COMMUNITY MANAGEMENT OF RURAL WATER SUPPLY
Community Water ^{plus}

Centre of Excellence for Change, Chennai

Understanding the resource implications of the 'plus' in community management of rural water supply systems in India: Belagavi District, Karnataka

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Executive Summary

This case study analyses the support given by the World Bank assisted Jal Nirmal project for community managed rural water supply in Belagavi district, Karnataka. The study was undertaken by selecting three villages considered as best practices examples from Jal Nirmal – Shiraguppi, Iddalahonda and Hirenandi, and one control village that was not part of the programme. The project ran from 2002 to 2014 so all the villages in this study are now supported under the Rural Drinking Water Supply and Sanitation Department, Government of Karnataka. The case study considers both the historical support provided under Jal Nirmal and the current support arrangements.

In the three Jal Nirmal villages, the study found that water supply is effectively managed by communities through the Village Water and Sanitation Committees that are well-capacitated and resourced. Tariff payments are regular and above government norms meaning communities are able to cover most of the Operational Expenditure for rural water supply and deliver good quality services. In this regard, the case can be classified as a form of Community Management with Direct Support in which communities has successfully taken on the operation and maintenance of rural water supply.

The study also indicates that the Rural Drinking Water Supply and Sanitation Department, Government of Karnataka, is providing an effective support environment for these villages. Karnataka has historically been the site of community management programmes, such as Jal Nirmal, so the state government has built on this legacy to develop a professionalised support system that balances technical support with the specialist 'softer' support focused on empowering communities.
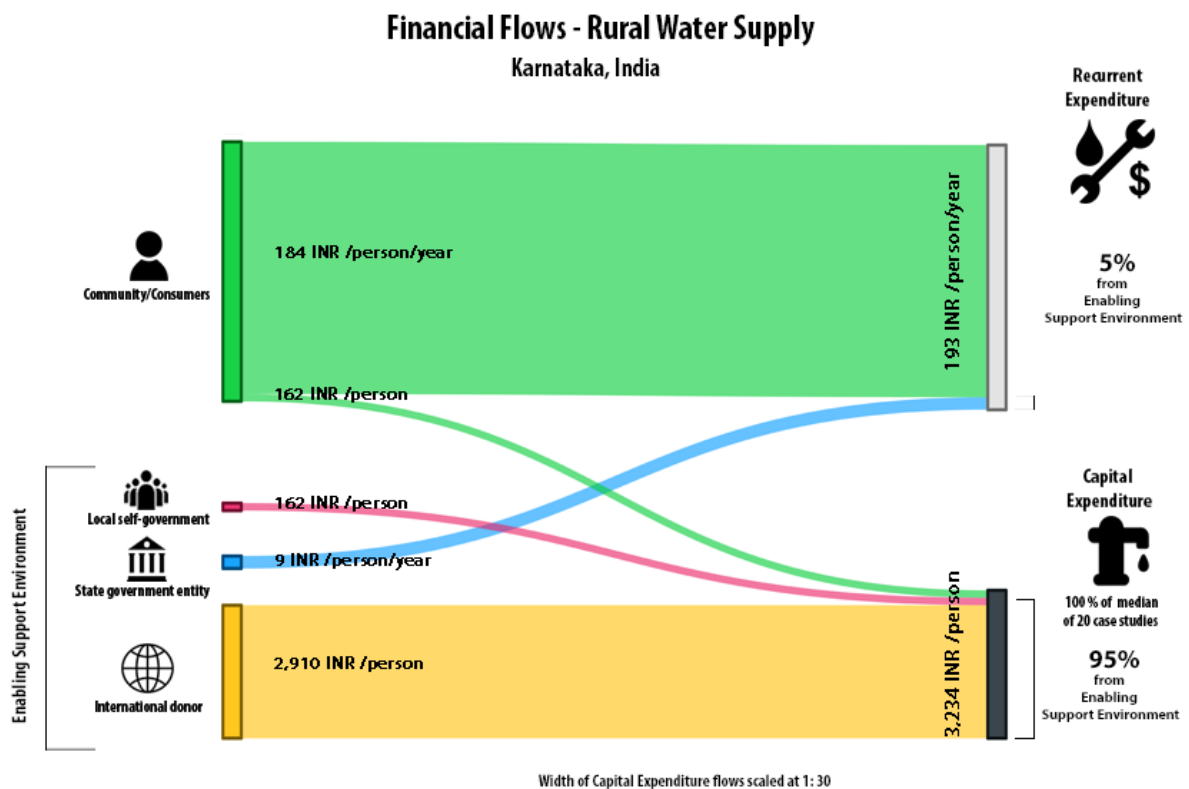
The overview of costs per person in Jal Nirmal villages ranges between INR 1,993 in Shiraguppi as compared to INR 5,776 in Hirenandi village including hardware, software and operational expenses. The maximum CapEx costs of surface water sources is about INR 5,452 and that of groundwater sources INR 2,424 per person and the conventional model costs about INR 646 per person; but the difference in water resources availability, quantity, quality, reliability and sustainability are of paramount importance. Out of the capex, the software part constitutes only about INR 225 at the maximum as observed from Iddalahonda village, i.e. a maximum of 10% of the hardware cost, coincidentally the same amount as the community contribution has been collected in Jal Nirmal project. This will be about six days' wages per family as per minimum wages act of MGNREGS for 2015-16 for Karnataka. The gist of per person costs is given in the table below:

Karnataka Summary Cost Table - calculated as the average cost per person, that is averaging across the three 'successful' villages

Source of funds	Use of funds - implementation			Use of funds - annual recurrent					
	CapEx hardware	CapEx software	CAPEX TOTAL	OpEx labour & materials	OpEx power	OpEx bulk water	OpEx enabling support	CapManEx	RECURRENT EXPENDITURE TOTAL
Community/consumers	INR 156	INR 6	INR 162	INR 106	INR 78	-	-	-	INR 184
Local self-government	INR 156	INR 6	INR 162	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
State government entity	-	-	-	-	-	-	INR 9	-	INR 9
State water supply agency	-	-	-	-	-	-	-	-	-
National Government	-	-	-	-	-	-	-	-	-
NGO national & international	-	-	-	-	-	-	-	-	-
International donor	INR 2,802	INR 108	INR 2,910	-	-	-	-	-	-
TOTALS	INR 3,114	INR 120	INR 3,234	INR 106	INR 78	-	INR 9	-	INR 193
Median of 20 case studies			INR 3,231						INR 207
'Plus' %age	95%	95%	95%	0%	0%	-	100%	-	5%
Median of 20 case studies			95%						57%

