

The 'plus' of additional professionally treated drinking water

**Andhra Pradesh and
Telangana**

COMMUNITY MANAGEMENT OF RURAL WATER SUPPLY

Community Water *plus*

Three interesting features in this case

Three interesting arrangements in this case:

- Community management of high quality drinking water plants
- Good quality water is a complementary source next to the State-supported public water supplies
- The development of these systems is often driven by quality problems in groundwater

Key data on the Andhra Pradesh context

All India data for reference in parenthesis

Water supply coverage: 97% (96%)

GDP per capita: \$4,543 (\$ 4,243)

HDI: 0.473 (0.467)

Devolution Index rank: 13 out of 24

Photo: Naandi Water Purification Plant

Community Water Plus, a research project, has investigated twenty case studies of successful community managed rural water supply programmes across 17 states in India. Through these case studies, the research has gained insight into the type and amount of support to community organisations that is needed, and the resources implications of this 'plus' – in terms of money, staffing, and other factors.

The widespread prevalence of groundwater fluoride in Telangana and Andhra Pradesh is causing serious health problems like dental and skeletal fluorosis. The State-funded decentralised water programmes have improved the water accessibility, but the single-village schemes that use groundwater are susceptible to chemical and biological contamination. In response to increasing demand for good quality potable drinking water, innovative models of professionally-managed but community-owned decentralised drinking water service delivery have emerged in the region. This report presents case studies from three models with predominance of community management: Bala Vikasa, the Naandi Foundation and the Safe Water Network Modern Architects for Rural India (SWN-MARI). These are complementing the ongoing base level water service being provided by the state water agencies. Water filter plants are set up with community contribution, which are being managed by water committees or water operators and are delivering high level of service.



The enabling support environment

The enabling support entities are Telangana Rural Water Supply and Sanitation Department and Department of Panchayat Raj and Rural Development, Andhra Pradesh, which provide the base level water service. They construct, operate and maintain the conventional system for delivering water.

In addition, there are Bala Vikasa, the Naandi Foundation and SWN, which are providing complementary potable drinking water.. All three organisations use Reverse Osmosis Technology for purifying the water and the safe water is sold at the outlets in jerry cans, containers, some through automated systems, some through sales staff. The raw water source is mostly borehole or open well from which the water is pumped via motor to the raw water tank. From here the unsafe water goes through various stages of filtration.

While Bala Vikasa has a demand responsive approach, Naandi Foundation and SWN - MARI approach the communities where the source of drinking water is unsafe All three organisations adopt an approach that focuses on community participation, community resource mobilisation and conducting Information Education Communication activities for creating community awareness on the importance of safe drinking water. Once the community agrees, a water committee is set up and a water operator is appointed. They are trained on the vital aspects of management, which includes, maintaining accounts, record writing and book keeping. Regular monitoring support is also provided by the field coordinators. Other support entities include donors, which play a major role in all the three models, because funds are sought from them before installation of the plants, social science experts and technical experts to support the water committees through major repairs and annual maintenance checks.

Community service provider

The community service providers are the water committees. Members are nominated by the community and a resolution is passed. The water committees though informal in their establishment, are trained and capacitated to the extent where they can handle the administration, management, operation and maintenance with specified roles and responsibilities in printed format and also in local language for each member. In each of the models, water committees are formed prior to inauguration of the plant. Upon receiving the required training and skill, the water committees are handed over the responsibility of maintaining the plant. All the water committees have an operator appointed for daily book-keeping and operation of the water purification plant. The committee members take regular updates from the operator regarding the water can sales and other minor repairs. Since there is no activity like tariff collection for the ATW (Any Time Water) served villages, users come directly to the plant to recharge their cards, the operator is available at the plant.

Minor repairs are addressed by the operator and major repairs are addressed by the technical team in the respective cases within 24 hours. Financial management for all the water committees in Bala Vikasa, Naandi and SWN-MARI models is structured and professionalised. Except for water plants under Naandi, there are no bank accounts for the water committees.

Service received by households

Other than the water accessed from the regular Village Water Sanitation Committee and Rural Water Supply System, households purchase drinking water from the water purification plants. Hence bottled water is considered as Water Source 'B'. Across all the plants, the water cans are a standard of 20 litre capacity. The water collection point is at the plant, so all the consumers either walk/ cycle/ ride by two-wheeler to collect water when needed. At all the plants there are fixed timings for water collection.

This case study evaluated two best performing villages with access to safe drinking water. The household surveys were carried out with Rural Water Supply Systems water as Water Source 'A' and bottled water as Water Source 'B' because the assumption is Water source 'A'+ 'B' is the total consumption for the given household.

The costs

Capital costs - of a total of 4,891 INR/person - are largely done by the external support entities in the study area. The local governments (GP and block) cover around 5%. Community contributions to the initial implementation costs are to the tune of 596 INR, which is 12%. Of all the capital costs, less than 1% is for software support for the main water source. In terms of recurrent costs, it is to be noted that a major part comes from the state government and the communities. Of the 341 INR/person/year, communities pay around 34%. These are roughly the costs of (re) training of operator and support visits by field co-ordinators are taken into consideration.

