As the pace of urbanisation increases in countries such as India, the urban poor are increasingly forced to reside in unsanitary and hazardous conditions, lacking access to even basic facilities and services. Ahmedabad, the financial and industrial capital of Gujarat, India, is no exception and a large proportion of its population lives within its 1,000 slums, many of which have limited access to water and lack basic sanitation. This can be detrimental to the health, quality of life and livelihood activities of residents.

In Gujarat, the Mahila Housing Trust, a sister organisation of the Self-Employed Women’s Association (SEWA), has partnered with municipal corporations, international organisations and local slum residents to deliver a slum improvement programme, referred to here as Parivartan, meaning ‘transformation’ in Gujarati. The programme has had a number of significant successes in delivering infrastructure to urban slums, and improving the quality of life, health and well-being of residents. Since most informal workers live in informal settlements and their homes often double up as their work places, detailing this case was deemed relevant to this, the first in WIEGO’s Urban Policies Briefing Note series.
Urban poverty and slums: the scale of the problem

The rapid growth in the global urban population is one of the most important demographic shifts taking place in the world today. By 2030 almost 5 billion people will live in urban areas, and the greater part of this growth is taking place in cities in the developing world (United Nations Habitat, 2004/5).

This has caused increasing pressure on urban infrastructure and services, and has contributed to a shortage of affordable accommodation in cities. Combined with persistent poverty, this further contributes to the growth of slums in the cities of the developing world. The United Nations estimates that globally 1 billion people – a sixth of the world’s population – live in slums, and this figure is expected to rise to 2 billion by 2030 unless concerted action is taken (United Nations, 2003).

It is estimated that approximately 2.6 billion people – half the population of the developing world – lack access to a simple ‘improved’ latrine and 1.1 billion people have no access to an improved source of drinking water (World Health Organisation, 2008).

India alone is home to a third of the world’s poor, with 456 million people living below the international poverty line (Department for International Development, 2009). The Indian government estimates that the slum population in India rose from 27.9 million in 1981 to over 60 million in 2001 when the last census was undertaken (The Times, 2007), and there is no sign that this trend has slowed in subsequent years. Moreover, only 38% of the Indian population has access to sanitation and 25% lack access to water (World Bank, 2007), while more than 200 million people are living in chronically poor housing conditions or on the streets (Asian Development Bank, 2007).

In Ahmedabad, there are approximately 1,000 slums (Ahmedabad Municipal Corporation (AMC), 2006), home to around 40% of the city’s population (Dutta and Batley, 1999, as cited by the SEWA Academy, 2002). A large proportion of these slums lack access to basic water, sanitation and waste disposal facilities (SEWA Academy, 2002).
Consequences for slum dwellers

Life in slum settlements in the absence of adequate infrastructure can be precarious, and detrimental to the health, safety and comfort of communities. In the simplest sense, the lack of water, toilets and sanitation has a harmful effect on the quality of life of slum residents. Life in these circumstances is particularly difficult for women (United Nations Habitat, 2003). The burden of household work in the absence of infrastructure, for example fetching and carrying water, usually falls to women, who must also struggle to maintain household hygiene in the context of poor drainage and sanitation (United Nations Millennium Development Goals Taskforce, 2005). The lack of basic infrastructure also has damaging impacts on safety and security; for example, women may be vulnerable to harassment or assault when using open areas in the absence of toilet facilities, or due to inadequate street lighting (Amis, 2001).

There are strong links between the lack of proper water and sanitation facilities, and poor health. For example, 1.6 million people, mostly in developing countries, die every year from diarrhoeal diseases associated with lack of access to safe drinking water and basic sanitation (World Health Organisation, 2008). At any one time, half of all people in the developing world are suffering from diseases attributable to inadequate water and sanitation (Department for International Development, 2008). Poor health may lead to asset depletion and debt in order to fund healthcare, and thus ‘is one of the most powerful forces pushing households into poverty’ (Amis, 2001:106). Improving slums can therefore have a positive impact on quality of life and physical health, for example by reducing the risks from mosquito habitats and water-borne diseases.

