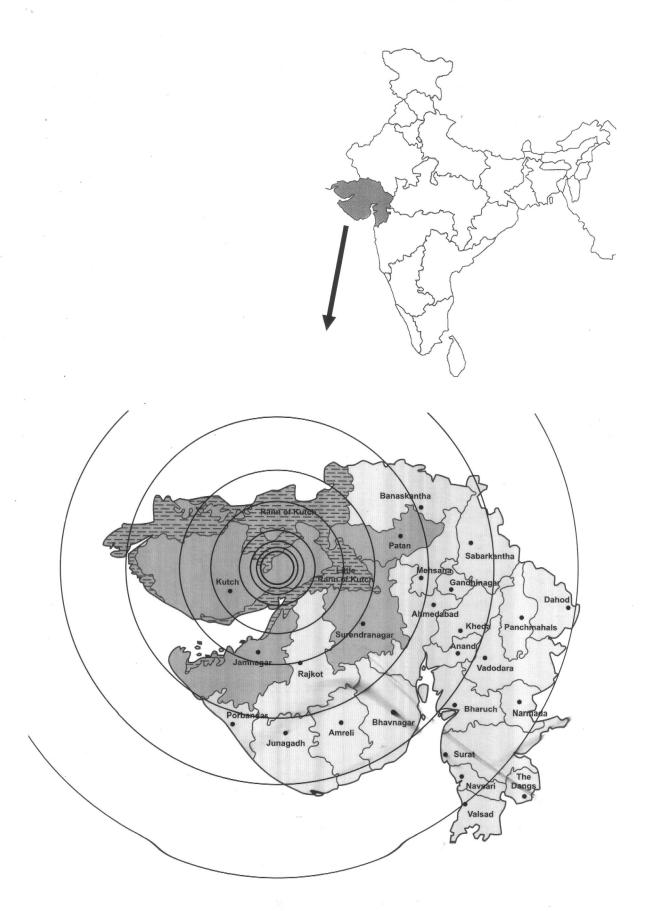
# Kutch After the Earthquake



Achieving Community-Managed Drinking Water Security and Improved Sanitation

822 ING405-18969

## Gujarat earthquake - January 26, 2001



### **Foreword**

The Government of Gujarat has accorded highest priority to availability of safe and adequate drinking water throughout the year to all. To meet the growing demand of drinking water in drought-prone and quality-affected areas of the state, drinking water supply infrastructure is being built up. Simultaneously, focus is on the capacity building and empowerment of rural communities to enable them to manage their in-village water supply and sanitation systems. In accordance with the 73rd Amendment to the Constitution, the state is moving towards a regime where village panchayats or its sub-committee, the Pani Samiti, will be managing all in-village drinking water and sanitation systems.

The Water and Sanitation Management Organisation (WASMO) has been set up by the state government as an autonomous institution to facilitate the village panchayats and the Pani Samitis. For the sustainability of the drinking water systems, WASMO provides technical and financial support along with capacity building and empowerment of rural communities so that they can plan, build, operate, maintain and manage their in-village drinking water and sanitation facilities. To achieve drinking water security and improved sanitation standards, women and children have been given special attention through extensive awareness and information campaigns, training and capacity building.

Today, out of the 18,539 villages in the state, in more than 3,300 villages, Pani Samitis have implemented the decentralised, community-managed water supply programme and are also maintaining the water supply and sanitation systems. The results of the state's interventions are visible with rural communities repeatedly demonstrating that they can effectively maintain and manage their water supply systems and sanitation facilities. Sanitation and hygiene in the villages is steadily improving with the assured water availability and increased awareness. The state government is committed to scale up these activities in all the villages of the state and is poised to build upon its achievements.

This booklet captures the essence of this initiative.

August 2005

(SG Mankad)

Chief Secretary, Government of Gujarat, & Chairperson, State Water & Sanitation Mission

### **Preamble**

Gujarat is a water-deficient state with an urgent need for interventions to check the depleting ground water levels and water quality. In order to address the growing demand for water and ensure its assured availability to the entire population, the state government has undertaken multi-level initiatives. The water supply sector has been unbundled, and at the village level, it is the rural community who are the planners, implementers and managers of the in-village water systems.

After the earthquake of January 26, 2001, the drinking water infrastructure was severely damaged. In the repair and reconstruction of the drinking water and sanitation systems, Gujarat government adopted the community-managed, demand-driven, decentralised approach. WASMO was set up as an autonomous organisation to facilitate community empowerment and participation so that the communities could manage their in-village water and sanitation systems. The organisation combines both, hardware as well as software activities, to bridge knowledge and information gaps within the community.