The Financial Flow Diagram, below, has been developed as an advocacy and communication tool. It aims to assist policy-makers and programme developers to visualise the 'plus' resource implications necessary for sustainable community-managed rural water supply services.
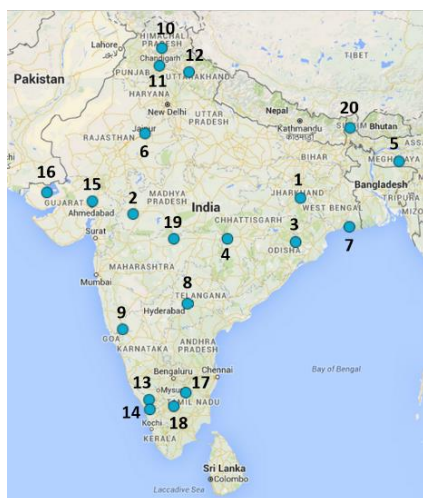

Financial Flows - Rural Water Supply
Karnataka, India

Acknowledgements

The twenty case studies

1	Jharkhand	11	Punjab
2	Madhya Pradesh	12	Uttarakhand
3	Odisha	13	Kerala (Kodur)
4	Chhattisgarh	14	Kerala (Nenmeni)
5	Meghalaya	15	Gujarat (Ghandinagar)
6	Rajasthan	16	Gujarat (Kutch)
7	West Bengal	17	Tamil Nadu (Morappur)
8	Telangana	18	Tamil Nadu (Kathirampatti)
9	Karnataka	19	Maharashtra
10	Himachal Pradesh	20	Sikkim

The twenty case studies are available also in four page summaries, both in Indian Rupees and in US Dollar (PPP) versions, accessible from the project website. A Policy Brief and a Research Brief There is also a synthesis report available, published by Earthscan, London.

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Acronyms

AE	–	Assistant Engineer
ARWSP	-	Accelerated Rural Water Supply Programme
CSP	–	Community Service Provider
ESE	–	Enabling Support Entity
G.P	–	Gram Panchayat
GOI	–	Government of India
GOK	-	Government of Karnataka
IRWS&ESP	-	Integrated Rural Water Supply & Environmental Sanitation Project
JE	–	Junior Engineer
KRWSSA	-	Karnataka Rural Water Supply and Sanitation Agency
MNP	-	Minimum Needs Programme
MVS	–	Multi Village Scheme
NDWM	-	National Drinking Water Mission
PPMU	-	Project Planning and Monitoring Unit
PRED	–	Panchayat Raj Engineering Department
PWSS	-	Piped Water Supply System
RDWS & SD	–	Rural Drinking Water Supply and Sanitation Department
RGNDWSM	-	Rajiv Gandhi National Drinking Water Mission
SVS	-	Single Village Scheme
VWSC	–	Village Water and Sanitation Committee
WB	-	World Bank

1   Introduction

This report is part of the Community Water[Plus] series of case studies on community-managed rural water supply in India. It documents the support provided by the Jal Nirmal project (supported by World Bank and implemented by Karnataka Rural Water Supply and Sanitation Agency (KRWSSA) and the State Rural Water Supply & Sanitation Department (RDWSD)) to the Village Water and Sanitation Committees (VWSCs) of Belagavi district. This report describes the support arrangement in detail, and assesses the effects of the support in terms of service delivery. It also provides an approximation of the costs involved in support.

1.1   Background to the topic and the Community Water *plus* project

Water, sanitation and hygiene services are central to addressing poverty, livelihoods and health. In order to meet the Millennium Development Goals (MDGs), Government of India (GoI) developed a national policy framework for rural drinking water supply, the 'National Rural Drinking Water Policy'. Last updated in 2013, the main goal of the policy is to provide every rural person with adequate water for drinking, cooking and other domestic needs on a sustainable basis. However, one of the main barriers in achieving this aim is the sustainability of systems; i.e. the operation and maintenance of infrastructure. In general too many rural water supply systems function at sub-optimal level or are non-functional due to poor maintenance, resulting in reduced coverage. To overcome this problem, the policy guidelines promote an 'apolitical' governance system through which Village Water and Sanitation Committees (VWSCs) take on the management of water supply with support from the village-level 'local self-government' of the Gram Panchayat.

In spite of the existence of success stories in community management, mechanisms for support and professionalization are often not institutionalised in policies and strategies. Success stories then remain pockets of achievement. Also, the necessary support comes at a price, and sometimes a significant one – though in many cases there is lack of insight into the real costs of support.

Community Water *Plus* (Community management of rural water supply systems) is a research project which aims to gain further insights into the type and amount of support that is needed for community-managed water services to function effectively.

1.2   Overall objectives of the research and research questions

This research investigates 20 case studies of reportedly 'successful' community-managed rural water supply programmes across India in order to determine the extent of direct support provided to sustain services with a valid level of community engagement. The expected outcome – based on the empirical evidence from the 20 cases - of the project is to have a better understanding of the likely resource implications of delivering the 'plus' of successful community management 'plus', for different technical solutions, at a level of competence and bureaucratic involvement that is indicative of normal conditions across many low-income countries, and the possible trajectories for institutional development of effective support entities for community management. In order to achieve that outcome, the project focuses on the following main research question:

What type, extent and style of supporting organisations are required to ensure sustainable community managed water service delivery relative to varying technical modes of supply?

This is further broken down in the following specific questions:

- What are the current modalities of successful community management and how do they differ in their degrees of effectiveness?
- What supporting organisations are in place to ensure sustainable water service delivery relative to alternative modes of supply?
- What are the indicative costs of effective support organisations?
- Can particular trajectories of professionalising and strengthening the support to rural water be identified?

