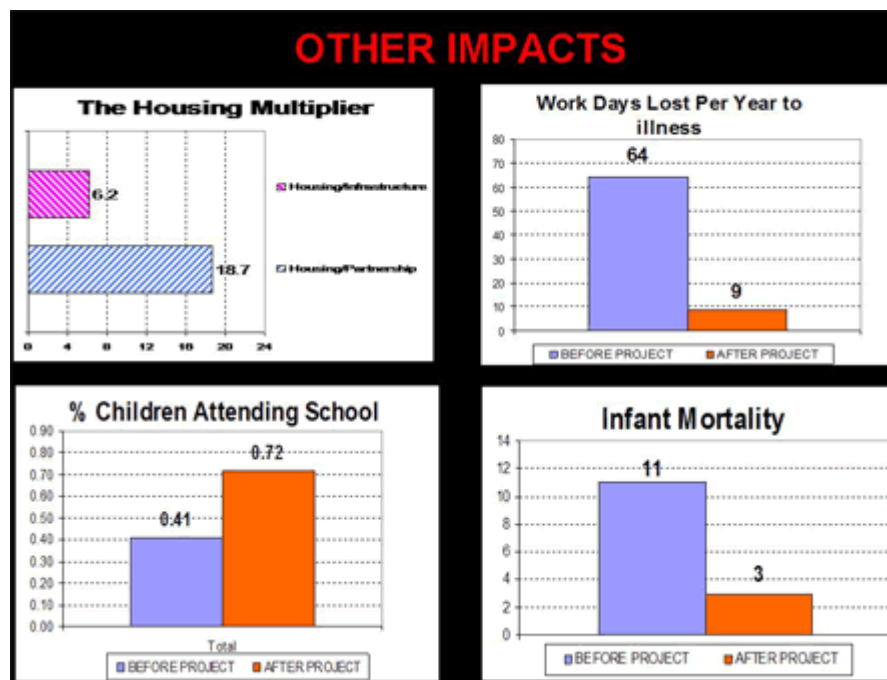
11) Scaling up strategy

- **Stage of the initiative:** *Scaling Up* stage.

- **Expansion plan:** There are four major goals in the coming years:

* To extend the work from urban to rural where the majority of the poor in the developing world still live.

* To upscale infrastructure development from the present pilot villages to 150 villages covering a population of about half a million. Byrraju Foundation has already established organizational structure in these villages for their health, education and livelihood activities.

* To develop a bankable model and delivery structure for upscaling. Dialogue has already started with the banking and financial institutions.

* To try Slum Networking in the city of Hyderabad, taking advantage our presence there and the critical mass of activities in the villages of the state. Satyam Foundation, a sister concern of Byrraju Foundation and set up by an Indian computer corporate, is exploring the possibility of taking up this challenge.

12) Origin of the initiative: In 1987, walking through slums of Indore city, I noticed their proximity to streams and the river. My subsequent studies show this as a global phenomenon. It struck me that this correlation could provide economic, gravity based infrastructure networks to slums and the city. If rivers do not need pumping stations, why should drainage? I developed the complex computer modeling techniques for design, helped by committed people in my office. Over time, we embraced the associated social and economic issues and worked at putting partnerships together for upscaling. My daughter Priti Parikh, an engineer planner, has been my mainstay throughout and is currently in South Africa to explore replication there. She has also taken up doctoral research at Cambridge University to validate the hypothesis that water and sanitation radically stimulate housing, health, literacy and incomes of the poor.

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