To enable long-term drinking water security in the state and achieve excellence in the water and sanitation sector, WASMO has forged partnerships with NGOs, community-based organisations, village communities, research institutes and government organisations. It has only been three years since the organisation initiated its activities in the earthquake-affected villages. Yet, the commitment and determination to implement the community-managed, demand-driven and decentralized programme has created a conducive environment for scaling up the activities in the whole state.

August 2005

(K Kailashnathan)
Principal Secretary, Urban Development &
Water Supply, Government of Gujarat

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### **Preface**

The massive earthquake of January 26, 2001 had a lasting impact on the people of Gujarat as thousands lost their homes and families. Kutch experienced maximum damage and trauma, with an extensive loss of livelihoods and the destruction of infrastructure. There was an urgent need for the state to mobilise resources to cope with the vast needs of the earthquake victims. While the challenge was immense, there were a range of opportunities for responding to such a post-disaster scenario. Committed and concerted efforts were made in the earthquake-affected region to help it make the transition from disaster to development. This was crucial since Kutch is also frequently besieged by other calamities such as cyclones and droughts, and there is a need to build the capacities of the communities for disasterpreparedness. The government adopted a people-centred approach in its reconstruction and rehabilitation efforts. In addition to basic infrastructure, the government focused on the availability of assured water through bulk water transmission pipelines, treatment and filtration plants, and distribution networks.

For in-village drinking water security and improved sanitation, the community-managed water and sanitation programme in earthquake-affected villages of Gujarat was conceived and is being implemented by the state government through WASMO in 1,260 villages of four districts. This programme is changing the face of the villages, as communities are increasingly equipped with information and tools to plan, implement and manage the in-village drinking water and sanitation systems on their own. The empowerment of rural communities, especially women has led to the emergence of new leadership and improved quality of life. The task that now confronts WASMO is scaling up of activities. The steady and continual support from its partners, including the communities, NGOs, the government and civil society organisations gives confidence that this challenge will be successfully met.

August 2005

(Bharat Lal) CEO, WASMO

Several communities in Banni area had never seen water in its actual colour. The groundwater in Dhandhalpur village, Surendranagar has become saline and unfit for drinking. When there was no water, the villagers of Jatwandh dug tiny pits called virdas near the pond and went through the cumbersome process of extracting water by means of small bowls. To mitigate scarcity of drinking water in Gujarat, emergency measures including transportation of water through railway wagons and road tankers was a common phenomenon. These were just few of the many instances of the lack of adequate and clean drinking water in rural Gujarat.











Severe dearth of water in Kutch and other regions of the state had overshadowed the need for sanitation and personal hygiene. The people of Kutch had developed a lifestyle that had minimal dependency on water. Bathing and washing was not part of daily routine, especially for those from the lower socio-economic strata. In fact, the women from some villages, to avoid additional trips for fetching water, had a bath only once a week.





Gujarat is a water-stressed state, and regions such as North Gujarat, Saurashtra and Kutch experienced acute scarcity. Kutch has an average annual rainfall of about 34.5 cm, and three of every five years are usually drought years. This region is also besieged by periodic cyclones. The coastal areas of the district face problems of salinity, and vast tracts have a high run-off rate, disallowing the rainwater from percolating into the ground.







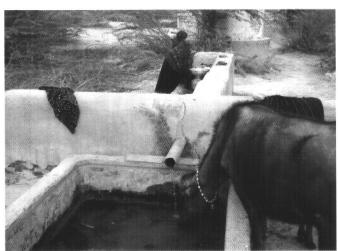


Unlike other parts of Gujarat, Kutch in particular ranks low in human development indicators. Health, hygiene, improved sanitation and female literacy along with assured drinking water availability require attention. Enrolment of girls in primary schools is low, and dropouts high. Water and sanitation-related diseases such as diarrhea, stomach ailments, fevers and skin diseases have been common.

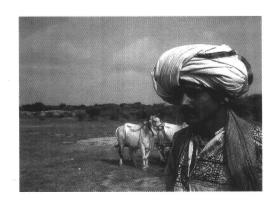








Pastoral communities, locally known as the Maldharis - Rabaris, Jaths and Bharvads - inhabit Kutch. Animal husbandry is their means of subsistence. In times of droughts, migration to South and Central Gujarat has been customary. The communities traveled as much as 500 km with their children and livestock in search of fodder and water.



