By, of and for the people

By successfully managing a self-financing, multi-village water supply scheme for 18 years, four Maharashtrian village communities show the way to sustainability.

Our villages in the sleepy Shirol taluka of Kolhapur district in Maharashtra have done themselves proud by achieving a rare feat. For over 18 years now, these villages are not only successfully operating and maintaining their own multi-village piped water supply scheme, but are also making a substantial surplus in the process - Rs. 4 lakhs upto 1998.

Initially, in 1980, there was some apprehension in these villages when the Government of Maharashtra rather daringly suggested handing over the scheme directly to them. This was brought about as the Zila Parishad (District Council) was reluctant to manage it. After much discussion and debate, the inhabitants of Lat, Latwadi, Shivnakwadi and Shiradwad villages decided to accept the challenge.

Two men, R M Chauhan, the then deputy irrigation engineer and Anant Rao Kulkarni, the ex-sarpanch of Lat village, played a key role in motivating the villagers to shoulder the responsibility of managing their own scheme.

It was difficult in the beginning to get all four communities together on the common platform of water management. After months of sustained efforts however, a multi-village management committee (mandal) was formed. This comprised of each member village's sarpanch (village headman) and chairperson of the water user's association. An elected zila parishad member and its local engineer also sat on problems and set up an effective and demand responsive service delivery mechanism.

Water for the scheme is lifted from the nearby Panchganga river using a 30 HP pump. The water travels through a 4 kilometer pipeline to reach a settling reservoir. From here, it is taken through the distribution system to private taps and public standposts (community taps).
When it began, the scheme provided 70 liters of water per capita per day (lpcd). Subsequently, due to growing private water connections which jumped from 400 to 1700 in the last 18 years, the per capita availability of water shrunk to 20 lpcd. The mandal is now planning to augment the existing scheme to increase the availability of water.

Private connections mean more revenue as each private connection holder has to pay an initial deposit of Rs. 300, a recurrent annual charge of Rs. 200 and a development charge of Rs. 20 per year. Even at this rate, the annual water supply charge is lower than the government rate of Rs. 365 per rural household per year in the rest of the state.

For those who cannot afford private connections, the mandal has installed 43 public standposts. The payment for the operation and maintenance of these standposts is made by the four village panchayats to the mandal. The panchayat makes this payment from the general charges collected from the villagers.

There is a high degree of satisfaction at the quality of service and the communities willingly pay the user charges. All in all, it is seen to be a win-win situation.

*Further details on the Kohlapur initiative are available in a WSP-SA field note, due in June 1999.*

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**FEEDBACK**

*Jalvaani is one of the most innovative publication in the water and sanitation sector. While I await future issues of the newsletter with great interest, I volunteer to share interesting developments from our region as well.*

**P C Baruah**

Deputy Secretary
Government of Assam
Guwahati

* I access ‘Source’ – water and sanitation news – on the internet regularly but find that Jalvaani is better equipped with interesting information from the sector, and that too in an excellently produced format. It has become one of the most sought after periodicals in my organization and I would value receiving it regularly.*

**Dipankar Adhya**

Director
Adhiacon Environment Engineers
Calcutta

*We are pleased to see coverage of traditional water harvesting systems in Jalvaani (Vol. 2, No. 1). Ours is a development support agency which focuses on innovative initiatives by voluntary organizations in the mountain region. We have extended financial and technical support to voluntary agencies for rejuvenating springs to meet drinking water needs in the rural areas of Kumaon and Garhwal (UP).*

**Y K Sharma**

Managing Trustee
FORRAD
New Delhi

*Coverage on innovative initiatives make Jalvaani ‘must read’ newsletter. I request you to provide information about donors who can supplement governmental efforts to increase coverage of water and sanitation activities as also the NGOs who can generate momentum amongst the masses for participation in the same.*

**D K Bhasin**

Executive Engineer
Public Health Head Office
Patiala

**One page of Jalvaani is devoted to stories on funding agencies. For further information, contact WSP-SA.**

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**S C Jain**

Unit Manager
Action for Food Production
Ahmednagar

*Please send me the subscription form for Jalvaani so that I may remit my subscription at the earliest. I would like to receive your quarterly newsletter regularly.*

**M Srinivas**

Chief Executive
AWARD, Nirmal

*There is no subscription fee for Jalvaani at present.*

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**LATRINE COVERAGE IN RURAL INDIA**

<table>
<thead>
<tr>
<th>Uncovered population</th>
<th>Private initiatives</th>
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<td>81.6%</td>
<td>19.4%</td>
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*Source: Rajiv Gandhi National Drinking Water Mission*
The new Arsenic Testing Laboratory at Calcutta is to be upgraded into a state of the art, autonomous Arsenic Mitigation Center. This decision was taken in a meeting held in Calcutta on March 3, 1999, attended by Mr. Goutam Deb, West Bengal's Minister for Housing and PHED, and Mr. Palat Mohandas, Joint Secretary and Mission Director, Rajiv Gandhi National Drinking Water Mission (RGNDWM).

