

## Gravity-based water supply system

Sikkim

# COMMUNITY MANAGEMENT OF RURAL WATER SUPPLY

## Community Water *plus*

### Three interesting features of this case

- The presence of a political will to strengthen the local self-government institution.
- Exceptional leadership in the past and in the present were able to sustain the spirit, and deliver the service to the public indicating sustainable community management.
- Committed administrative set up to implement the programmes were found to be the certain advantages.
- The community's participation helped the service provider to manage a sustainable service delivery, including financial contribution through 100% tariff payments.

### Key data on the Sikkim context

All India data for reference in parenthesis

Water supply coverage: 83% (96%)

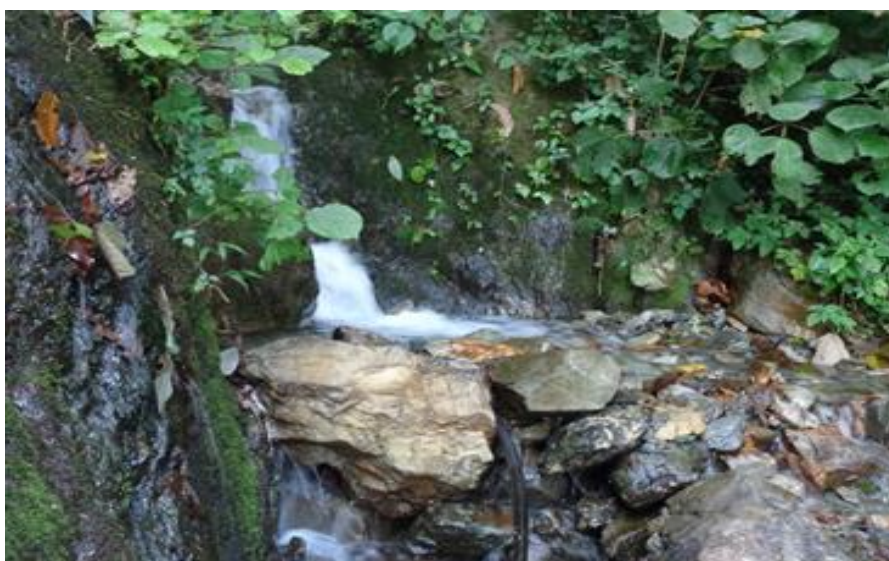
GDP per capita: \$10,068 (\$4,243)

HDI: 0.573 (0.467)

Devolution Index (Rank): 8 out of 24

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.

This document presents the inputs that contributed to improving water supply to households by the Rural Management and Development Department in Sikkim. Sikkim is one of the smallest and sparsely populated states in the country, but with one of the highest GDP per capita and a strong track record in local self-governance. The State has achieved near 100% coverage in drinking water provision with piped supply systems. Given the systems of local governance and the water sources prevailing across the State, there are Gram Panchayats (GP) and Water User Associations managing their drinking water supply systems extremely well. The best performing two Gram Panchayats, Melli Dara Paiyong and Gerethang Labing, and one Ward (Zitlang) Water User Association are studied in detail and presented in this case study.



## The enabling support environment

The Rural Management and Development Department (RMDD) of the State Government is the enabling agency for water supply. The support provided by RMDD for water supply include -

**Convergence** – the department seeks to combine the delivery of water with other key development facilities, like use of MNREGA for construction.

**Financial assistance** - The capital investments as well as the renewal of assets are met from the Government funds. Service enhancements as part of operation and maintenance expenditure are also supported by the State government.

**Technical support** – In addition to Assistant Engineer at Block level, and the Junior Engineer at Panchayat level, who provide technical support to the GPs, there is also a local person (Barefoot Engineer<sup>1</sup>) placed who is trained on essential fitter/plumber techniques and water quality monitoring.

**Training** - The Department has also ensured that the GP Members as well as the VWSC members are trained on issues related to water management at their GP level. Despite the presence of the VWSC, the GP is active at all stages. The State Institute of Rural Development under the Department provides the training.