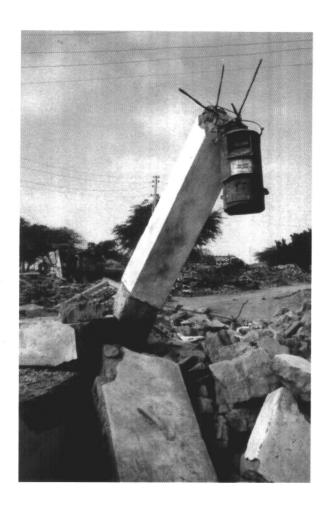
For a people who already struggled with a fragile existence and managed to survive largely because of their resilience, the earthquake of January 26, 2001 wreaked colossal damage and changed the course of thousands of lives. Maximum destruction was borne by Kutch, although other drought-prone districts of Surendranagar, Patan, Jamnagar and Rajkot were also badly affected.











On that fateful day, the violent tremors killed over 18,400 people in Kutch alone. More than two lakh houses got destroyed. Ancient cultural heritage and infrastructure such as roads, bridges and buildings were damaged or transformed into ruins. With electric supply and communication disrupted, the survivors of the catastrophe were cut off from the rest of the society.







The earthquake also annihilated or damaged greatly the lifeline of the villages - the water-related infrastructure. The impact of the earthquake on piped water supply systems, in-village facilities, water harvesting systems, and traditional water storage structures meant that there was no drinking water for the people. Restoring drinking water supply systems became an integral part of rehabilitation and reconstruction efforts.









After extensive rescue and relief efforts, to tackle rehabilitation and reconstruction of in-village water and sanitation infrastructure, the state government established WASMO as an autonomous organisation. A fiveyear programme known as the 'Community-managed Water and Sanitation Programme in Earthquake-affected Villages of Gujarat' was launched in April 2003 to cover 1,260 villages of Kutch, Patan, Surendranagar and Jamnagar districts. Although Rajkot also had damaged water and sanitation infrastructure, this district was not included in the programme as it was covered under the Sector Reform Pilot Project.





The programme brought with it the opportunity to change the grim water and sanitation scenario in earthquake-affected villages. It aims at restoring water supply in the affected villages, and enabling the availability of safe drinking water to rural communities on a sustainable basis. Since water and its handling is intimately connected with sanitation, improving personal and community hygiene are also an integral part of the programme.



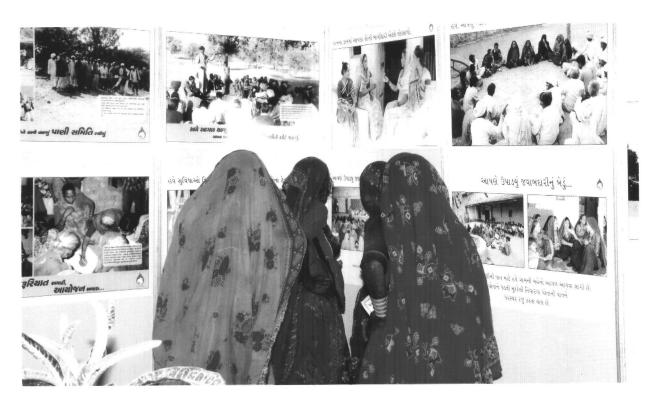


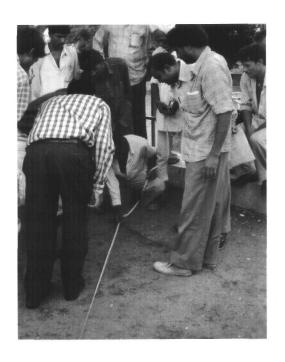
For the sustainability of the water and sanitation systems, it was imperative to adopt a decentralised, community-owned and demand-driven approach. The communities had to be centre-stage, planning, implementing and managing their own in-village facilities. The strategy and approach of WASMO has been in consonance with the reform principles adopted in the rural drinking water and sanitation sector, where the role of the government is that of a facilitator rather than a provider. The task before WASMO has been challenging, as it had to pioneer the new approach in the state. Taking advantage of its autonomy, WASMO has established itself as an organisation that is committed to community empowerment and the devolution of powers.