This report is based on the study of the water supply schemes in parts of Belagavi district covering three villages under the Jal Nirmal project assisted financially by World Bank and implemented by the Government of Karnataka. In these villages the community manage the operation and maintenance of water supply through their VWSCs. One other village implemented under the RDWSD (Rural Drinking Water Supply and Sanitation Department), has also been selected as a control village managed directly by the local-self government – the 'Gram Panahayat'.

1.3   Concepts and methodology

Community-management remains the predominant approach for rural water supply services delivery in low-income countries. It originated in response to the perceived limitations of the 'public works department' phase, and built on the insights around appropriate technology, eventually leading to the present 'community management' paradigm. Though this has undoubtedly brought benefits (Schouten and Moriarty, 2003; Harvey and Reed, 2006; Lockwood and Smits, 2011) and is often the most appropriate service delivery model, evidence shows that the community management approach is necessary but not sufficient for sustainable services (Harvey and Reed, 2006; RWSN, 2010).

The hypothesis is that sustainable services delivery requires a combination of community engagement and community management of appropriate technology with the necessary government institutional support (potentially including a level of out-sourcing to the private sector). We see that there is the need to professionalise the support elements of community-management in order to provide on-going support. The needs and possibilities for this differ widely and the need for institutional/functional segmentation and resulting differentiation of support, most likely according to technology use, needs to be further investigated.

Ultimately, we believe that for successful community management, proper support is needed to deliver water services that are: *effective* in terms of quantity, accessibility, quality and reliability; *equitable* in that all rural households can access services irrespective of gender or social status, indeed that there is a bias towards the poorest who most benefit from good public health provision; sustainable or *viable*, in that there are adequate resources available, from whoever, to ensure the continuation of the service; *efficient* such that the minimum resources are used to deliver the desire quality of outputs; and *replicable* such that approaches can work at scale across different localities, not being dependent upon particular situations or leaders.

Building on these principles and applying general insights from the theoretical literature on participation and partnerships, the research identifies several "community-engaged approaches" to

ensuring the fulfilment of the human rights to water. These are illustrated in Figure 1 below and include: 1) direct provision with community involvement, 2) community management with direct support and 3) professionalised community-based management. These three broad approaches represent different levels of balance of what communities themselves do, and the extent to which they are supported by external agencies. We believe that these different approaches are closely related to factors such as average income levels, cost of technology, development status and context and that across the demand and cost continuum it is expected that the intensity of community involvement will vary.
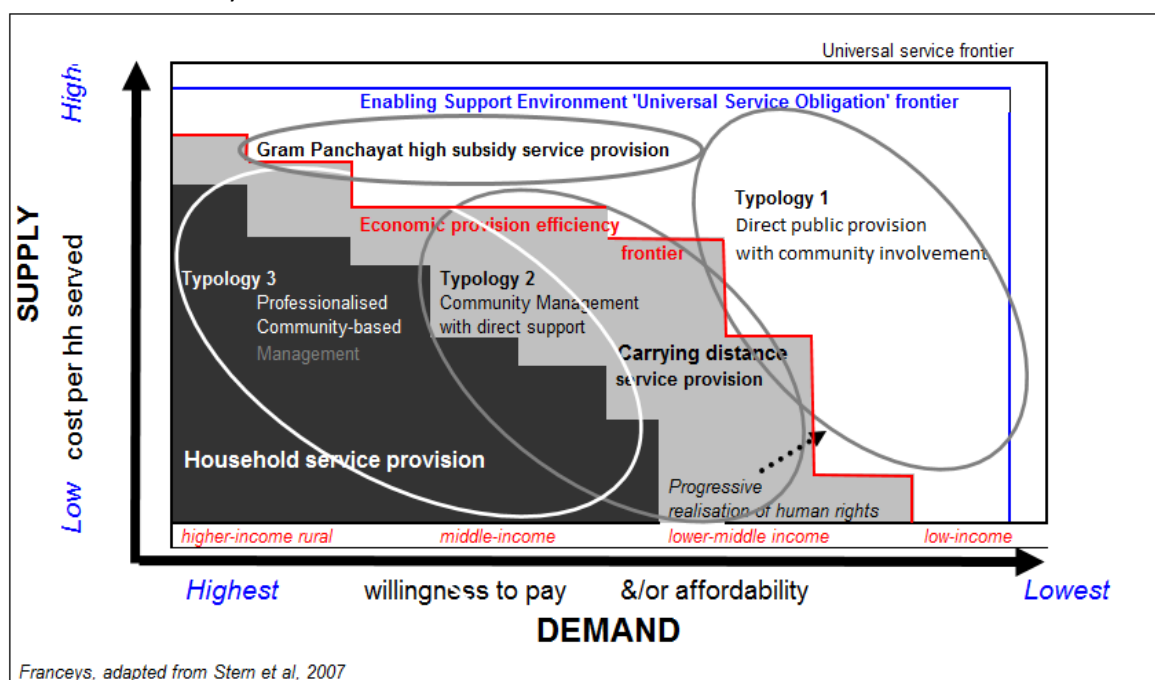
Figure 1 Application of *plus* approaches in relation to demand and costs of water supplies
(Source: adapted from Franceys and Gerlach (2008) after Stern et al. (2007))

Key to all three models is the presence of what is called an 'enabling support environment' within the Indian context. The enabling support entities (ESE), that make up this environment, fulfil what Lockwood and Smits (2011) call service authority and monitoring functions, such as planning, coordination, regulation, monitoring and oversight, and direct support functions, such as technical assistance. The main objective of such support is to help communities in addressing issues they cannot solve on their own and gradually improve their performance in their service provider functions. Within this research, we will seek to classify the varying types of community management and the necessary enabling support environment, and get a further understanding of which models are functioning best. An interrelated objective will be to identify the resource implications of this *plus*, economic as well as financial, which is needed to deliver demonstrably successful, sustainable water services across these typologies.

