



Water as the source of community empowerment: Part 2

Andrew Karp, Leonel Cabrera Meza and Sayra Cabrera De León

The second part of this remarkable case study clearly shows how communities, when properly organized and trained, may be able to operate and maintain a water system well beyond its 'design life'.

Part one of this article (*Waterlines* Vol.17, No.3) followed the story of two adjacent rural communities in Guatemala, Panimaquip and Pampojilá, and the inauguration of their piped water supply in 1974. We now go on to look at the developments and events during the 25 years since completion of the project.

Several months after the water system was completed, twenty *colonos* were fired

- the new water system, which allowed the people to live on their own land;
- the community organization that had developed while undertaking the water project; and
- the courage and solidarity of the people.

Escalation in conflict

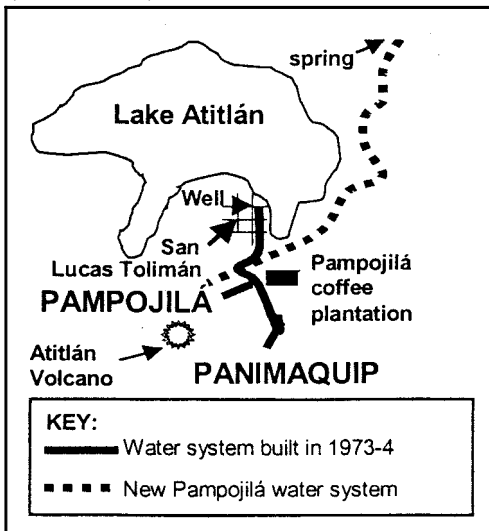
In 1978 the escalation of the armed conflict between guerillas and the army created a frightening volume of abuses by the military and clandestine death squads. In the face of this, several families moved to the land that had been distributed to them by the government in 1967, allowing them to concentrate the location of their homes and provide additional security. But the level of violence continued to escalate; in 1981 the President of the Panimaquip Water Committee, Mr Santos Gómez, was murdered by a death squad, along with several others.

To protect themselves better, between 1980 and 1982 all of the families of Pampojilá moved to the redistributed land near the highway, extending the water system to serve this location. Here the community was closer to the plantation where many of them worked, and had better access to the town of San Lucas Tolimán, with its market, medical facilities, and other services. The new concentration of homes also helped further development projects in later years.

Infrastructure improvements

Among these was the extension of the water distribution network to provide for household connections, instead of the original public standpipes. The designers of the original system had warned that household connections would inevitably increase the per capita demand for water, and that the system was not designed for such an increase. However, people

Map of the project area
(not to scale)



without justification by the administrator of the Pampojilá coffee plantation. As a result, the other *colonos* began a work stoppage, demanding that the fired workers be reinstated, that the plantation administrator be fired instead, and that they receive an increase in pay. The plantation owner took the side of the administrator, but the position of the striking *colonos* remained firm, and they left their homes on the plantation and moved to *ad hoc* shelters on their own land. It was only because they now had a water system that they had this option, and this greatly enhanced their bargaining position. People from neighbouring communities refused to work as strike-breakers, and the administrator was unable to find a single replacement worker. After almost three weeks of negotiations, the plantation owner agreed to the strikers' demands.

When the strike ended, the people of Pampojilá decided to continue to live on their own land, and to work as employees of the plantation, instead of as resident *colonos*.

The end of the feudal relationship with the plantation was made possible by a combination of:

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Agua Del Pueblo

Upon completing their work, the volunteers determined to use their experience to create an NGO to assist others with similar needs. They called themselves the Asociación Pro Agua del Pueblo — the People's Water Association.

They sought support from various institutions and finally, in 1975, USAID approved funding for a rural water and sanitation programme to be administered by CARE, with all field work to be managed by Agua del Pueblo. This new programme provided water to some 25,000 people in small rural communities of El Quiché.