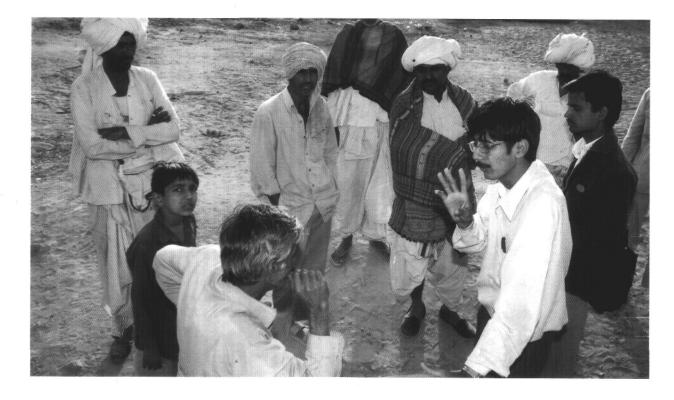


Partnerships, sustained and extensive awareness campaigns and capacity building exercises have been the major keys for bringing in decentralisation and demand-driven, community-managed water supply and sanitation systems within the villages. All of WASMO's activities are implemented in a programme-mode with extensive coverage of software as well as hardware components. To achieve its objectives, it has forged partnerships with national and international organisations including government bodies, NGOs, community-based organisations, the village community and academic institutions.



WASMO's commitment to a decentralised, demand-driven approach is manifested in the flexibility in its interventions. It focuses on empowerment, technoeconomic issues, transparency, and equity. As a result, it has won the trust and support of civil society, NGOs and the rural communities. There are over 500 members from the NGOs as well as volunteers who are actively engaged at the grassroots level in community mobilisation and empowerment.



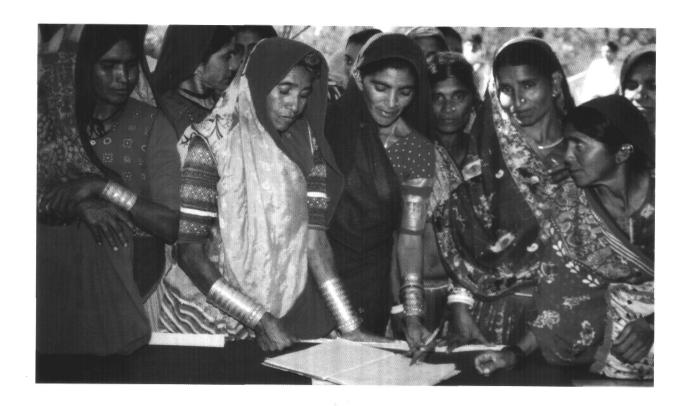




In the villages, Pani Samitis, sub-committees of the village panchayats, are formed. It is ensured that women, who are responsible for the daily collection of water, constitute at least one-third of these committees. The committees play a pivotal role and are responsible for the implementation of the programme and management of in-village water supply and sanitation systems. The members of the Pani Samiti prepare the village action plan (VAP); collect monetary contributions from the community; participate in the construction and monitoring of structures; ensure transparency, equity and optimal use of water; and operate and maintain the water and sanitation systems.







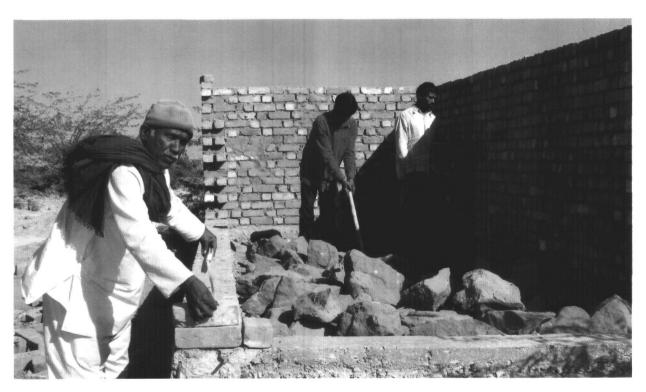




Sudadharo Moti village in Kutch has women in the majority in the Pani Samiti. The women there believe that since water is their 'problem', they should be included in every way in managing this resource. In fact, the locals say that with the inclusion of women, they feel more comfortable in talking about their problems. Although the Pani Samiti is part of the village panchayat, the general perception in many villages is that this sub-committee is more participatory and less political than the panchayat.

The construction of water and sanitation systems in the villages is preceded by a range of software activities. Engaging the local people in their own development and ensuring the sustainability of facilities requires rigorous development of capacities of the rural communities. Technical, administrative and governance skills need to be built up and enhanced. Massive awareness drives to bridge knowledge gaps and training sessions are held with the support of NGOs to empower communities.