The Center, which is funded by the RGNDWM, will function as a center of excellence for all matters pertaining to arsenic contamination and will provide technical assistance to organizations undertaking arsenic mitigation measures. The main objectives of the Center are:

1. Collection, collation, analysis and dissemination of data
2. Providing laboratory and field testing services
3. Validating new technologies and processes utilizing R&D inputs
4. Awareness generation, motivation and sensitization
5. Capacity building and training
6. Monitoring, co-ordination and delivery of rural water supply and sanitation sector.

Named Jal Manthan, the think tank strives to bring together decision makers and sector professionals for a well-focused discussion on specific themes. It is intended to spark policy level debate and provide a forum for discussing major issues and concerns regarding service delivery of rural water supply and sanitation in India. WSP-SA will host this quarterly forum.

A National Co-ordination Committee has been set up to oversee the implementation of the project. This includes representatives from Center for Scientific and Industrial Research, Ministry of Health (GOI), Central Ground Water Board, the State Government and External Support Agencies.

JAL

The UNDP-World Bank Water and Sanitation Program - South Asia (WSP-SA) is starting a 'think-tank' for key players in the rural water supply and sanitation sector.

Jalvaani has begun to carve out a niche for itself in the rural water and sanitation sector. By disseminating innovative initiatives and best practices undertaken across the country, both 'outside' and 'inside' the system, it has demonstrated that a fair amount of interesting work is taking place in the RWSS sector. Some of our stories are the results of readers' suggestions, and we are very grateful for the encouraging response to our newsletter. We will continue to try and make it a demand responsive product.

In this issue, the lead story is about an innovative initiative by four villages in Maharashtra which should stir the imagination of all those who believe in community ownership and management of water supply services. Interestingly, these communities have profitably sustained the management of their multi-village piped water supply scheme for nearly two decades now. Such local initiatives should greatly inspire others to adopt similar approaches.

Continuing with our coverage of the states, we bring together two case studies from Assam and Uttar Pradesh. While as many as 6000 women mechanics have successfully taken over the operation and maintenance of handpumps in Karimpur district in Assam, the Swajal project of Uttar Pradesh has demonstrated the power of communities managing construction funds on their own and directly contracting goods and services.

Continuing with the theme of community management, the NGO story is about SEWA in Gujarat assisting women to excavate their village pond to harvest rainwater. Poor water quality was one of the main reasons why these women in Gujarat decided to harvest rainwater and, in our technology section, we take a look at some low cost water quality monitoring methods.

The important policy related news we wish to share with our readers relates to the RWSS reform package recently approved by the Union Cabinet. This is a major milestone in the history of the Rajiv Gandhi Mission and the next step is to actually implement these reforms.

Finally, on the last page of the newsletter, we continue our face-to-face dialogue with key personalities in the sector. In this issue, we interview Mr. Ishwarbhai Patel of the Safai Vidyalaya in Ahmedabad, who has been a torch-bearer in the sanitation reform movement.

I wish you all pleasant reading and look forward to your comments and suggestions to help us further improve.

Palat Mohandas
Joint Secretary and Mission Director
Rajiv Gandhi National Drinking Water Mission
Government of India
When women take charge

Women mechanics have triggered a handpump revolution in Kamrup district

Despite abundant annual rainfall of 2000 mm, drinking water continues to be scarce in the north-eastern state of Assam. About 90,000 handpumps and suction type water lifting pumps were installed in the state during the historic water supply and sanitation decade (1980 – 1990) but only 65% of these installed devices are in working condition. According to a recent baseline survey, nearly one-third (310 out of 907) public tubewells are non-functional in Kamalpur block, and 176 out of 507 do not work in Boko block of Kamrup district.

The main reasons cited for this state of affairs are bureaucratic delays in repairs and the lack of beneficiary involvement in planning and implementation.

However, the Assam Public Health Engineering Department (PHED) recently decided to reform its ways. With support from UNICEF, it launched Village Level Operation & Management (VLOM), a novel trial-cum-demonstration project which trains women to maintain and repair handpumps installed in their village.

