



# Changing Communities, Changing Lives

**Rachhu Maharjan**, a 38-year-old resident of Siddhipur, is a member of the first family in this community to get a household tap which dispenses treated drinking water directly in their home. She used to rely on water from a community tap. "We used to face lots of problems collecting water: about ten households used a single tap which delivered water only in the morning and only for three hours. It was difficult to make time to fetch water as well as to do household chores. Even worse, every rainy season the tap, because it is directly linked to a nearby stream, would supply water so muddy it was not even fit for washing clothes. We often fell ill with diseases like diarrhoea, dysentery, and cholera, and our children were especially vulnerable. Thankfully, the project established a water treatment facility and provided the community with safe drinking water. Our new tap provides us with safe drinking water twenty-four hours a day and we don't face any health problems. Even though we have to pay for this water and water from public taps was free, Rs. 75 per month is a reasonable price. We cannot compromise our health for just to save a bit of money."

Thirty-year-old **Laxmi** suffered a painful physical ordeal before her family realised the importance of a toilet: one day, while rushing to the community's open toilet to get there early enough to be inconspicuous, she slipped and fractured her leg. She was forced to endure this and other trials and tribulations from a young age. She began menstruating at 13 and despite severe cramps and public exposure, explains, "I had no option but to go to the open toilet. This monthly hardship was occasionally exacerbated by having



UN-HABITAT  
WATER FOR ASIAN CITIES PROGRAMME  
NEPAL



"We used to face lots of problems collecting water: about ten households used a single tap which delivered water only in the morning and only for three hours. (...) Even worse, every rainy season the tap, because it is directly linked to a nearby stream, would supply water so muddy it was not even fit for washing clothes."

**Rachhu Maharjan**

## in brief ...

- 1.9 sq.km. Area of Siddhipur
- 6,046 Population
- 1,308 Number of households
- 52 Number of public taps before the project



diarrhoea: while going to the toilet once was embarrassing enough, having to go several times—in the open, in broad daylight—was even more humiliating.” Laxmi used to search for bushes and walls behind which she could defecate unseen, but when her family began building a new house, she pressured them into allocating space for a toilet on each floor. She reports, “Everybody was satisfied with my recommendation.”

### **Background: Poor drinking water and sanitation in peri-urban areas**

Siddhipur is a traditional Newar settlement located approximately six kilometres southeast of Kathmandu. Its 1.9 square kilometre area is home to 6,046 people in 1,308 households. It used to have grave water and sanitation problems: the water supplied through 52 public stand posts was not treated in any manner whatsoever and was available only intermittently. Since the water came straight from the Godavari River, it was contaminated with bacteria and unsafe for drinking. In addition, the supply of water met the demand of only half the people; the rest used traditional water sources such as dug wells, which were also often contaminated. Outbreaks of diseases like diarrhoea and cholera were frequent. Another problem was that the thirty-year-old system was in dire need of repair and rehabilitation; it had several breakages and leakages and there was no proper system of management.

Despite being so close to the capital, Siddhipur residents were deprived of basic sanitation facilities, too. More than 60 percent of households did not have access to proper sanitation and open defecation was widespread. Women and children suffered most: the four *kichamuga*, or open areas which women used as communal toilets, were in a deplorable state. Even those households with access to sanitation had poor facilities and

practiced unhygienic sanitary behaviors. Solid waste management was yet another problem in Siddhipur. Straw waste generated by the traditional straw mat weaving the community engaged on, plastics and other types of household waste were disposed of haphazardly, often clogging drains and blocking pathways. Similarly, lack of storm water drainage facilities in the village resulted in water clogging problems creating poor sanitary conditions.

### **The project: An integrated water and sanitation solution**

To mitigate the deplorable situation, a fast-track, community-based, integrated water and sanitation programme was implemented in Siddhipur in association with the Water and Sanitation User's Committee (WSUC) and with the technical and financial support of UN-HABITAT Water for Asian Cities Programme Nepal (WAC Nepal), Environment and Public Health Organisation (ENPHO), WaterAid Nepal and Centre for Integrated Urban Development. The main goal of the project was to demonstrate that a fast-track approach to implementing a community-based water and sanitation (WATSAN) programme could uplift the living conditions of the poor, particularly women and children. The specific objectives of the project were as follows:

- To demonstrate how a community-based WATSAN programme can be implemented
- To demonstrate the application of pro-poor water connection charges and tariffs
- To increase community awareness about environmental sanitation
- To create job opportunities for the poorest of the poor
- To enhance the capacity of local authorities, the water and sanitation user's committee (WSUC) and the community



Laxmi used to search for bushes and walls behind which she could defecate unseen, but when her family began building a new house, she pressured them into allocating space for a toilet on each floor.