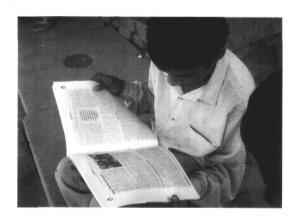




Behavioral and attitudinal changes, sensitisation, mobilisation and empowerment are brought about through intensive and consistent Information, Education and Communication (IEC) campaigns. The major themes of the campaigns are water, sanitation, health and hygiene. Printed material such as brochures, booklets, manuals, leaflets and posters are developed and distributed in Gujarati and English to different groups such as the village community, Pani Samiti, panchayat members, school children, and NGOs. Radio, television, documentaries, folk songs, street plays and puppet shows are among the other means that are regularly used for the communities to understand and internalise the messages.







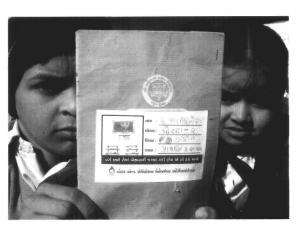








Since children form very able and powerful advocates of hygiene, they are an important target group for IEC campaigns. About 30 slogans were developed by school children on the issues of water conservation, drinking water, health and hygiene. These slogans have been painted at around 24,000 locations in all the 1,260 villages of programme areas and along the roads and highways. Notebook labels with simple messages have also been specially designed for students and are very popular in schools.



For developing the capacities of those involved in the programme, particularly the village communities, Pani Samiti members and the field workers, regular workshops, training sessions, exposure visits and seminars are organised. Training by national, state and district level resource persons and institutions are held on themes such as preconstruction; operation and maintenance; water quality surveillance; finance and accounts; environmental sanitation and personal hygiene; and water resource management. As a result, areas such as quality control, maintenance of records and technical aspects are now not alien for village communities, especially women.











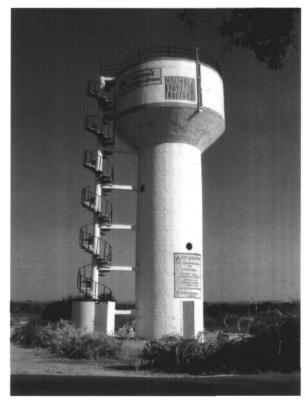


Equitable distribution is often a crucial aspect that needs to be addressed to ensure that weaker sections are not denied access to water. Accordingly, the criteria for selecting the sites for construction as well as the technoeconomic feasibility of the structures are carefully evaluated in consultation with the communities. The proposed structures and activities are then put up for approval in the gram sabhas before commencing the construction activities.



Community ownership of the structures is an essential, albeit challenging factor in the sustainability of the structures. The village community needs to contribute at least 10 per cent of the capital cost and shoulder full operation and maintenance responsibility. In Asambiya village, home to about 16 different castes, soliciting people's contribution was an uphill task, with members of the weaker communities unaccustomed to paying. On the other hand, the people of Gandhigram village paid 15 per cent of the capital cost instead of the minimum 10 per cent. Whether or not it has been difficult, in the final outcome, the communities from most villages have come forward and have demonstrated their ability to develop and own the water and sanitation systems. In fact, a large number of villages have also taken up other additional work and activities from their own funds.





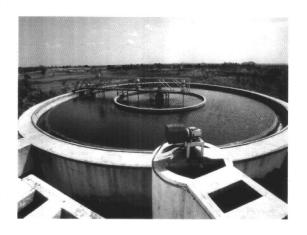


For operation and maintenance of the in-village water supply systems, nearly 300 villages have worked out their tariff structure. The fees paid by rural users vary from village to village, and they may be deposited on an annual, half-yearly, quarterly or monthly basis. Some villages also impose fines for non-payment. In most cases, the community contribution is made hamlet-wise, and it is largely the women who are involved in collecting it. There are more than 3,300 villages in the state that have taken over the responsibility of in-village water and sanitation management.



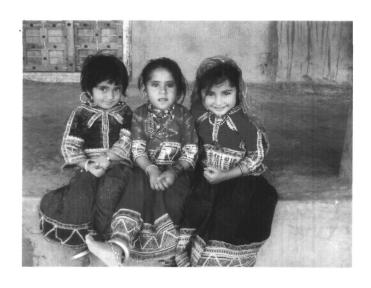


Drinking water security is facilitated through a combination of piped water supply and local water sources. The transfer of bulk water is done from Narmada to the villages. regional water supply systems have been strengthened and new water distribution and storage systems have been developed. In addition, large scale rainwater harvesting and traditional groundwater-based systems are also improved. As a result, not only has water availability been ensured, but there has also been marked improvement in the quality of water. The region has internalised the conjunctive use of water as a basic principle.