1.4   Elements of research

The focus of this research is thus to investigate successful cases of community-managed rural water supplies, and in that assess the type and size of support that has been deployed to make it successful. What can be considered successful can be understood at various levels: at the level of service that users receive, at the level of the service provider carrying out its tasks with a certain

degree of community engagement, and at the level of partnership between the support entities and the service provider. The research will therefore assess the degrees of success across various elements, as summarised in Figure 2 below, and further elaborated below.
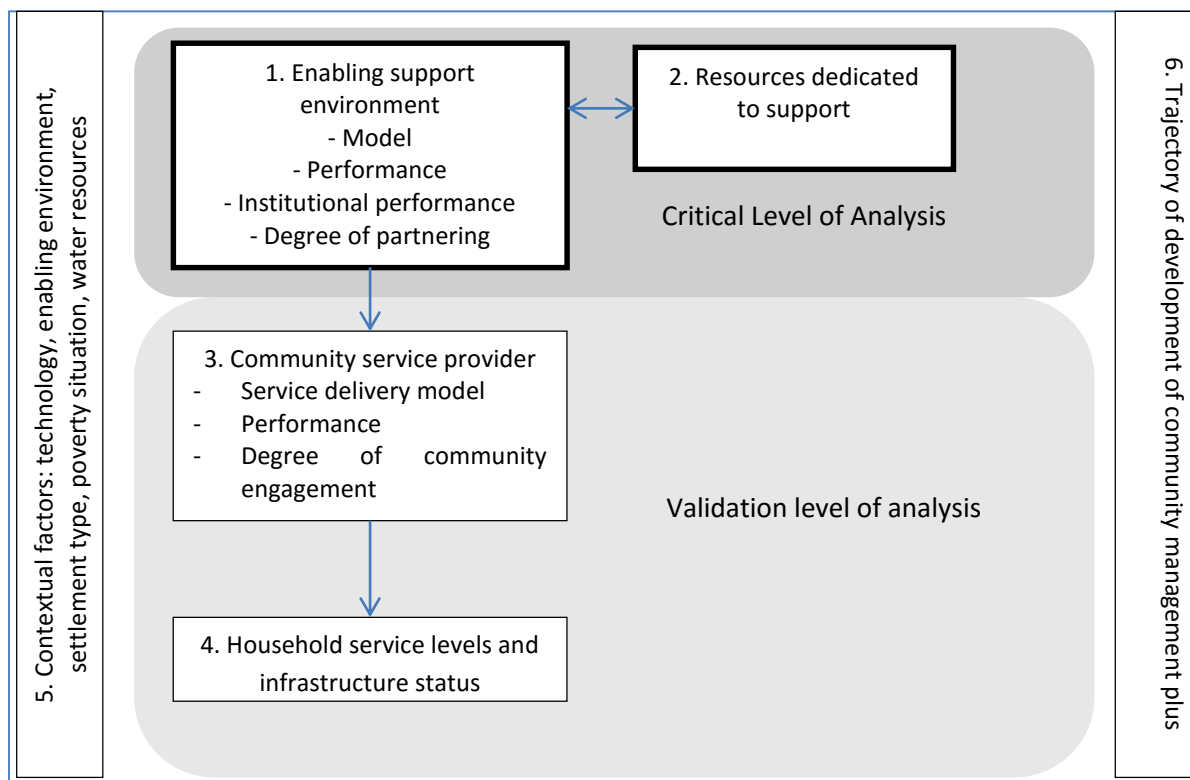
Figure 2 Elements of the research

For further information regarding the methodology please see: "Understanding the resource implications of the 'plus' in community management of rural water supply systems in India: concepts and research methodology", Smits, S., Franceys, R., Mekala, S. and Hutchings P., 2015. Community Water Plus working paper. Cranfield University and IRC: The Netherlands; please see http://www.ircwash.org/projects/india-community-water-plus-project

1.4.1   Case study selection

In selecting twenty successful case studies, the research has scanned over 161 community-managed rural water supply programmes in India, covering a combined population of nearly 50 million people. Through a detailed process of selection using both secondary data and pilot visits, 20 programmes were selected to become case studies. To select this case study discussions were held with senior officials of the Rural Drinking Water and Sanitation Department (RDWSD) to identify villages that will meet the criteria for undertaking the a case study of Community Water Plus. It was agreed that villages supported as part of the Jal Nirmal project that operated under a community management model would be considered in the research. This World Bank assisted programme ran until December 2014 so the villages are now supported by the RDWSD itself but they continue to operate under a community management model. Belagavi district was considered an ideal geographical location due to its multiple environments having high and low rainfall, water sources (groundwater and river water), high and low professional support, water quality, water availability, and

sustainability of the sources enabling the case study to consider how the model performed in different contexts.

Based on the discussion with officials, three best practice villages were selected. This included Shiraguppi in Athani Taluk, Iddalahonda in Khanapur Taluk, Hirenandi in Gokak taluk whilst a control village *Halaga* in Belagavi taluk was also identified for the study. A map of the villages is given below and the salient features of the villages selected are presented Chapter 4.