**Water Quality Testing** - State Institute of Rural Development under the RMDD is responsible for monitoring the water quality with periodical testing.

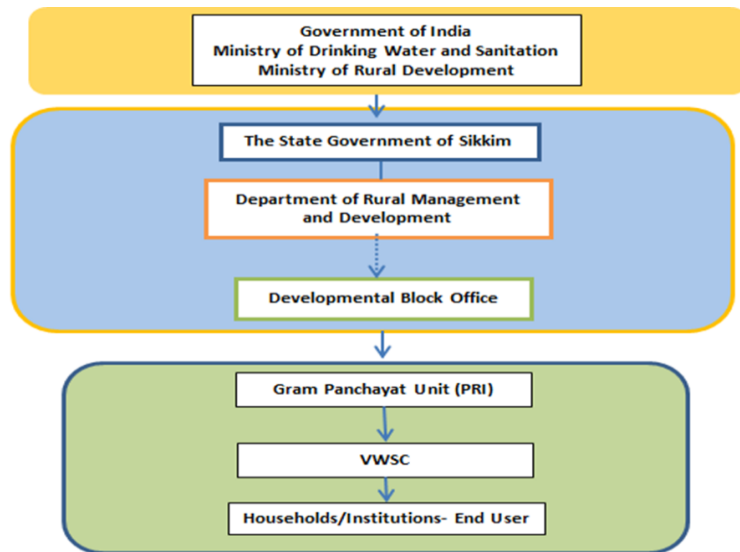


Figure 1: Enabling Support Entities in Sikkim

## Community service provider

The service providers are the respective Gram Panchayat Units (GPUs) of the selected villages. The GPUs exercise their autonomy at different levels to ensure participation of people in the planning as well as implementation processes of development programmes. The GPUs have constituted, as per Government guidelines, committees such as i) Gram Planning Forum, ii) Social Audit cum Vigilance Committee, iii) Village Water & Sanitation Committee (VWSC) and iv) Ward Level Development Committee. The GPUs, in reference to drinking water, carried out the following activities:

**Tariff setting and collection:** With the revenues the CSP generated from the tariff, they were able to deploy more human resources to operate and maintain the system.

**Record keeping:** the records are maintained at the GP office, which is called Village Administrative Centre.

**O&M:** The GPUs, in addition to the support from the Junior Engineer and Barefoot Engineer, have appointed 3 to 4 fitters to monitor the water supply. They involved in valve operation and repairs in the pipelines. The Fitters and the BE do physically check the tapping points and surroundings in order to avoid contamination through any objects.

The GP have a set of core staff for administrative support and for whom the salary was paid by the GP from the revenue they generated. The GPs were effectively utilising various opportunities for revenue generation to meet expenditures.

<sup>1</sup> Local youth are selected and trained intensively by the RMDD, their salary is met from the RMDD grant to the GPs.

## Service received by households

The water supply is through household connections and almost all the houses have a storage tank to harvest the rain water for household consumption. At some houses, besides the Piped Water Supply, water was collected directly from the nearby *kholsa*, small springs using a poly pipe which would also be connected to the storage tank.

Overall service levels are high due to 24x7 continuous supply, quantities of above 75 lpcd, and absence of complaints from the community on water quality and the samples tested also did not show any contamination. Complaints were addressed normally within 24 hours and the GPUs took care of the payments for the repair. Given these high levels of service, besides drinking and other domestic needs, the water was used for animals as well as for irrigating the cultivation around the house.

Service Level for the best practice village						
	Quantity	Accessibility	Quality	Continuity	Reliability	Overall
High	88%	88%	86%	0%	90%	67%
Improved	1%	0%	0%	0%	0%	1%
Basic	0%	0%	7%	0%	3%	10%
sub-stand	2%	3%	8%	0%	3%	10%
no service	8%	8%	0%	0%	3%	11%
n/a	1%	1%	0%	100%	0%	1%

Table 1 Household service levels

Though efforts are taken to address equity, the geographically dispersed distribution of the households posed to be a problem in few places where a few houses were left out from the piped water supply system.