Water Source A	Service levels for best practice village (n=60)					
	Quantity	Quality	Continuity	Accessibility	Reliability	
High	25%	17%	3%	17%	17%	
Improved	8%	0%	0%	17%	17%	
Basic	50%	83%	88%	50%	67%	
Sub-standard	17%	0%	8%	17%	0%	
No service	0%	0%	0%	0%	0%	

Water Source B	Service levels for best practice village (n=58)					
	Quantity	Quality	Continuity	Accessibility	Reliability	
High	0%	100%	N/A	52%	N/A	
Improved	0%	0%	N/A	26%	N/A	
Basic	0%	0%	N/A	22%	N/A	
Sub-standard	0%	0%	N/A	0%	N/A	
No service	100%	0%	N/A	0%	N/A	

Figure 1 Service levels Bal Vikasa

Water Source A	Service levels for best practice village (n=60)					
	Quantity	Quality	Continuity	Accessibility	Reliability	
High	65%	23%	7%	90%		
Basic	10%	47%	82%			
Sub-standard	13%	30%				
No service	12%	N/A		3%		

Water Source B	Service levels for best practice village (n=49)					
	Quantity	Quality	Continuity	Accessibility	Reliability	
High	0%	100%	N/A	55%	N/A	
Improved	0%	0%	N/A	18%	N/A	
Basic	0%	0%	N/A	22%	N/A	
Sub-standard	0%	0%	N/A	2%	N/A	
No service	100%	0%	N/A	2%	N/A	

Figure 2: Service levels of Naandi Foundation

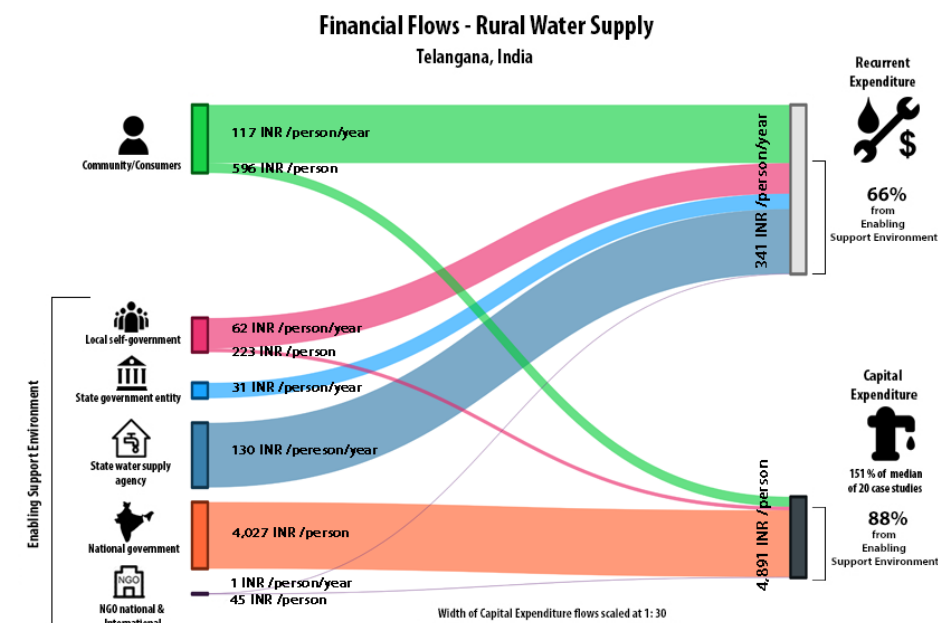


Figure 3: Financial flows for the service delivery models

Conclusion

Telangana and Andhra Pradesh have widespread fluoride content in groundwater and the 'single- village schemes' using this easily available contaminated water source for supplying drinking water is adversely affecting human health. To meet the increasing demand for quality potable drinking several NGOs in the last two decades have come up with professionally-managed community-owned decentralised drinking water service delivery system. This case studied three different approaches used by **Bala Vikasa**, the **Naandi Foundation** and the **Safe Water Network**, which involved community to develop a service delivery model, which was managed by the community and was sustainable. These three slightly different approaches to delivering potable drinking water to support community's needs, complement the ongoing support from the state water agencies who have constructed the base level water service and have deliver varying degrees of ongoing support to communities.

At present, the systems studied are delivering successful community management of water, both potable and conventional supply, but at a total cost over 50% higher than the median of the 20 case studies investigated during this research project.

About this note

This is a summary of a full case study as part of the Community Water Plus project. The original case study was written by Srinivas Chary Vedala, Shaili Jasthi and Swapna Uddaraju. The summary was prepared by Ruchika Shiva The full case study can be downloaded <http://www.ircwash.org/projects/india-community-water-plus-project>



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