Study villages

Best Practice – 1	Shiraguppi village, Athani Taluk
Best Practice – 2	Iddalahonda village, Khanapur Taluk
Best Practice – 3	Hirenandi village, Gokak Taluk
Control	*Halaga village*, Belagaum Taluk
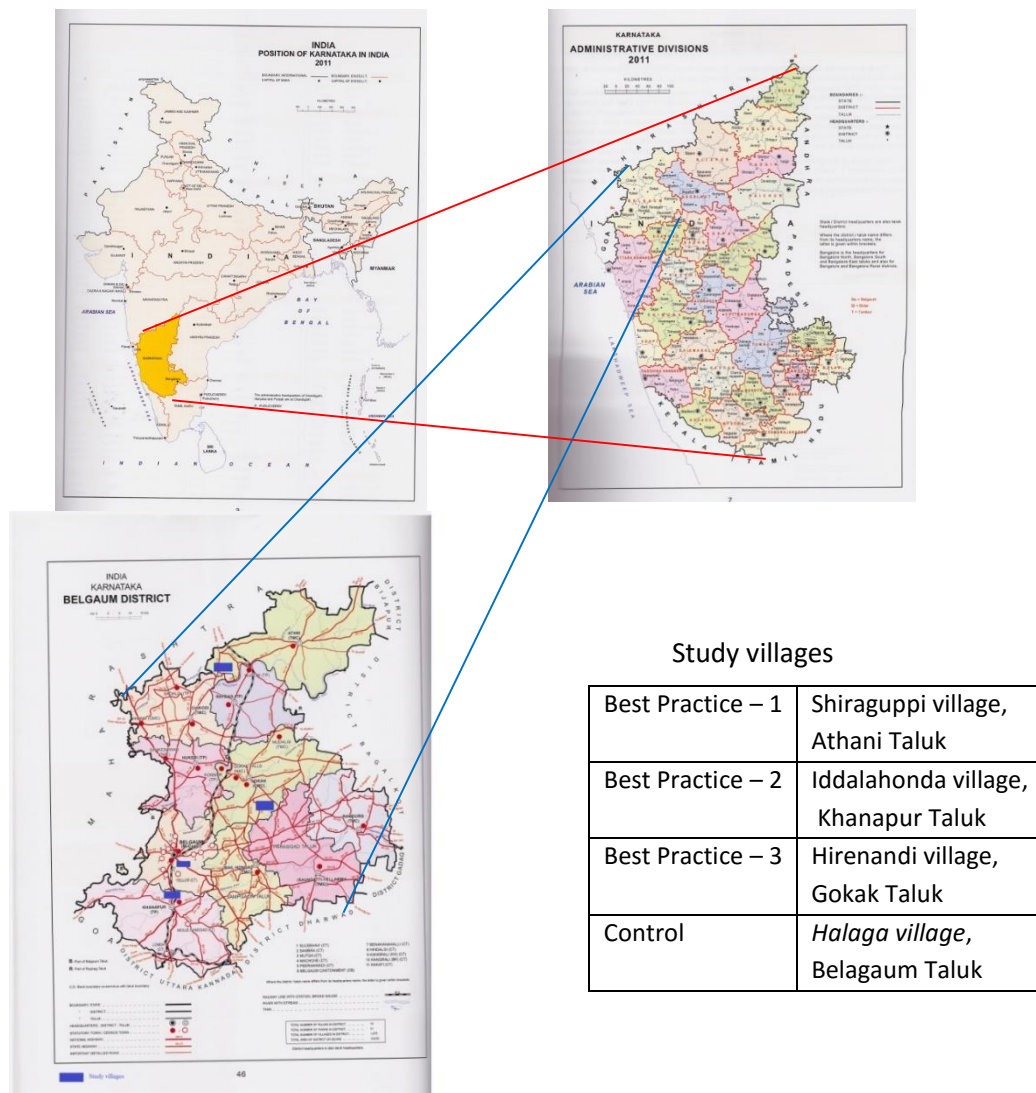
Figure 3 Location map showing study villages

1.4.2   Data collection and analysis

The data collection for this case study was designed to gather information on each of the research elements using both primary and secondary data. The methods of data collection involved key informant interviews, focus group discussions and household surveys. Table 1 depicts the sources of data and methods of data collection at different levels. The data collection was carried out from 2 August to 17 September 2014.

Table 1 Sources of Data and Methods of Data Collection

Unit of Analysis	Sources of Data	Methods of Data Collection
Enabling Support Environment (ESE)	Secondary: Published and Unpublished Materials from Jal Nirmal and RDWSD.	Secondary: Review of Information availed from Collected Materials
	Primary: Officers and Staff at various levels from Jal Nirmal and RDWSD.	Primary: 8 Key Informant Interviews with Officers and Staffs through Interview Guide
Community Service Provider (CSP)	Secondary: Various Records and Books maintained by the VWSC office	Secondary: Review of Information availed from Records and Books
	Primary: Members of the VWSC, Staffs employed by VWSC for Water Supply	Primary: 4 Key Informant Interviews with VWSC Presidents through Interview Guide 4 Focus Group Discussions with VWSC members 4 Unstructured Interviews with Water Supply Staffs
Household	Primary: Adult Members of Households who are aware of the business	Primary: 120 HH Survey through Structured Interview Schedule 4 Focus Group Discussions among villagers

To aid analysis the data were processed in 4 databases at the ESE, CSP, Household and Costing levels. These databases contain scoring tables for the performance of ESE, the CSPs, the degree of partnering and participation and the service levels that users receive (for details of the scoring, see the project's research methodology and protocols (Smits et al., 2015)). Based on these scoring tables an analysis was conducted that sought to characterise the type and performance of the different institutions involved as well as give insight into the indicative cost of this support mechanism.

All costing data is quoted in Indian Rupees (INR) and have been converted to 2014 prices. For international readers an equivalent figure in USD$ is also given (US Dollars converted at Purchasing Power Parity)

2   Enabling Service Entity

This section focuses on the Enabling Support Environment (ESE); in the best practice villages where RDWSD implemented the Jal Nirmal project and the control village, where the services of RDWSD and Gram Panchayat are routine in nature. It starts by giving a background and overview of the organisation, the support it provides and an assessment of what it is responsible for throughout the service delivery cycle. This is followed by a closer assessment of the ESE's performance and its partnering with the service providers it supports.

2.1   Background and origin of the ESE, and context in which it operates

Government of India introduced a variety of policies and programs throughout the Five Year Plans to address the issue of drinking water. The first ever national water supply and sanitation program was introduced during 1951-56 as part of health plan. The states gradually built up the Public Health Engineering Department (PHED) to tackle the problem of rural water supply and sanitation. In spite of this, it was found during the mid-1960s that majority of the schemes were being implemented in the easily accessible villages, neglecting remote villages with severe water scarcity.

PHED, Karnataka started a bore well drilling program in 1971 whilst the GoI initiated the Accelerated Rural Water Supply Program (ARWSP) in 1972-73 with 100% grant to states to implement water supply schemes in problem habitations. With the introduction of the Minimum Needs Program (MNP) in 1974-75, the ARWSP was withdrawn and again reintroduced in 1977-78, when the progress in supplying safe drinking water under MNP was found to be unsatisfactory. During the Seventh Plan period from 1985 to 1990, the program of rural water supply was given a new dimension through a mission mode approach adopted under the National Drinking Water Mission (NDWM) that was later renamed as Rajiv Gandhi National Drinking Water Mission (RGNDWM). During this period, the approach of the Government of Karnataka was essentially to improve the service levels from 25 litres per capita per day (lpcd) to 40 lpcd through a supply-driven model.