Over the years, Agua del Pueblo has served hundreds of rural communities throughout Guatemala. It maintains a revolving fund for financing construction materials, and has received funding from more than a dozen European and North American institutions, as well as from the Guatemalan government. It is now a completely Guatemalan institution with headquarters in the city of Quetzaltenango.

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We would also like to acknowledge contributions to the project by Santos Gómez (r.i.p.), who was President of the Panimaquip Water Committee and was murdered in 1981, Father Gregory Schaffer, and Parish volunteers Richard Raines, Graham Dadson, William Copacino, Jim McCarthy, and Tom Gullette.

Finally, we would like to acknowledge the support of the NGO Agua del Pueblo in the preparation of this article.

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preferred to ration water to only a few hours a day at home, rather than continuing to carry water from the standposts.

Other technical modifications have been needed over the years, including the drilling of two new wells near the original well because of a declining water-table. In addition, there has been the extension of the system to serve the new community of San Martín. This community now has 98 families, and was formed by the migration of families from Panimaquip, detailed in part one of this article.

Additional improvements, always implemented in a participative and organized manner, include:

- improving the quality of housing;
- constructing latrines for all houses;
- constructing primary schools, and a secondary school in Pampojilá;
- connecting to the national electricity system; and
- paving many of the streets in Pampojilá.

Partnerships and participation

All of these infrastructure improvements have been made with contributions of community labour and money, and under the direction of a community organization. One of the successful organizational strategies has been to establish a specific committee for each project, and to avoid having any particular person on more than a single such committee. This has allowed leadership skills to be widely developed, and it has avoided overloading any specific leader.

A shortage of water developed and became increasingly serious as the population increased. Confronted with this situation, the communities investigated alternative sources for several

years. Finally, in 1987, the people of Pampojilá located a suitable mountain spring in a remote location seventeen kilometres away, which had an adequate flow to provide for the population of Pampojilá, and was at a higher elevation. The community of Pampojilá purchased the rights to this spring from the local county (*'municipio'*) government, and sought financing for a new water system.

A branch of the Ministry of Health, the Division of Environmental Sanitation (DES), agreed to work with the community to build the new system. Construction began in May 1990, and was completed by December 1991. Some of the construction materials were paid for via a revolving fund maintained by the DES, with payments to be made by the community over the next ten years, at a rate of Q17.45 (approximately US\$2.90) per family per year. The community also contributed all unskilled labour.

Water system 25 years on

The new system now provides water to household connections in Pampojilá, while the old system continues to provide water to Panimaquip and San Martín. Although the system is still overloaded, it is not intolerably so, illustrating that when communities are properly organized and trained, they may be able to operate and maintain a water system beyond its 'design life'. Pampojilá remains connected to the old system in order to provide for emergencies, with each family paying Q6.00 (US\$1.00), once a year, to the committee in Panimaquip for this privilege. It has also been agreed between the communities that if Pampojilá actually needs to use water from the old system, the people there will pay an appropriate

amount to cover pumping costs. All families pay user fees of Q20.00 (US\$3.25) once every three months. In addition, the communities of Panimaquip and San Martín have now acquired the rights to two more springs nine kilometres away, and are, at the time of writing, soliciting institutional support to build a new water system to serve 122 of the homes in these communities with water from these springs.



Household connections to the water supply system completed in 1991. A second faucet, for emergency use, is connected to the old system.