UNICEF’s modification of the design of the Tara direct action handpump has enabled easy servicing as well as reduced repair. Women can now repair these pumps using only small tools. Under the VLOM scheme, two women caretakers are trained for each installed Tara pump, and are provided with a toolkit for regular repairs. Currently 2,500 pumps are looked after by women in the two blocks of Kamrup district and reports indicate that they enjoy their new-found status and take pride in their work.

The success of the VLOM project has encouraged the PHED to extend the scope of the project. If this ‘scaling up’ works, drinking water may be as abundantly available to the people of Assam as rain water is.

Community contracting comes of age

Shanti Maluda did not leave anything to chance. As leader of an all-women Village Water and Sanitation Committee (VWSC) of Kamtoli village in Pithoragarh district, she traveled all the way to New Delhi, along with the VWSC treasurer and an engineer from a NGO, to select pipes and fittings for the water supply scheme in her village. She wanted to ensure quality of procurement and investment – which is a responsibility entrusted to the VWSCs by the World Bank assisted UP Swajal project.

Back at home, the women members of the committee carefully checked each item. Those products which did not meet the ISI (Indian Standards Institute) specifications were sent for replacement.

The UP Swajal project is perhaps the first large project in India where village communities control investments in water supply and sanitation infrastructure. As a result, all construction related funds are transferred by the Project Management Unit to the community managed bank account. The community procures goods, works and services. Of the total project outlay of $ 71 million, about $ 50 million is under community control. With communities controlling over 70% of the project funds, the Swajal project has proved to be a front-runner in the concept of community contracting.
Digging for a sweet future

Fed up with bearing the brunt of dwindling water resources, non-existent sanitation and water salinity, women in some parts of rural Gujarat decided to address these vital issues on their own.

The women of the perennially parched desert areas of the state have had to suffer a constant shortage of sweet water. “The rice does not cook, the tea turns sour and people regularly suffer from diarrhoea and skin diseases,” lamented Jomiben, a local community leader. But instead of looking towards their men for a solution, the women decided to leverage their own resources and wisdom.

“If the villagers of Gokhantar in the arid deserts of western Gujarat have a supply of sweet water today, they have their women to thank,” says Reema Nanavati of the Self Employed Women’s Association (SEWA).

With support from SEWA, a well established NGO, women from the village got the brackish village pond excavated and lined it with water-proof polythene to keep the rainwater in and the salt out.

“This was no mean task because the saline water could not be allowed to flow into the agricultural fields nearby. Motivated by the determination of the women, the men helped to build a sluice channel,” Nanavati says.

When the pond was emptied out after seven days and nights of non-stop pumping, the villagers found a two-foot layer of salt at the bottom of the pond. “Once again the women showed greater initiative than the men in scraping the salt out,” Nanavati says.

But there were several problems. For instance, when the polythene lining was being laid down, strong desert winds made it billow uncontrollably. The villagers had to physically keep it down until stonework along the sides could anchor it firmly.

SEWA has facilitated many such initiatives covering 72 villages in the desert areas of Western Gujarat. The ‘Water as Regenerative Input’ Program includes augmenting existing traditional sources of water such as ponds and tanks. This is done by community participation and contribution and through promoting democratically functioning Water Users’ Co-operatives.

Ooranis and the spirit of cooperation

Tamil Nadu is known for its rich tradition of water harvesting. Over 39,000 tanks dot the landscape of this southern state. However, neglect of these tanks in the past has added to the misery of the people in the state. The worst hit districts are Ramanathapuram and Madurai, where the drinking water scarcity has assumed serious proportions.

Vivekananda Kendra, a Kanyakumari based NGO, has embarked upon an ambitious project to revive the traditional systems of rainwater harvesting. From the various alternatives available, the Kendra is focusing its attention on rooftop rainwater harvesting for individual households and remodelling of oorani – the traditional water tank.

By reviving oorani, the NGO has also been able to foster a spirit of cooperation. In Mattiyarandal, the villagers were initially very reluctant to join hands in reviving the village tank. As they realized that a functioning tank would bring back prosperity to the village, the four feuding groups in the village sank their animosities to construct the oorani.

In Sevanayagapuram village, revival of the oorani has been a turning point in the life of the villagers as it has not only brought prosperity, but also peace in a village with a 15 year long history of clashes and acrimony.