The focus of the RGNDWM was to adopt a community based demand-driven approach instead of the hitherto government forced supply driven approach. In doing so, the projects under RGNDWM are basically oriented towards community participation with a part (minimum of 10%) of the capital cost required to be borne by the community themselves. The balance amount is contributed by the Central Government. In order to accomplish the envisaged objective of any scheme/programme, it is essential to put in place a mechanism for regular monitoring and evaluation at recurrently close intervals. In keeping with the importance of the mission, a comprehensive evaluation study of RGNDWM was initiated by the Programme Evaluation Organization.

Later, in the 1990s, Karnataka had several external aided drinking water programmes promoting community management. The Integrated Rural Water supply and Environmental Sanitation Project (IRWS&ESP) was started in 1993-94 under World Bank assistance in two phases to cover approximately 1,200 villages in 16 districts. The project was managed by Project Planning Monitoring Unit with the costs shared between the World Bank (78 per cent), Government of Karnataka (15 per cent) and the Community (8 per cent). The objective of the project was to involve the community in the planning, implementation and management of rural water supply and sanitation. The community

played an important role in decision making and managing the local level activities through the Village Water and Sanitation Committees (VWSCs).

Building on these experiences, the GoK selected 11 districts in the north portion of the state, with an estimated population of 15.5 million to take part in the World Bank assisted Jal Nirmal project. This was initiated in 2002 with villages selected for inclusion on a 'needs-basis' based on scarcity of drinking water, water quality problems or large proportion of poor and socially disadvantaged people. Under the project, as many as 3,064 schemes spread over 744 GPs were implemented. The project was run over two periods until Dec 2014, involving an estimated Rs 816.18 crore of funding to support a demand-drive rural water supply programme.

The Jal Nirmal has now ended but after being implemented in 3061 villages its legacy lives on. The Government of Karnataka Rural Drinking Water and Sanitation Department (RDWSD) has now incorporated these villages into its general programme, adopting many of the practices that were developed in Jal Nirmal. Since April 2014, the new department – RDWSD – which was created by bifurcating the previous Panchayat Raj Engineering Department, has been bestowed with the responsibility of providing rural drinking water supply & ensuring sanitation to all villages across the state. It provides support through its tiered institutional set-up, which is shown in Figure 4 below. Under the RDWSD, the entire cost of the infrastructure for providing drinking water is now borne by the government but the community has to take care of the Operational Expenditure (OpEx). However, in Jal Nirmal, communities had to share 10% of infrastructure costs and cover 100% of OpEx costs. Under such schemes, additional professionals were engaged to undertake information, education and communication activities so to promote local capacity and willingness for taking on the additional responsibilities. Based on these earlier practices, software elements have been incorporated into the current set-up through the Panchayat Raj Institutions. In Karnataka the emphasis in rural water supply has always been on the provision of safe and adequate water to all the 59,745 rural habitations falling in 5635 GPs of 176 taluks under 30 districts.

Chief Engineer heads the RDWSD supported by four Superintending Engineers located at the four revenue circles (Bangalore, Mysore, Belagavi and Gulbarga) spread across the state. Superintending Engineer at the circle level is supported by 6 to 9 Executive Engineers located at the district head-quarters depending on the number of districts in a division. The organogram (Fig.4) is given below:
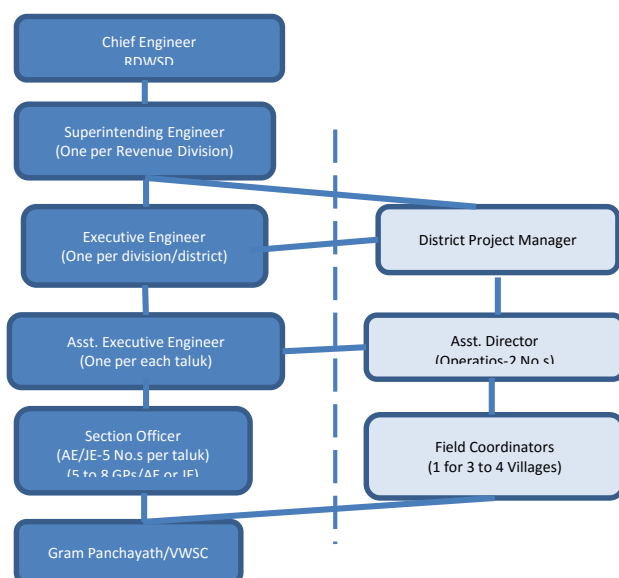
Figure 4 Organogram of RDWSD, GoK

Gram Panchayath (GP) identifies the drinking water needs of the concerned habitations within the GP and forwards to the Executive Officer at the taluk level, who intern examines the need for the same and forwards to the sub-division office of RDWSD. The concerned Asst. Executive Engineer supported by Asst. Engineer/ Junior Engineer and Geologist verifies the existing infrastructure and it's functioning and prepares a plan with necessary components to ensure safe drinking water plans at the taluk level, as per the norms. The plans are scrutinized by the Executive Engineer for financial and technical correctness. Later, the plans are submitted for technical and financial approval to Superintending Engineer at the circle level through Drinking Water & Sanitation Mission headed by the Chief Executive Officer, at the district level. Superintending Engineer will forward the final proposals to Chief Engineer for his approval. The Chief Engineer with the required recommendation will place the proposals before the State Level Scheme Sanctioning Committee (SLSSC) for obtaining the necessary sanction for executing the works. After receiving the approval, Executive Engineer gets the works executed through the sub-divisions following the administrative procedures.

The costs for provision of drinking water infrastructure are borne by the government for ensuring drinking water supply in general. The community has to take care of O & M (Operation & Maintenance) costs while a portion of it is made available by the government since 2009. In case of external aided and donor driven programmes, community and gram panchayath have to share even the infrastructure costs upto 10% and 100% of O & M costs. Additional professionals are engaged to undertake IEC and community orientation activities to devolve the responsibilities of O & M of the drinking water supply systems in case of external aided and donor driven projects.