Andrew Kerp

Lessons learned

The experiences in Panimaquip and Pampojilá had a profound influence on the policies and work methodology of Agua del Pueblo, and several NGOs. These merit consideration by all institutions that support rural water supply projects and include:

- Introduction of a water supply, more than an end in itself, can be a catalyst for the future development of a community. It should be implemented in a manner which promotes this, with an emphasis on community organization and training.
- Community participation should include the responsibility of managing a water project, and should not be limited to the contribution of unskilled labour.
- Rural water supplies can be operated and maintained over the long-term by their communities, provided community leadership is promoted, together with training in all aspects of the project.
- A large part of the costs of a water project can be financed via credit to the community which even poor communities can repay.
- People have a strong desire for household connections and tend to modify a system of public standposts to this end.
- Well-organized communities with good water supplies will tend to grow much more rapidly than the average rural community, and this should be taken into account when designing water systems.
- Communities give an extremely high priority to the solution of their water supply problems and are prepared to make major sacrifices to achieve this.
- In an area where armed conflict exists, those who accept leadership responsibilities in rural communities may be putting their lives at risk. The murder of the President of the Water Committee in Panimaquip was not an isolated event, and similar murders happened in other communities where Agua del Pueblo assisted with water projects. It is hoped that the Peace Accords signed at the end of 1996 will end such atrocities in Guatemala, but nonetheless water programmes implemented where such a potential exists, should be very sensitive to this situation. ■

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Leonel Cabrera Meza was a Guatemalan anthropologist. He passed away a few months after co-authoring this article.

books

Lessons from India in solid waste management Edited by Adrian Coad WEDC, Loughborough, 1997.

Pbk. £11.40. ISBN 0 906955 49 0.

The material in the book is derived from a number of training courses, held over a period of three years, which began in the UK and continued in India. Much of this time was spent on site visits — in Mumbai (Bombay), Ahmedabad and Rajkot — and the resulting data, collected in small teams by the participants and tutors, forms the book's substance.

The book comprises 7 parts, with the first four covering different aspects of waste collection, so giving this topic special significance. It aims to address some of the key solid waste management issues which face low- and middle-income countries, and describes specific situations encountered in Indian cities.

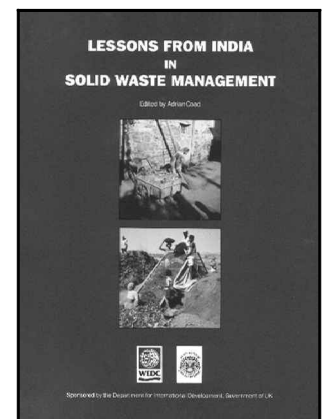
The editorial gives a good overview of the problems India and other developing countries face when dealing with solid waste management. The first part, on primary collection, discusses equipment, and proposes some alternative systems for Mumbai. It details case studies from a low-income area of Mumbai, and from a private sector primary collection scheme in Rajkot. In the second part, the report focuses on performance indicators of different collection systems, and then moves on in part three to the selection of appropriate collection vehicles and containers. Aspects of vehicle maintenance are covered in part four. Disposal and resource recovery are described in the next section, with the focus mainly on the disposal situation in Mumbai and

on alternatives such as incineration, composting, vermicomposting, pelletisation, and anaerobic digestion. Aspects of healthcare waste management are dealt with in part 6, with the final section focusing on institutional, management and social aspects, including the status of waste managers and the role of NGOs.

As with most books where a number of contributors are involved, much depends on individual style and the topic being addressed. Unfortunately, reading and navigating can be difficult as the overall text layout is very dense and some contributions lack a simple, systematic structure. Nonetheless, the practical and realistic nature of the contributions makes this volume an important source of information for municipal officials and engineers dealing with issues such as selection of technology, monitoring of systems and cost estimation. The case studies are supplemented by detailed data, figures, tables including sample questionnaires, contracts and monitoring forms, which allow practitioners not only to gain insight into the actual data but also to learn from the applied and described investigation methodologies. While the structure does not encourage reading the book from the first to the last page, it is a valuable source of reference on specific topics and I have consulted it regularly from the moment it arrived on my bookshelf. It should provide a valuable source of information for administrators, engineers and consultants.

Specific literature on appropriate solid waste management in developing countries is still scarce, and this report contributes to bridging this gap. Published in a similar form, I would encourage and welcome similar publications focused on other countries or regions.

Christian Zurbrugg
SANDEC/EAWAG



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