The Kendra has also experimented with other technologies like simple silt traps, recharging of tube wells and construction of simple dykes.
Panchayats in the forefront

In a distinct departure from the convention of only launching new schemes, the Danida-assisted Water and Sanitation Demand Project (WASDEP) in Tamil Nadu is focusing on rehabilitating the ongoing and completed water supply schemes which are facing problems. The rehabilitation package covers simple hand-pump systems as well as complicated piped water supply schemes.

The four year project, which commenced in October 1996, is targeting 350 village panchayats of Cuddalore and Villupuram districts. Besides rehabilitating the existing water supply schemes, this demand-responsive project plans to construct up to 30,000 household latrines and some 700 institutional latrines in the villages under the scheme. To build such a large number of toilets, the project is focusing on local capacity and is training a batch of 50 residents masons. Once trained, these masons will become permanent agents for establishing sanitary latrines in the project area.

Danida is contributing 78 per cent of the project cost, the Government of Tamil Nadu (GOTN) is providing its share of 13 per cent and the remaining 9 per cent will be met through beneficiary contribution. For water supply schemes, eligible villages will have to contribute 1/7th of the total capital cost. While, for private latrines, each household will contribute up to 15 per cent of the cost. 10 per cent of cost for institutional latrines will be paid by the community. The preference of service levels, feasible technology choices and conditions for the communities to take part in the project characterize a demand responsive approach. This amongst other things, ensures peoples’ contribution to capital as well as recurrent costs.

To meet its ambitious targets, the project is putting panchayats in the forefront for implementation of the activities. The project has invested quality time in community mobilization and has installed 91 hand pumps, augmented/improved 18 mini-piped water supply schemes and rehabilitated 119 water points. In addition, it has also constructed 2875 household latrines and 119 school/institutional latrines in the first two years of the scheme. To ensure community participation at all levels and in all activities, a number of local men and women have been trained as handpump mechanics and masons. Even teachers and pupils have been trained in the upkeep of latrines. To reinforce hygiene education, 254 water committees (with 1065 women members) and 457 trained workers (including 112 women) have been mobilized.

Another important goal of the project is to enhance the skills and knowledge of the project staff and beneficiaries vis-a-vis water quality monitoring.

Mission accomplished

Under the Ministry of Rural Areas and Employment, the Rajiv Gandhi National Drinking Water Mission (The Rajiv Gandhi Mission) is the apex agency overseeing the rural water supply and sanitation (RWSS) sector in the country. With an annual outlay of Rs 2,000 crores, the Mission is the major source of funding for the RWSS sector in India.

Due to the relentless campaign launched by the Mission Director and Joint Secretary, Mr Palat Mohandas, over the past two years, the Rajiv Gandhi Mission has successfully piloted major reforms. Under the new reform package, recently approved by the Union Cabinet, the remaining period of the 9th Plan will be treated as a transition phase during which community-based demand responsive water supply and sanitation projects will be piloted. The key principles underlying the reforms are (i) adoption of demand responsive and participatory approaches (ii) partial capital cost recovery and full operation and maintenance cost recovery from users and (iii) change in the role of the government from ‘provider’ to ‘facilitator’.

It is expected that these principles will be adopted by all the states over a period of time.

Following the acceptance of the reform package by the Union Cabinet, the Rajiv Gandhi Mission plans to implement 70 RWSS pilot projects across the country, for which 20 per cent of its annual budget (about $ 100 million) will be earmarked. However, only states which accept and implement the reforms will be eligible to receive funds for these projects.

The Rajiv Gandhi Mission’s sanitation program has undergone a similar transformation. A more realistic 50% sanitation coverage in India has been projected instead of the hitherto unattainable 100%. The current subsidy of Rs 2,000 for latrines has been slashed to Rs 500. Further, by following a ‘low to no’ subsidy regime, the Mission hopes to eventually phase out subsidies altogether.
Within two years of production, this water quality monitoring kit has gained widespread acceptability. Called Jal-Tara, the portable kit has been developed by the Delhi-based NGO, Development Alternatives (DA). The easy to use kit comes in a sturdy elegant case and weighs no more than 7 kgs.

The kit has chemicals to test 14 essential parameters for drinking water. These are pH, turbidity, chlorides, fluorides, dissolved oxygen, nitrates, phosphates, residual chlorine, ammonia, iron, hardness, coliform bacteria and benthic diversity. The unique feature of this kit is that it can detect the presence of coliform bacteria without the use of an incubator.

More importantly, the kit contains safe reagents packed in plasticware. Pipettes have been replaced with syringes thereby reducing the risk of chemicals spilling during handling. Given these features, the kit can be effectively used even by school children. To make the package attractive, DA has included training as part of the basic cost of the kit.