2.2   Enabling environment support activities and description

In the present study, support activities and tools differ between the best practices villages that were supported as part of Jal Nirmal and the control village that was part of the standard government programme. It can be observed from the details presented in Tables 4 & 5 that during the Jal Nirmal period, the agencies were in continuous contact with communities, whereas in the control village, the infrastructure was created then the community were left to manage it without any software support. The ESE in the case of Jal Nirmal project is well coordinated as both engineering and social development teams work in close coordination under the District Project Manager. The social development team would hold a series of discussions with the community and oriented them to collaborate with government. After this, the engineering team would then make technical assessments in close collaboration with the community for preparing the plans for source identification, water supply distribution system by considering the actual requirements and population growth for 20 years. The joint efforts of both technical and social teams mean that successful implementation of the programme.

For implementation of the Jal Nirmal scheme, a 24 month cycle was developed and followed, consisting of four phases:
   (a) Pre-planning phase – 3 months: Villages are identified with water scarcity and quality issues and then they are contacted. Series of meetings are held to assess the community readiness to participate and share the 10% cost of the project. Once the particular village(s) and the social development team develop mutual confidence, the planning process would follow.

(b) Planning phase – 6 months: Participatory planning exercises are followed to identify the various issues and possible solutions for the same. Technical team will also participate in the planning process and share their expertise. Economic and technically sound solution will be identified and agreed upon. VWSC(s) shall be formed in the Gram Sabha as per the GoK guidelines. In case of Multi Village Scheme (MVS), a Joint Committee is formed with due representation to all the habitations to oversee various activities for implementation and joint O & M issues at a later stage. VWSCs and Joint Committees are trained on their roles and responsibilities at various stages to monitor the implementation and plan for O & M.

(c) Implementation phase - 12 months: The implementation of the project will take about 12 months depending on the type of source and storage creation, developing distribution network with gate valves for ensuring equitable supply of water irrespective of the elevation difference. Seeking necessary approvals, clearances from different agencies and ensuring community contribution also form part of the activities.

(d) Post implementation phase – 3 months: During this phase, the water tariff fixation, and its collection, maintenance of books of accounts, operation and maintenance and training to watermen will form the major activities. The VWSCs also shall be made aware of preventive maintenance systems and other requisites to run the water supply system effectively.

The Jal Nirmal project envisages formulation, execution and maintenance of the schemes through VWSCs for single-village-schemes and Joint Committees (JCs) for multi-village schemes, with active involvement of the community. An exclusive Social Development Unit was established at the district and cluster level to build the capacities of the community and VWSCs on various aspects of planning, execution and maintenance of the water supply and infrastructure created under the project. The Engineering staff were also trained on social aspects in order to work closely with the community and ensure their participation in all aspects of water supply infrastructure creation and its maintenance, whilst the VWSC was empowered to fix the user charge and collect the tariffs and also to spend the money as per decisions exclusively taken by them. The VWSCs were also empowered to hire maintenance staff from their own village although the government still covered the power charges involved in maintaining the schemes.

Table 2 Support activities and tools for Jal Nirmal villages

Type of activity	Is this type of activity undertaken by the ESE?	Way of providing support	Modality of support	Frequency of support	Are tools or methods used in support of these activities?	Consistency of use	Who developed these tools?
Monitoring and control (auditing)	Yes	Directly to service provider	Both (On request and supply based)	4	Yes	Always	ESE
Water quality testing	Yes	Directly to service provider	Both (On request and supply based)	2	Yes	Always	ESE
Water resources management	Yes	Directly to service provider	Supply based	1	Yes	Always	ESE
Technical assistance	Yes	Directly to service provider	Both (On request and supply based)	1	Yes	Always	ESE
Conflict Management	Yes	Directly to service provider	On request		Yes	Rarely	ESE
Support in identifying investments needs	Yes	Directly to service provider	Both (On request and supply based)	1	Yes	Some times	ESE
(Re)training of service provider	Yes	Directly to service provider	On request		Yes	Some times	ESE

| Information and communication activities | Yes | Directly to service provider | Both (On request and supply based) | 4 | Yes | Some times | ESE |
| Fund mobilization | Yes | Directly to service provider | Both (On request and supply based) | | Yes | Some times | ESE |

Table 3 Support activities and tools for control village

Type of activity	Is this type of activity undertaken by the ESE?	Way of providing support	Modality of support	Frequency of support	Are tools or methods used in support of these activities?	Consistency of use	Who developed these tools?
Monitoring and control (auditing)	No	N/A	N/A		N/A	N/A	N/A
Water quality testing	Yes	Directly to service provider	Both (On request and supply based)	2	Yes	Always	ESE
Water resources management	No	N/A	N/A		N/A	N/A	N/A
Technical assistance	No	N/A	N/A		N/A	N/A	N/A
Conflict Management	No	N/A	N/A		N/A	N/A	N/A
Support in identifying investments needs	No	N/A	N/A		N/A	N/A	N/A
(Re)training of service provider	No	N/A	N/A		N/A	N/A	N/A
Information and communication activities	No	N/A	N/A		N/A	N/A	N/A
Fund mobilization	No	N/A	N/A		N/A	N/A	N/A

Furthermore, the activity and responsibility matrix covering the ESEs for best practice and control villages are presented in Appendix 1. It could be seen from the tables that a few components which are vital for the success such as social intervention design and its implementation, software support to community, involvement of community for management, community capacity development & training, and evaluation/performance assessment, adopted in best practice villages, are not found in control village. Further it is also observed that the VWSC gets involved in project planning in best practice villages due to the capacities through software support that have been built, whereas in control village VWSC has less interest.

3.3 Enabling environment performance indicators

This section provides an assessment of the degree of professionalism, institutional performance, and client satisfaction of RDWSD together with Social Development Professionals deployed in the Jal Nirmal programme. Perceptions were obtained from the department officials through interactions and also cross-verified at field level with VWSCs and Gram Panchayats through Focus Group Discussions (FGDs). An assessment of the ESE professionalization was made based on various indicators, as shown in the tables below. Based on the principles of QIS, scores were allocated for each ESE ranging from 0 (reflecting low performance) to 100 (indicating high performance). The tables show that the department has a strong and formal mandate with a clearly articulated vision, as that of the Ministry of Drinking Water & Sanitation. This is across both its standard programme and the Jal Nirmal. However, in the Jal Nirmal project a number of additional tools and processes were included. In particular through Jal Nirmal the RDWSD's success is mainly due to the presence of

a specialist social development team. The Engineers from the technical team were also trained on community empowerment and to work closely with the VWSCs formed for the purpose.