To achieve these objectives, the project focused on improving the WATSAN situation and implementing capacity-building and awareness activities. As a first step in the intervention the project helped local people reach an understanding of local problems, issues and options through awareness campaigns, trainings, gatherings and discussions. To build the community's capacity to implement and sustain WATSAN initiatives, a local-level WSUC was established and registered with the local government—Lalitpur District Development Committee (DDC)—as per the Water Resource Act of 2049 (1993). The committee was established by consensus after holding several rounds of meetings and interactions. The WSUC includes representatives from among the leaders of different political groups, traditional institutions such as *guthi*, women, local leaders and officials of the village development committee (VDC). Three members of the eleven-member executive committee are women. Five sub-committees—information dissemination, toilets, capacity building, water supply construction, and sanitation and hygiene (SHE)—were formed to ensure that project activities would be implemented smoothly.

With the local community and using tools developed by UN-HABITAT, project staff conducted three baseline assessments: poverty mapping and social survey, gender assessment and initial environment examination (IEE). The poverty and gender assessments identified various stakeholders, particularly the poor and vulnerable. IEE provided a measure of how to minimise any adverse effect resulting from project implementation. The outcomes of the assessments were used for project planning, mainly to ensure that all service delivery activities were pro-poor, and gender and socially inclusive.

To facilitate the smooth implementation of project activities, weekly meetings of the project's

technical partners and the community, especially the WSUC and its sub-committees, were held. These meetings identified problems, solutions, technical options and developed periodic plans. The project adopted the following strategic implementation approaches:

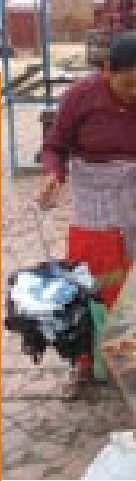
- Providing information for empowerment
- Putting the community at the forefront
- Promoting fast-track implementation and decision-making
- Prioritising the ultra-poor
- Involving women
- Giving equal priority to sanitation
- Using PRA to foster mass awareness

Extensive community awareness and capacity-building programmes, trainings, and meetings were implemented to ensure public participation was high, to build a sense of ownership, and to guarantee sustainability. The project provided technical and financial support, but it was the WSUC which implemented and monitored activities and sustained investments. The WSUC operates a revolving fund which both enables the poor to gain access to the water supply system and improved sanitation facilities and will finance future operation and maintenance costs.

The project established a new water supply system consisting of a new intake system at the Godavari River, a 3.3-kilometre long transmission line, and a water treatment facility with a tube settler, a three-chamber slow sand filtration unit and a chlorination unit. Other components of the system include a 250-cubic-metre reservoir tank, a 50-cubic-metre overhead tank and a nine-kilometre distribution network.

To increase sanitation coverage and improve sanitary conditions, the project motivated households to construct toilets. A decentralised sanitation system was promoted in Siddhipur

- 3.3 km** transmission line
- 1** tube settler
- 1** three-chamber slow sand filtration and chlorination unit
- 250 m<sup>3</sup>** reservoir tank
- 9 m<sup>3</sup>** overhead tank
- 9 km** distribution network



through the adoption of several on-site systems. Priority was given to promoting ecologically-friendly technology such as dry ecological sanitation, which is especially suitable in those areas of the village with a high ground water table. Other technology included household- and community-level septic tanks and *sulav* toilets. In addition, existing storm drains were rehabilitated and new ones were constructed. Pavement and drainage improvement works were also carried out in strategic locations. The project also facilitated contacts between private faecal sludge collectors and the community so that it would have access to collection services at an affordable rate.

To promote sustainable solid waste management, the programme formed a 17-women sanitation and hygiene (SHE) team and built their capacity through trainings. Locals were provided with various composting options and improved compost and ash pits. To collect plastics, the *suiri* (metal hooks) programme was introduced.

To educate the people of the community about water and sanitation issues, the project organised several training activities, primarily for school children and women and ran various WATSAN activities at the school and the community level.