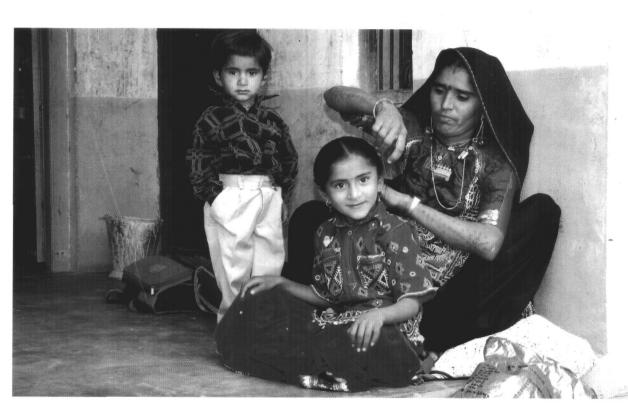






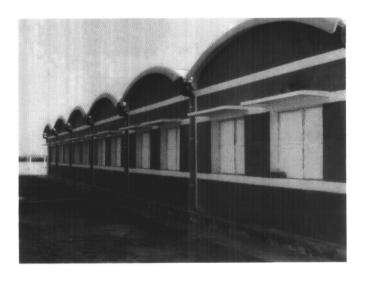


In remote and water-scarce regions of Kutch, the villages now have assured availability of safe drinking water throughout the year. Easy access to water means that the villagers, especially women and children, are more in control of their time and are not at the mercy of tankers, which visit the villages at any hour. Regular and assured water supply also means that drudgery has reduced and the women can instead spend more time on their children and productive work.



The schools in drought-prone and desert areas experienced a serious problem of providing clean and safe drinking water to the children. Students often had to go back home for drinking water. Under the programme, rooftop rainwater harvesting has been taken up in 1,858 schools on a priority basis to promote rainwater conservation and make drinking water readily available to the children. The rainwater that is collected is stored in an underground tank, fitted with a small, easy-to-operate hand pump to avoid wastage of water. To ensure drinking water security, this tank is further connected with the regional water supply system.









Sensitisation about water quality and the need for safe drinking water has led to a daily chlorination regime by the villagers themselves. This has also brought about improved hygiene practices. For years, the Sanghar community from Pipri village did not filter their water as they believed that a demon king, 'Pooro,' lived in it. They thought that drinking the unfiltered water would kill this evil king. However, awareness campaigns within the school and village has brought about gradual change and the reluctance to filter water and use ladles is dissipating.

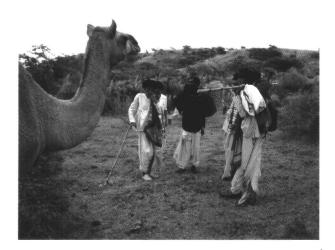




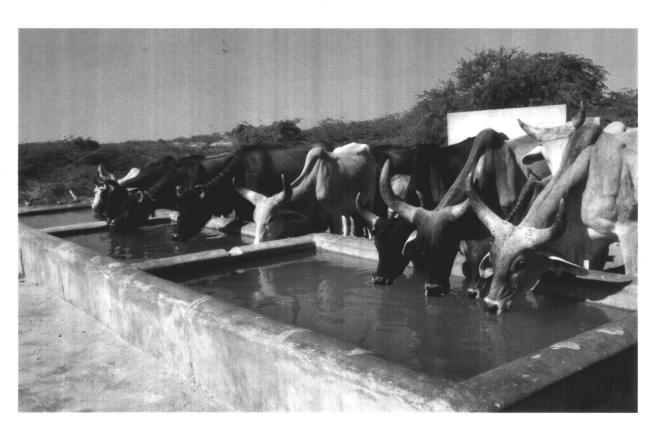






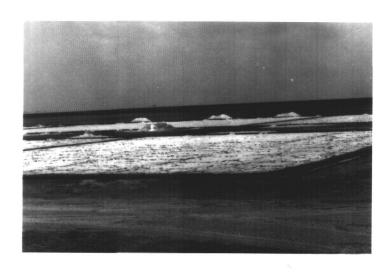


Since animal husbandry is the mainstay of pastoral communities, facilitating assured drinking water for the livestock is essential. Animals form the backbone of the rural economy in Kutch, and the scarcity of water not only necessitates lengthy migrations, but also reduces the productivity of livestock. To ensure that drinking water is available for the animals, cattle troughs are constructed in every village, and 30 lpcd of water is budgeted for each animal in the desert area villages.