In the longer term, a number of other positive impacts of slum improvement have been noted. For example, individual productivity and economic activity could be stimulated due to improved health, time saved in collecting water, or an improved environment for home-based work (Amis, 2001, Devas et al. 2001). One study found that 60% of households participating in a slum infrastructure project reported an average increase in household income of 27% over the year prior to the study (Housing and Urban Development Corporation Ltd (HUDCO), 2003). Improved infrastructure may also stimulate investment in housing itself, and

A metal workshop in Narsiji Na Chappra slum. Individual productivity and economic activity could be stimulated due to an improved environment for home-based work.
The value of housing as an asset for home owners (Devas et al., 2001). Improvements to slum areas can enhance the overall ‘image’ of the slum, stimulating investment in the area, and helping to integrate slum settlements into the wider life of the city (Amis, 2001).

The Parivartan programme in Ahmedabad, India

The Parivartan programme aims to transform the physical environment of slums and improve the social and economic lives of slum residents. Also called the Slum Networking Project (SNP), the programme includes a package of basic infrastructure services, including:

- household water connections;
- underground sewerage for individual households;
- toilets for individual households;
- storm water drainage;
- stone paving of internal and approach roads;
- landscaping and solid waste management; and
- street lighting.

The SNP aims to provide these services in an affordable manner through a partnership involving slum communities and their community-based organisations (CBOs), the Ahmedabad Municipal Corporation (AMC), local non-governmental organisations (NGOs) and participating private sector organisations.

This package is provided on a cost-sharing basis in which the AMC bears the cost of taking services to the entrances of individual slums and each of the partners pays one-third of the total on-site capital cost of service provision. The physical services are provided jointly with a number of social services in collaboration with the partnering NGOs. These include:

- formation of neighborhood groups, women’s groups and youth activities;
- mobilisation of community savings through savings and credit groups;
- creation of non-formal educational opportunities for school age children, school dropouts and non-literate adults;

1 Not all of these services are provided to all programme areas; this article is based on research in slums where primarily financial and health services had been provided.
• organisation of community health education, health clinics and pharmacy services;
• day care centers; and
• skills training for income-generating activities
to disseminate information and conduct training for slum residents to facilitate their involvement in the programme. By December 2009, MHT had reached 45 slums or 3,386 households in Ahmedabad through the programme.

Key features of the SNP or Parivartan programme include:
- A combination of physical infrastructure and social/financial/health services;
- Delivery of household-level infrastructure: many slum improvement projects have in the past provided only communal facilities;
- The partnership approach between MHT, the Municipal Government and slum residents, and the sharing of programme costs between the AMC and slum residents;
- The guarantee of non-eviction by the AMC for a set period (10 years) for the participating slums; and
- The approach to capacity-building: partnering with CBOs to facilitate the successful delivery of the programme. The CBO is responsible for a variety of tasks including working with MHT to raise awareness and motivate the community to participate in the project; managing community financial contributions; overseeing the construction process; managing solid waste collection in partnership with the AMC; and undertaking ongoing work with the AMC for the maintenance and repair of infrastructure.

Mahila Housing SEWA Trust (MHT), a sister organisation of the Self-Employed Women’s Association (SEWA) is a key NGO partner in the Parivartan programme.

MHT’s role includes mobilising slum residents to join the programme and organising women slum residents to form community-based organisations, which play an important role in monitoring service delivery.

Since 2003, MHT has also drawn upon its in-house engineering resources to serve as a technical implementation agency on many upgraded slums. MHT liaises between the slum dwellers and the AMC, sensitising the other stakeholders in the SNP to the circumstances and deprivations experienced by the urban poor.

MHT also plays a co-ordinating role with other SEWA partners involved in delivering social and financial services to the slums participating in the programme. For example, SEWA Bank, served as the financial intermediary in the programme, providing financial services and loans to community members who wanted to participate.

SEWA’s health organisation, Lok Swathy Mandali (LSM), provided primary healthcare services and health education. The Foundation for Public Interest (FPI) undertook

The impact of Parivartan on slum residents

Most of the information presented in this paper comes from a series of surveys administered in 2005, 2007 and 2008 to women slum residents, complemented by information from previous evaluations of the programme, and by a small number of in-depth interviews with women slum residents carried out in Spring, 2007. More information about the main surveys follows.

The baseline survey was administered to 285 women residents in five SNP slums in Ahmedabad (Ramesh Dutt Colony, Sanjaynagar, Satgurukrupanagar, Kamdarnagar, and Narsiji Na Chappra) in Autumn 2005, with a follow-up survey of available and participating respondents carried out in 2007 and again in 2008. The respondents were asked a range of questions about their living conditions and wider lives including demographics, education, employment and income, health, and civic engagement.