To boost awareness several strategies were used including mass awareness programmes, street dramas, the publication of a wall magazine, clean-up campaigns, community-led total sanitation (CLTS), exposure visits, and capacity-building activities.

Systems of cost sharing, cost recovery, monitoring, and timely operation and maintenance were developed to ensure that the system would be sustainable and that even the poor and the socially disadvantaged would have access to safe water and sanitation. The ultra-poor identified by the poverty mapping assessment were provided with subsidies and other mechanisms for acquiring facilities like water taps and toilets.

In order to foster a sense of ownership, co-funding for all interventions was sought from the community. Contributions to the water supply system exceeded 50 percent while those to sanitation reached 40 percent. More specifically, households received NRs. 2200 (USD 34.5) worth of material to build improved pit toilets (ECOSAN toilets) but had to cover the rest of the cost, including that of the superstructure, themselves. In its decision to promote ECOSAN toilets, toilets in which urine and faeces are collected separately and recycled as organic fertiliser the project took into account the fact that most residents of Siddhipur are farmers.

## Tariff Structure

### Private Taps

- Up to 7,000 litres      Rs. 75
- 7,000 to 10,000 litres      Rs. 12 per additional 1000 litres
- 10,000 to 15,000 litres      Rs. 15 per additional 1000 litres
- Above 15,000 litres      Rs. 20 per additional 1000 litres

### Community Tap (5 to 10 households)

- Up to 6000 L      Rs. 50 per household
- 6,000 to 10,000 L      Rs. 10 per additional 1000 litres
- Above 10,000 L      Rs. 20 per additional 1000 litres



## Achievements and sustainability

With community taps Siddhipur now dispenses WHO-standard drinking water right at the doorstep of every household; in addition, around 500 households have private taps. Water users benefit from a pro-poor, sustainable tariff structure developed by the WSUC guided by the principles of sustainability, equitable distribution,



affordability, willingness to pay, and resource conservation. Community taps are shared by five to ten households and are targeted to meet the needs of the poorest. Water tariffs increase with additional consumption in order to check the misuse and over-consumption of water. Private tap users pay Rs. 5500 (USD 86.6) for a connection; the charge can be paid in two installments.

To collect monthly fees in an efficient and sustainable manner, the WSUC has developed the requisite documents, including consumer billing cards, registration forms, and receipts. Since the system was designed to last for twenty years for double the current population, there will be surplus water during the initial years. The WSUC plans to sell the surplus and thereby generate revenue for the future after establishing its own low-cost water bottling scheme. It will also sell water to those private water suppliers who currently sell water in tankers to households in the city.

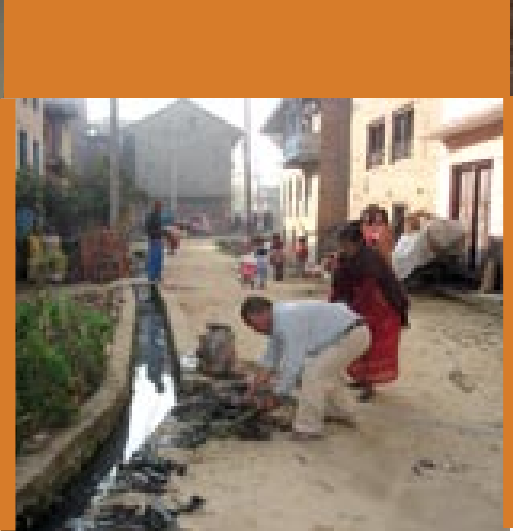
Sanitation coverage was improved drastically through CLTS initiatives, which included raising awareness about health and hygiene and garnering community support for the construction of toilets. The peer pressure aspect of CLTS was used to motivate those who did not build toilets to do so. After CLTS sub-committees were formed in 15 clusters of Siddhipur, the overall area became cleaner: open defecation declined considerably, regular clean-up programmes were conducted by the locals themselves, almost every household collected plastic waste, and households constructed toilets. Through CLTS, sanitation coverage was substantially increased. In addition, awareness about sanitation and hygiene rose dramatically and three local children's clubs were formed.

Sanitation coverage increased to 95 percent with the construction of around 70 ECOSAN toilets, 14 toilets with septic tanks, one communal septic tank and 178 pit latrines. Women are now spared the humiliating, unsafe and unsanitary practice of open defecation. Furthermore, the rehabilitation and construction of 652 metres of storm drains and of 1100 square metres of pavement has significantly improved sanitation.