The salt workers, locally known as agariyas, are a highly vulnerable group from socially and economically backward castes. They migrate to the saltpan sites in remote locations for about eight months every year, and have no infrastructure available to them for housing, health, education and potable water. The absence of water storage facilities leads to personal hygiene and health problems, and it is common for the agariyas to spend about 20 per cent of their meager income on procuring water. Efforts are underway to create permanent facilities for drinking water, water storage structures, toilets and washing and bathing areas for the agariyas living in 62 villages of Kutch, Surendranagar and Patan.





In the context of personal and environmental hygiene, the inhabitants of poorer villages were usually less concerned about issues of sanitation. While the economic status of the communities has a bearing on their hygiene practices, it is also the case that certain habits and attitudes shaped by tradition prevented the people from maintaining adequate hygiene standards. This is echoed in the words of a villager who remarked, "There is no need for us to take a bath."













Attitudinal changes, especially among women and children, are being brought about so that they have a better predisposition towards health and hygiene. Extensive sanitation drives, rallies, fairs and meetings involving the villagers as well as children are held regularly as are competitions for clean homes and lanes. These events are organised to commemorate special occasions in the village to encourage greater participation. Personal hygiene kits with articles such as nail cutters, combs, and toothbrushes are distributed during the campaigns. In several villages, vertical brooms are also distributed to enable both men and women to participate in village cleanliness.

With intensive efforts, women are beginning to play a significant role in improving the hygiene and sanitation of the family. Many women, as can be seen in the case of Vadhva Bhopa and other villages, despite their busy routines, ensure that their children and homes are clean, and that washing and bathing are part of regular routine.











The widespread lack of toilets in most villages not only creates sanitation problems, but also leads to various difficulties for women and the aged. Open defecation is commonplace and women go early in the mornings to ensure privacy. When there are social functions held over many days in the village which disallow women from stepping out of their homes, they are forced to sneak out. As women from Gadhiyado village put it, "We have to hide and go. What to do? We are helpless!"



Yet, women and communities across villages have now started persuading their men-folk about the need for toilets, and their construction has also begun in many villages. In fact, within a span of two years, in over 60 villages across Kutch, every family has access to toilets, and in over 100 other villages, at least half the population has access to sanitation units.











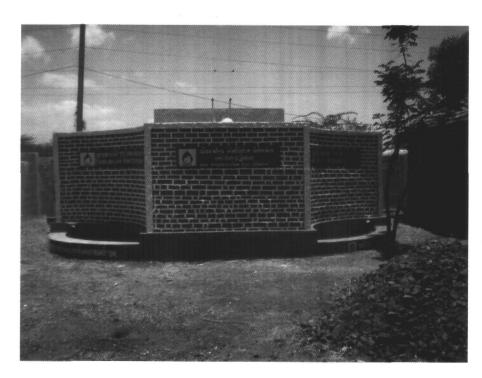


While there is a tendency to maintain some hygiene within the homes, encouraging people to keep the village surroundings clean needs more concerted efforts. As a result of continuous sanitation drives, the importance of environmental sanitation is being appreciated and communities have started making soak pits, creating proper systems for draining the waste water, and relocating their garbage disposal sites. More than 6,500 dustbins have been placed in schools, public and religious places. In certain villages it is now a regular practice for the locals to gather every month to clean the village. According to local custom prevalent in some areas, one day of the month is reserved for devotional activities and the villagers do not go to work. Now, this day is also being utilised to clean the village.

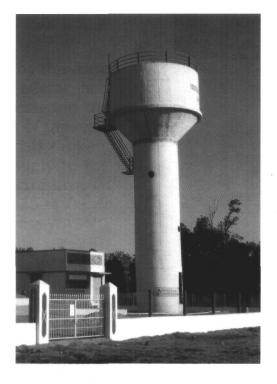
Within schools, 488 Sanitation Corners in programme villages are being constructed to encourage the use of toilets from a young age. Once accustomed to toilets, children also have considerable potential to influence their families for household-level toilets. Girls especially find the presence of sanitation corners in schools to be very convenient. The schools have devised their own systems for maintenance of these toilets.







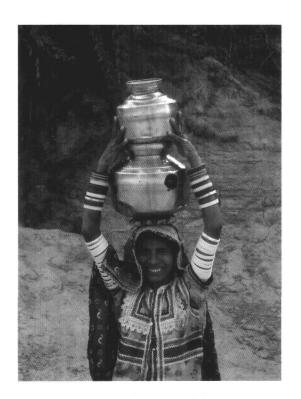


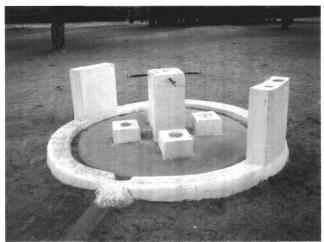


The success of the impetus given by the state government in drinking water sector and ongoing sector reforms is manifested in the steady decline in the deployment of tankers. While in 2002-03, about 385 road tankers had to be deployed for water supply to the villages of Kutch, there was a sharp drop in this figure to about 33 tankers in 2004-05. It has only been over two years since WASMO began interventions in the 1,260 earthquake-affected villages. Yet, work has already been completed in about 350 villages, and the inhabitants have access to assured drinking water and sanitation systems including adequate water for their livestock.