## The costs

Capital costs - of a total of 8,111 INR/person - are largely done by the national government with a 10% contribution from the RMDD. Community contributions to the initial implementation costs are not even 1%. Of all the capital costs, around 0.5% is for software support, this is used for costs of training provided to GP and VWSC and to the training and retraining of Barefoot Engineers. In terms of recurrent costs, of the 246 INR/person/year, communities pay around 30%. These are roughly the costs of minor operation and maintenance, salary of plumbers/fitters, Barefoot Engineers, repair expenditure would be a considerable amount as damages take place frequently in the pipeline and material purchased for this. The remaining costs are covered by the RMDD.

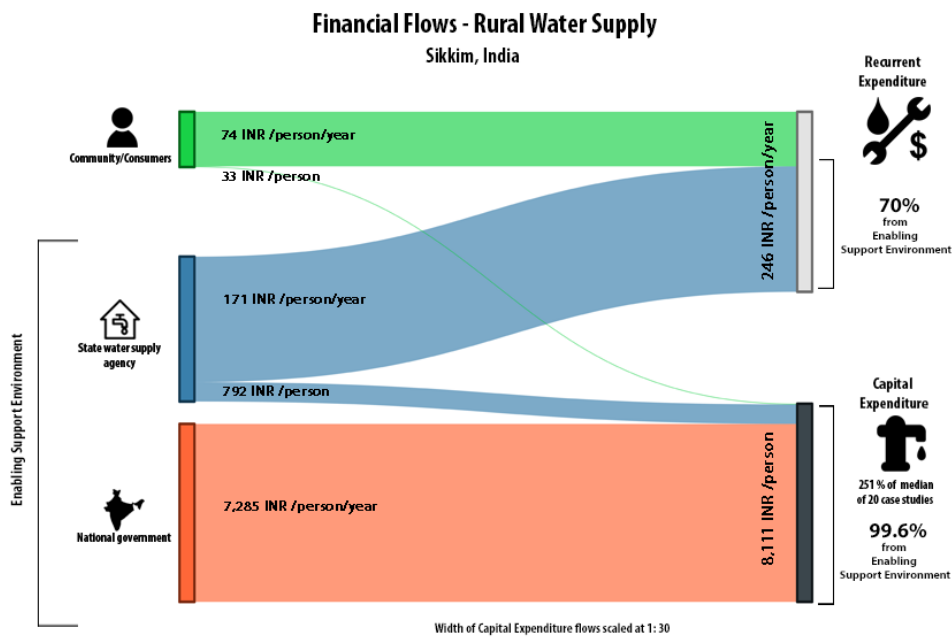


Figure 2: Capital and recurrent costs of service provision in Sikkim

## Conclusions

This is a case study of best practice in community-managed drinking water supply in Sikkim. The thrust on decentralisation in the State influenced and impacted the overall governance as well as in the management of drinking water supply systems. The villages studied had full coverage with piped water supply to the population, 100% user charge contribution and active participation in the operation and management of their drinking water supply system. The schemes were all gravity-based piped supply, using spring as source of water. The community's participation helped the service provider to manage a sustainable service delivery, including financial contribution through 100% tariff payments. Exceptional leadership in the past and in the present further reinforced public service delivery. Despite dispersed distribution of the population and increased demand, the rural water supply system was found to be well managed.

## 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 Rema Saraswathy and G Vijayaram, Centre of Excellence for Change, Chennai. The full case study can be downloaded <http://www.ircwash.org/projects/india-community-water-plus-project>

The project has investigated successful community-managed rural water supply programmes and approaches across India, and drawn out lessons on the support needed to make community-management successful. The project is funded by Australian Aid and is being implemented by a consortium of partners, including: the Administrative Staff College of India (ASCI), the Centre of Excellence for Change (CEC), Malaviya National Institute of Technology (MNIT), the Xavier Institute of Social Service (XISS) and IRC with overall project coordination provided by Cranfield University.



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