The household composting of bio-degradable waste and the recycling of non-degradable waste for economic benefit were also promoted by involving over 800 women. *Suiro* were introduced for collecting plastic and more than 500 women in 23 women's groups were trained in solid waste management. Locals have adopted 189 composting systems including 100 compost bins, 68 compost barrels, 17 composting rings and 4 vermiculture compost systems. Recycled plastics are now incorporated into the traditional weaving of straw mats and a community-level composting chamber has been constructed to help manage solid waste. Sub-committees in each of 14 clusters arrange to clean up lanes every Saturday. School children provide active support.

Since the project aims for long-term sustainability, active children's participation was sought in the form of nature clubs, five of which were established at local schools. More than 250 members were instrumental in raising public awareness about good sanitation and hygiene practices by holding street dramas, rallies, exhibitions and clean-up campaigns. A "water classroom" was set up to demonstrate simple water management tools like point-of-use water treatment and simple rainwater harvesting techniques, both tools many community members have since adopted.

- 15 CLTS sub-committees to clean-up area
- 70 ECOSAN constructed
- 14 toilets with septic tank
- 189 composting system installed



Altogether around 4,000 men and women benefited from the various capacity-building and awareness programmes carried out in the community to sustain the project. Members of the WSUC, local authorities, community members and local entrepreneurs participated in several trainings in water management, billing and revenue collection, and the operation and maintenance of WATSAN systems. They also made some exposure visits and produced an operation and maintenance manual for the WATSAN system.

Eighty local women learned about WATSAN issues during three months of adult literacy classes. After SHE members participated in a training of trainers (TOT) programme on sanitation, hygiene and solid waste management issues, they taught more than 800 local women from 35 different women's group about household composting options.

With the successful implementation of the project, Siddhipur has become a learning centre for both national and international communities: professionals and lay people alike visit the town to witness the WATSAN facilities it has adopted to improve the living condition of the inhabitants. It is the first time that a peri-urban area has been declared by its inhabitants to be an open defecation-free area with complete sanitation coverage. It serves as an inspiration to other towns.

### Lessons learned

- ♦ **Putting community first** — The support of a community is a main reason behind the success or failure of a project. Mobilising a community effectively by informing and

involving it in each and every step of the project and building its capacity ensures success. Any activity identified and implemented by a community using a participatory approach is more sustainable than one imposed from the top down. A community should be enabled and motivated so that it can lead a project rather than have an external organisation directly implement it. In addition, a cost-sharing mechanism ensures that a community will develop a sense of ownership of any initiative undertaken.

- ♦ **Appropriate tools and timely intervention** — Not only do appropriate tools for project implementation need to be selected, but intervention needs to be timely if results are to be optimised. For instance, the application of the CLTS approach in Siddhipur produced significant results in informing community members about sanitation and hygiene and motivating them to change their practices. They not only lead the sanitation initiatives but declared the community an open defecation-free area shortly afterward.
- ♦ **Mobilisation of community groups** — The effective participation of community groups such as groups of women, youth, and the ultra-poor is a must for building a sense of community ownership. Participation not only enhances the capacity of these groups but also supports the project. Women's participation in sanitation boosted programme achievement in Siddhipur and including a mechanism for subsidies for the ultra-poor to acquire WATSAN facilities made this group feel recognised and responsible.



- ◆ **Integrated approach** — An integrated and holistic approach is required to solve WATSAN problems. A single intervention can not yield positive results. In fact, a main reason behind the successful implementation of the project in Siddhipur is its integrated approach, which accords sanitation as much priority as drinking water.
- ◆ **Partnership with local authorities** — A community can work effectively with local authorities to meet MDG targets for water supply and sanitation. Persuading local authorities to backstop a project accelerates the progress of that project. The total contribution of the VDC and DDC to the Siddhipur programme was about 9 percent. Though small, it demonstrates that local bodies recognised the merits of the project.
- ◆ **Developing institutional capacity** — Establishing an autonomous local institution through which a community can participate, voice its concerns, make necessary decisions, implement these decisions and monitor its activities is a prerequisite for sustaining WATSAN activities. Adequate attention should be paid to building institutional capacity including its human resource, infrastructure and financial mechanism. The WSUC in Siddhipur not only successfully mobilised the community but also implemented and developed a sustainable mechanism for continuing the project well into the future.