The most significant impacts of Parivartan on the lives of slum residents relate to the provision of water and sanitation, which has improved residents’ quality of life, saved them time, inconvenience and embarrassment, improved community relations, and is perceived to have improved health and reduced disease in the programme areas.

2 The Self Employed Women’s association (SEWA) is a trade union of women workers in the informal economy. In 2009, the total membership of SEWA in Gujarat stood at 631,345 and in India as a whole at 1,256,944.

3 For methodological reasons, the findings of the surveys presented here should be considered indicative rather than absolute. One factor is that sample sizes were small and the follow-up surveys did not achieve the same sample size as the initial survey, and were not always administered to the same respondents. Moreover, some households surveyed in the baseline were not able to proceed with the programme due to the location and land ownership of their homes. All the figures cited apply only to those households which did proceed and results may therefore not be representative of the areas as a whole.
There is some evidence of positive impacts as a result of the financial and health services provided for a smaller number of residents. Finally there is evidence of some less tangible but no less important impacts for a small number of CBO leaders, who reported an improvement in their personal confidence and abilities due to their involvement in the programme. There is also an indication that for some residents being part of the programme had conferred a greater sense of legitimacy on their area and enabled them to engage more actively with the municipal authorities. The impact of the programme is explained in some detail below.

The impact of water and sanitation

At the time of the baseline survey in 2005, slum residents reported a range of problems stemming from the lack of basic amenities:

- Women without water connections spent on average two hours a day collecting water, while in some areas there were no facilities to dispose of waste-water, leading to quarrels between neighbours.
- Slum residents experienced significant problems and indignities due to the absence of individual toilets, including: fear of going outside at night to use facilities, shame and embarrassment caused by having to defecate in the open, as well as problems relating to the unhygienic conditions and long queues for public toilets.
- The lack of adequate gutters, drainage and paved roads led to the accumulation of mud, sewage and waste-water in slum areas, making it difficult to move about at times. This also led to the flooding of homes with effluent, particularly during monsoon season.
- This lack of basic sanitation was perceived to be the cause of mosquito proliferation and disease epidemics, and residents reported a range of health problems.
- Women were afraid to go outside at night as there were few street-lights.

By 2008, however, the situation was dramatically different.

Water: 96% of respondents have an individual water connection, saving them time, and improving their quality of life.

There has been a great improvement in the availability of water in the five study areas. Overall, about 96% of respondents now have an individual water connection at their home, compared to 54% in 2005. In 2005, 25% of respondents used public taps as their main water source whereas in 2008 no respondents reported using a public tap as the main source of water.
Satisfaction with the new facilities was high: in 2008 95% of respondents reported being happy with the water pressure of their individual connection, and 96% said that the period in which they have access to water each day is sufficient for their needs.

For those without a functioning individual connection, or still using more than one source of water, the average time taken to collect water in 2008 decreased to 88 minutes per day, as compared to 120 minutes (2 hours) in 2005.

The provision of individual water connections had improved residents’ quality of life, with 96% of respondents reporting positive changes. The main improvements mentioned related to significant time-saving and the greater convenience brought about by having water connections at their homes.

“We didn’t have water so we had to queue up for 2 to 3 hours, so now that we have it at home it has saved our time and I can do more work.”

Resident, Sanjaynagar

“Before [the programme] there was no water available at home, now we get proper water… we used to stand in queues [for water]; also we had to face quarrels… Now we get all the facilities at our home. We don’t have to go outside for anything. Now we get relaxation.”

Resident, Ramesh Dutt Colony

**Toilets:** 99% of respondents in 2008 have an individual household toilet compared to 54% in 2005, largely ending the indignities of open defecation and the problems associated with queuing for unhygienic public toilets.
The 2008 survey demonstrated that the difficulties reported by respondents in 2005 had been greatly reduced or eliminated, with 94% reporting positive improvements in their quality of life and comfort as a result of the new facilities.

“Now it is better, before [the programme] it was not very good. It was all very unhygienic before; we had to go out for toilets and there were flies around and men passing by, so now it is better.”

Resident, Ramesh Dutt Colony

“We are better off now. Before [the programme] we had to go out to go to the toilet… we had to go the jungle or some place like that, now that we have it at home it’s good. For us even that is a luxury… first we had a lot of troubles, we had to go in some unhygienic place, we had to go far off places… we would be late for work, now that it is in the house at least we are saved from that.”