"The Jal-Tara is meant for anyone who is concerned with the quality of water and would like to initiate community action," says Ms Manisha of DA. Each kit has enough chemicals to test 100 water samples. At Rs. 4400 for a kit, that is quite a bargain.

For more information, contact:
Development Alternatives
B 32, Qutab Institutional Area
New Delhi 110016

The strip test

Water quality testing needs to be demystified. The simpler the test, the easier it is for the person conducting it. The H₂S strip test developed in 1982 and evaluated by the Rajiv Gandhi National Drinking Mission and UNICEF was found to be effective and appropriate for Indian rural conditions.

The H₂S strip test is quite simple to perform. H₂S (Hydrogen Sulphide) forming organisms and the coliform group of bacteria are found to be consistently present in contaminated water. The culture vials of 25 ml volume contain pre-sterilized paper strips impregnated with culture medium. The samples are incubated for 24 to 48 hours at room temperature (25 to 35 degrees Celsius). If the medium turns black, the water is not fit for drinking.

This test has been found to be more sensitive and superior to the hitherto preferred test – the Most Probable Number (MPN) test. In grossly polluted samples of water – both the tests were negative but when samples were mildly polluted, the MPN test pronounced them positive but the H₂S strip test still came up with a negative verdict. Moreover, the latter is also very cheap at US $ 0.62 per kit while the former test kit costs US $ 6.50. Studies have also confirmed that the H₂S strip test is capable of detecting the presence of Salmonella typhimurium in drinking water even if present in minimal quantities, something other methods cannot boast of. Its efficiency in evaluating the bacteriological quality of water has been scientifically proven.

Though the test kit is now manufactured by several companies and has been studied by a number of institutions and researchers, certain steps like standardization and certification are still to be done. UNICEF is currently considering a draft for test protocol and developing procedures for approval of manufacturers.

It is hoped that this new method of testing will find wide acceptability and provide a simple tool for mitigating water-borne diseases.

For more information, contact:
UNICEF
73, Lodhi Estate
New Delhi
Subsidies have destroyed us

Ishwarbhai Patel, 65, started building toilets at the age of 17. Nick-named ‘Mr. Toilet’, he is the country’s most experienced sanitation specialist today, whose expertise is sought by all, including the Central and State governments. Mr. Patel’s three decade old Safai Vidyalaya (Sanitation School) in Ahmedabad is credited with the construction of about 200,000 toilets in Gujarat and over 2.2 million in the entire country.

What inspired you to take up this unusual profession and what keeps you going?

Gandhi’s pet phrase ‘cleanliness is next to godliness’ inspired me to take up this profession. Each time I see a person defecating in the open, I know that my task is yet not over.

What approach have you followed to bring about change in sanitation habits?

Given the massive task at hand, the approach is only improving with experience. This includes carrying out an intense IEC (Information, Education and Communication) campaign, development of low-cost technology options and imparting training to local masons. A ‘campaign’ approach is required to bring about change. However, dependence on the government for subsidy has played a counter-productive role.

You seem to suggest that subsidy is not as much of a problem as its transfer and adoption. How do you plan to overcome this gap?

I have developed and demonstrated a low-cost technology package in the form of a ‘toilet park’ at several locations in the country. Through this innovative demonstration, the idea is to let people know the range of options they have at their disposal. Unless the community gets more involved, technology transfer and adoption will remain a distant dream.

If technology is available and people are ready why does it take years for the technology to catch on? Can something be done to speed up the process?

Government and external support agencies have come to realize that a subsidy-driven, target-oriented approach is not effective. Experience shows that dependence on the government has brought in despondency. Government is changing its strategy now and we must seize this opportunity to bring in effective people-centered and demand responsive service delivery mechanisms for speeding up sanitation coverage.

Are you favoring withdrawal of subsidy?

At present, all the schemes of the Central and State governments have a major subsidy component. In the last seven years, subsidy has helped increase the national sanitation coverage only from 9% to 18%. Given the slow increase in coverage, it might take 300 years to cover the entire population. Can we wait that long? While it may not be possible to withdraw the subsidy from these schemes at once, it could be phased out.

If they aren’t able to afford construction of toilets out of their own resources?

Of course. We ask a simple question at the village meetings - 'how many households own a television?' About 70 to 80 per cent people raise their hands. In contrast, only 10 to 20 per cent own toilets in the same village. This clearly shows that awareness and education hold the key to bring about an increase in the sanitation coverage.