### Voices: So much Satisfaction

**MANISHA SHRESTHA**, a

13-year-old student of grade 7, is a member of the nature club at her school. With other club members, she promotes drinking water and sanitation. "We conduct various activities like awareness programmes, cleaning camps, and rallies on various issues related to safe drinking water and sanitation at our school and in our community. Cleaning camps, for example, are organised every Friday. We do these things because we understand their importance." Manisha is convinced of the worth of participation: "I feel good to be involved in this club as we learn many things related to sanitation, health, and drinking water. Those who are not involved miss out a lot." About their activities, she explains: "We go to different communities in a group to perform street dramas on various issues. People respond positively. I think similar activities should also be conducted by our seniors—women's groups, teachers, and youths—in order to make our effort more effective and widespread."



Through the project **MANJU MAHARJAN** got support to construct an ECOSAN toilet at her house. She does not want to remember the difficult days when she had none. "I used to go to the community toilet, which is more an open space than a toilet. It was difficult, especially late at night and during the





**Suman Prasad Sharma**

Joint Secretary  
Water Supply Division  
Ministry of Physical Planning and Works  
Singhadurbar, Kathmandu, Nepal  
**Tel** +977-1-4226051, 4228285  
**Fax** +977-1-4228420  
**E-Mail** info@moppw.gov.np  
moppwnp@ntc.net.np  
**Web** www.moppw.gov.np



rainy season. Because it was in the open, in view of passers-by, using the toilet made me uncomfortable. Now, with a toilet in our house, it has become very easy for all of us but especially the women.” She adds, “We also mix the urine collected with compost to use as fertiliser. People are now convinced of the value of these toilets because of their good impact on health and the environment.”

Manju is also a volunteer in a drinking water and waste management committee. She trains other women’s saving and credit groups about WATSAN management and related issues and has witnessed positives changes due to increased awareness. Manju’s group has already trained 25 women’s groups as well as dozens of local community people. Inspired by the positive response to the training, the group now plans to do more regular activities, conduct a proper evaluation and follow up on their first effort. “We were trained in WATSAN management, an issue of the utmost importance in our community. We also need skill training programmes in sewing. We need to learn new techniques to sew mattresses and other items so that we can develop a marketing strategy and improve our economic status. Programmes on HIV/AIDS and other communicable diseases should also be introduced.”



**UN-HABITAT**

**Andre Dzikus**

Chief, Water and Sanitation Section II  
Water, Sanitation and Infrastructure Branch  
UN-HABITAT  
**P.O.Box** 30030, Nairobi, Kenya  
**Tel** +254-20-7623060, 7625082  
**Fax** +254-20-7623588  
**Email** andre.dzikus@unhabitat.org  
**Web** www.unhabitat.org  
www.unwac.org



**SAJANA MAHARJAN**, a 21-year-old graduate in science, is a secondary-level teacher in a local school. Since she wants to make people aware of sanitation problems at home and in public places she got involved with the user committee of the solid waste management group in her community at its inception. “People were not aware about good sanitation practices, so there was no proper management of the solid waste anywhere. The surroundings were not cleaned regularly, so it was a filthy place to live in. “Under the committee’s initiative and with the support of the project, the locals formed a group, got trained in waste management and initiated various waste management activities. The group is now working very effectively for solid waste management with the active participation of the community. Sajana explains: “Although we knew we could work for the community, we didn’t know how to start. Thanks to the project’s guidance and support, we have been able to organise ourselves to serve our community.”

**project budget (in USD)**

<b>250,000</b>	UN-Habitat
<b>47,400</b>	ENPHO/WaterAid Nepal
<b>154,000</b>	Community
<b>6,000</b>	VDC
<b>28000</b>	DDC
<b>485,000</b>	Total budget

**Roshan Raj Shrestha**

Chief Technical Advisor  
UN-HABITAT Water for Asian Cities  
Programme Nepal  
UN House, Pulchowk, Lalitpur  
**P.O. Box** 107, Kathmandu, Nepal  
**Tel** +977-1-5542816  
**Fax** +977-1-5539877  
**Email** roshan.shrestha@unhabitat.org.np  
wac.nepal@unhabitat.org.np