Resident, Ramesh Dutt Colony

Gutters/drainage and paved roads:
In 2008, 94% of respondents had a functioning individual gutter connection, and all areas have fully paved roads and improved drainage, thereby improving hygiene, mobility and community relations. In 2008, almost all respondent households reported that they no longer experienced the significant drainage problems reported in 2005, and 100% of respondents stated that they had experienced positive changes because of improvements to the drainage system and the provision of paved roads. These included a reduction in water-logging and flooding and greater ease in moving about the area. Conflicts over the disposal of waste water have also declined.

“I am thankful to them… because we had a lot of problems with water over here, the roads were also not tarred or paved so we had a lot of problems, if someone would come [and visit] here we weren’t comfortable. Now we feel better that we have these facilities.”

Resident, Ramesh Dutt Colony

Residents also reported that the solid waste collection services introduced as part of the programme had improved the cleanliness of their area. However, additional streetlights had not yet been provided to the five areas by 2008, so women continued to be afraid or to experience problems when moving around after dark.

Wider impacts of physical infrastructure
As the above discussion indicates, the provision of water and sanitation was important not only in practical terms, but also because it had an impact on the emotional well-being, reported health, and quality of life of residents.

- 94% of respondents report an increase in mental and emotional well-being as a result of the programme. This included greater physical comfort and an end to indignities/embarrassment as a result of the provision of individual household services. Many residents also reported that the new services saved them significant time, allowing them to spend more time on childcare, household work, and in some cases income-earning activities.

![Figure 3: Respondents with a functioning gutter connection, by area, 2005 and 2008](image-url)
Meldi Nagar before and after the Parivartan Slum Upgrading Programme
• 95% of respondents report improvements in their social status or relationships as a result of the provision of infrastructure. This primarily refers to the reduced levels of conflict over the collection and disposal of water, and that guests from outside the area were now visiting them more frequently.

• There have been significant improvements in self-reported health, with 100% of respondents reporting that the health of their family has improved due to the provision of the infrastructure services.

• Some respondents reported an increase in their productivity and income. Just over a quarter of respondents felt that there had been positive changes in their income or employment patterns as a result of the programme. These residents felt that the facilities had made it possible for them to complete their work more quickly, to improve their incomes because of the greater availability of water used for their work, or made it easier to work in the home. It was not possible to verify this from reported income levels, although other studies of previous stages of the Parivartan programme found that there had been an impact on the productivity of slum dwellers. For example, one study found that the number of working hours per day increased from 7 hours to 8 to 9 hours on average for respondents in two slums that were part of a slum infrastructure project. In contrast, 52% of respondents in a control slum reported that their productivity was constrained because of the time needed to collect water (SEWA Academy et al. 2002).

The impact of financial, health and social services

The impact of the social services/community development component of the programme is harder to discern, and is difficult to assess as there is no real baseline (SEWA had already been working in these areas prior to the 2005 baseline survey). However, there are some positive findings:

• 38% of respondents use the services of SEWA health workers, the majority of these benefiting from low-cost medicines, and reporting a greater awareness of the appropriate use of medications.

• 46% of respondents have a savings account, the majority of these held with SEWA Bank. A number of women reported that this contributes to a sense of security and peace of mind.

“I found the best thing [about the programme] to be the bank facilities. I didn’t know how to save, now I do know the concept of savings. There are a lot of ladies in the area who’ve taken the savings account after the training.”

CBO leader, Narsiji Na Chappa
Impact on personal development

There is also some evidence of less tangible, but nonetheless important, programme impacts on some individual residents’ personal skills and confidence. This seemed to be the case for several of the women who were directly involved in leading the CBOs that MHT mobilised residents to establish. A number of the CBO leaders reported an increase in knowledge and skills, in personal confidence and independence, and a new ability to communicate with a wide range of people.

“Yes, there has been a lot of change, I came to know a lot of new things; I can go around to many places that I didn’t visit earlier… We started going out of the house unlike earlier and we also learnt how to communicate with people… I feel different that now I have the strength to go out alone and do anything. It has improved my confidence.”

CBO leader, Sanjaynagar

These changes often seemed to be the result of the opportunities afforded by their CBO leadership to travel outside of their neighbourhoods into the city, and to meet and speak to new people, including officials.