With interventions to facilitate drinking water and sanitation systems gaining momentum, it is the rural community that is leading the process of transformation and development. Women are coming forward and can even follow the technical aspects of water supply systems. Pani Samiti members like Manjuben can bring to a halt the wasteful use of water. For drinking water, the women say, "Why should we mind paying when we can fetch water in lesser time? We can now save upto two hours." A school teacher in Kherwa village remarks that the students have learnt enough to easily give a 10-minute discourse on health and hygiene.











Slowly but surely, the quality of life in the rural areas is improving with assured and adequate availability of safe water, improved sanitation and empowered communities. Today, as the communities gain experience in managing their own water supply and sanitation systems, there are an increasing number of people breaking new ground. New leadership is emerging, as communities, especially women, begin to participate and take active interest in their village development.



# **Kutch after WATSAN efforts**











# **Emerging Leadership**

#### Lachhibai - Pipari village

Lachhibai is a Pani Samiti member. Like other members in her village, she has got a new confidence after attending training programmes. She can now make demands on the village leadership so that the people get what is rightfully theirs. She says, "It is the duty of the sarpanch to ask women their problems and solve them. If he does not work in the interests of the village, we will remove him."





### Sharifaben - Asambiya village

She ventured out of her home and took the lead. She visited every house in her village and persuaded the people to join hands. As a Pani Samiti member, she collected community contribution and maintained records. She also monitored the repairing and reconstruction activities of the village water supply works after the earthquake.

### Raghubha - Yaksh Mota village

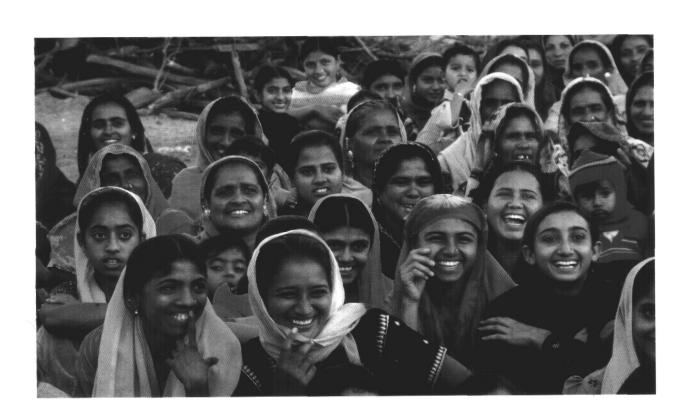
A teacher at a primary school, he encouraged the students and the villagers to learn about rainwater harvesting. The Pani Samiti in his village was inspired by his earnestness and developed the rooftop rainwater harvesting system in the school. The children now have ready access to safe and clean drinking water.











#### © WASMO

Concept : Bharat Lal

Content Support: R.K. Sama, Madhavi Purohit, Chaitali Pandit

Text & Editing : Radhika Shah

Design & Layout: Kosha Thaker, Kalpesh Purohit

Photos : WASMO and ISAs

Based on work done by Pani Samitis, ISAs, GWSSB, interns and WASMO team

## **About WASMO**

- ★ WASMO works as a facilitator and provides financial and technical support to Pani Samitis/ Gram Panchayats and networks with local NGOs, other State Government institutions, Government of India, donors and UN organisations to fulfill the Gujarat Government's pursuit of strengthening local self-governance through decentralisation and empowerment of the rural community, especially women.
- ★ It partners with people and other voluntary and Government organisations, to promote community based rainwater harvesting by integrating traditional knowledge, wisdom and local innovations in water resource management, water supply and environmental sanitation.
- WASMO encourages adoption of best hygiene practices and habitat improvement by informing and educating communities about issues like greening and cleaning of villages, health, hygiene, safe water, wastewater disposal and the use of toilets and soakpits.

We believe users of water are the best managers of water

# WASMO...

Not only restoring water and sanitation systems, but going way beyond



Building partnerships and working together



Water and Sanitation Management Organisation