Impact on civic engagement

For some slum residents, the programme also seems to have contributed to creating a new relationship between them and the AMC. These residents seemed to feel a greater sense of legitimacy because of the programme’s role in effectively legalising their settlements, at least for a set period of time. These residents felt they now had a right to complain in case of problems with the physical infrastructure and to demand service from the Corporation (even if some residents also felt that the AMC were not always responsive to their requests). This was important in practical terms for addressing any problems with the new facilities:

“Before [the programme] because everything was illegal we had a lot of problems in making applications [to the AMC]… now they listen to us if we go to make an application. So now we are more relaxed - it was a big headache before”

Resident, Sanjaynagar

Training of the CBOs also meant that some women, particularly the CBO leaders, now had the ability and confidence to engage with the Municipal authorities themselves, giving them greater control over their lives:

“We now know who the corporator of the area is and where we need to go to make any complaints, which we didn’t know before… Now we can go and do our work on our own unlike earlier when we had to depend on others.”

CBO leader, Sanjaynagar
Conclusions, successes and challenges

The *Parivartan* or SNP programme in Ahmedabad, India, has clearly had a number of significant successes. Firstly, in terms of the scale and reach of the programme, it has successfully delivered basic infrastructure and services to a large number of areas and households. Secondly, the model of slum improvement utilised within the programme seems to have worked well, with new partnerships developed between the municipal government, NGOs and community representatives. It seems that the approach taken by MHT to mobilising communities and training CBOs has contributed to this successful programme implementation. Thirdly, and perhaps most importantly, the programme appears to have had a significant positive impact on the lives of slum residents:

- Residents report that the provision of basic infrastructure, in particular water, sanitation and paved roads has improved their quality of life, psychological well-being and community relationships. It has saved them time, and ended the indignities and insecurity caused by a lack of facilities.
- It has improved cleanliness and hygiene in the programme areas, and residents report that this has led to a significant improvement in the health of their families.
- Some residents report that the programme has had a positive impact on their productivity and income.
- Some residents have valued the community development services, for example the savings accounts provided by SEWA Bank.
- A number of the CBO leaders mobilised and trained by MHT reported wider impacts on their personal abilities and confidence through their participation in the programme.
- The programme has contributed to greater civic engagement and a sense of legitimacy among some residents of the programme areas, and enabled them to more effectively apply for, and receive service from, the municipal authorities.

The programme partners continue to face a number of challenges. For example, additional streetlights are still to be provided in the study areas. Because of complex land ownership issues, some households in the original study areas were not able to proceed with the programme, while the tenure period granted to *Parivartan* areas is only ten years. This illustrates the challenges faced by slum improvement programmes in the context of competition for land in cities experiencing rapid urban development.

Another key lesson concerns the participation of slum residents themselves, the majority of whom participated primarily through making financial contributions for the infrastructure provided. CBO leaders had a broader role; encouraging programme participation, monitoring programme implementation and liaising with NGO and municipal representatives. Bearing in mind the benefits experienced by the CBO leaders as a result of their participation, the programme could build on this by offering such opportunities to a greater number of residents, where programme implementation allows. Furthermore, it could be beneficial to take such participation one step further, and for the Municipal authorities/NGO partners to involve residents directly in urban policy design and decision-making more broadly.

*Parivartan* has had a positive impact on the lives of slum residents through helping to meet their needs for basic services. However, residents have other needs that may require additional interventions. For example, the surveys in the *Parivartan* areas highlighted low and irregular incomes as a key area of difficulty for slum residents. A further concern was inadequate maternal healthcare. There is therefore a strong case for complementary activities to support livelihoods and income generation for example, which will also help to sustain the significant improvements achieved through *Parivartan*.

The contribution being made by slum improvement programmes such as *Parivartan* are important and wide-ranging. This paper has shown that the provision of basic infrastructure and services to slums can have a dramatic impact on the lives of slum residents through meeting their practical needs, and improving their health, well-being and quality of life. In this regard the *Parivartan* programme has enjoyed significant success.
References

This article draws heavily on several sources – in particular the Parivartan evaluation reports produced by the SEWA Academy and a dissertation by Sara Rusling submitted to the London School of Economics (LSE) in 2007, entitled A Question of Transformation? Women’s participation in the Parivartan slum improvement programme in Ahmedabad, India.

Ahmedabad Municipal Corporation www.egovamc.com
The Times, 2007. ‘Indian Slum Population Doubles in Two Decades’ www.timesonline.co.uk/tol/news/world/asia/article1805596.ece#