Table 4 ESE's QIS (Qualitative Information System) indicators in Jal Nirmal villages

Indicator	Score	Explanation
Indicator 1.1. Formality of the mandate for support	100	The ESE has a clearly articulated vision, mission and/or objectives for its support function, which is also supported by a policy mandate
Indicator 1.2 Working methods	100	The ESE has tools and methods for all of the areas of support it provides and applies those in a systematic manner, such as the social processes by social development team are ensured.
Indicator 1.3 Information management	100	The ESE has one or more tools to track the performance of the service providers it supports and uses that to monitor its own impact
Indicator 1.4 Communication between service support authority and service providers	50	The ESE has one communication channel that is easily accessible to the service providers it supports
Indicator 3.1 Client satisfaction	100	The ESE monitors client satisfaction, and more than 90% of the service providers attended last year, indicate satisfaction with the support received

Table 5 ESE's QIS indicators in control village (*Halaga*)

Indicator	Score	Explanation
Indicator 1.1. Formality of the mandate for support	100	The ESE has a clearly articulated vision, mission and/or objectives for its support function, which is also supported by a policy mandate
Indicator 1.2 Working methods	75	The ESE has tools and methods for all of the areas of support it provides but doesn't apply those systematically
Indicator 1.3 Information management	25	The ESE only keeps track of the service providers it supports in an informal and ad hoc manner
Indicator 1.4 Communication between service support authority and service providers	25	The ESE has one communication channel, but that is not easily accessible to the service providers it supports
Indicator 3.1 Client satisfaction	0	The ESE doesn't keep track at all of the satisfaction of the service providers it supports

2.4   Enabling environment institutional assessment

The ESE's internal institutional performance was also assessed in detail, using a number of questions for each parameter, which are then averaged to a score from 1 to 4, results of which are described below. Beyond those prescribed in the original methodology, a few additional parameters were considered that were found to be relevant to the situation and some were dropped which were found to have less relevance. Withstanding these differences the full assessment tables as per the original methodology are still given in the Appendix. Here, each component of the revised institutional performance is described.

Organizational Autonomy: RDWSD is mandated to follow the NRDWP guidelines but can set its own internal plans and goals so to achieve them. The action plans that are prepared aim at meeting the expected long-term demands of the community in a phased manner and are prioritised on a needs-basis based on coverage, water quality and source and system sustainability parameters.

Leadership: There is an amicable atmosphere in the department and the officials work in harmony in two taluks covering Athani (Shiraguppi) and Khanapur (Iddalahonda) especially among the officers deputed for Jal Nirmal project. The teams that worked in Gokak (Hirenandi) and Belagavi (Halaga) have been comparatively bureaucratic in nature.

Management and Administration: The management team supervises and provides required guidance to the teams during project execution. In particular, the communication between the ESE

and CSP is more pronouced in the Jal Nirmal villages. Here, the training and orientation of ESE officials had been different and hence the proactive nature of is more prevelant.

Technical Capability: The officials of RDWSD are well qualified and technically competent to undertake the jobs as required and this has been clearly evident from the discussions, field visits and type of infrastructure created in all the villages, upto the village level.

Community Orientation: Orientation and Training of ESE officials on participatory skills and community development have resulted in understanding the service deficiencies and in identifying lasting solutions in Shiraguppi and Iddlahonda villages and comparatively lower in case of Hirenandi but non-existent in *Halaga* villages. The reciprocative response from the CSP (VWSC & GP) and community will further strengthen the bonds leading to sustainable service delivery as observed in the field.

Implementation Support: Participatory implementation strategy has resulted in providing good infrastructure to meet the community demand in a sustainable manner with lasting solutions in all the three project villages, as the local wisdom and enthusiasm have been counted. In *Halaga*, the community support was neither sought nor did they come forward proactively resulting in poor service delivery.

Coordination with local institutions: The coordination with local institutions will depend upon empowered and enthused CSPs (VWSC & GP) that readily come forward and demand the services in a very amicable way, as observed in three project villages. *Halaga* village though has a formal VWSC, but their responsibilities and the way of communication are weak leading to still unresolved problems of drinking water security.

Coordination with line departments: To bring a significant result it is necessary to have good linkages with relevant line departments like minor irrigation, groundwater department, ESCOMs, revenue and public works department as it would help in identifying the proper sources, cost effective designs, energy savings and optimising the use of resources. This was achieved in Iddalahonda, Hirenandi and Shiraguppi villages but was poor in *Halaga* village.

2.5   Enabling environment partnering assessment

An assessment was also made on the types of partnering that are found between the ESE and CSP. In this case study, partnering refers to an 'agreed-upon arrangement between two or more parties to work collaboratively toward shared objectives – an arrangement in which there is (i) sharing of work, responsibility and accountability; (ii) joint investment of resources; (iii) shared risk-taking, and (iv) mutual benefit' (Demirjian, 2002, p. 3). It is assessed planning, implementation, asset renewal and monitoring.

Planning: Discussions with ESE officials reveal that joint planning has been followed in Jal Nirmal project villages, as the CSPs (VWSCs & GPs) have been trained on their roles and responsibilities and were taken to the exposure visit to successful sites. They were allowed to share their views in identifying the sources, possible sites for infrastructure development and willingness to spare their time as and when required by the project. The trained ESE officials were also open to the ideas of the local people and are keen to assess the technical feasibility of their opinions.

Implementation: The participatory planning coupled with the technical back-up and the guidance from the top level management and timely release of funds leads to easy implementation of the tasks in Jal Nirmal project villages. The responsive community and the leadership at GP level

hastened the process of implementation. The social development team's inputs to the CSP also played a crucial role in mobilizing the community contribution.

5	Collaborative
4	Contributory
3	Operational
2	Consultative
1	Transactional
0	Bureaucratic
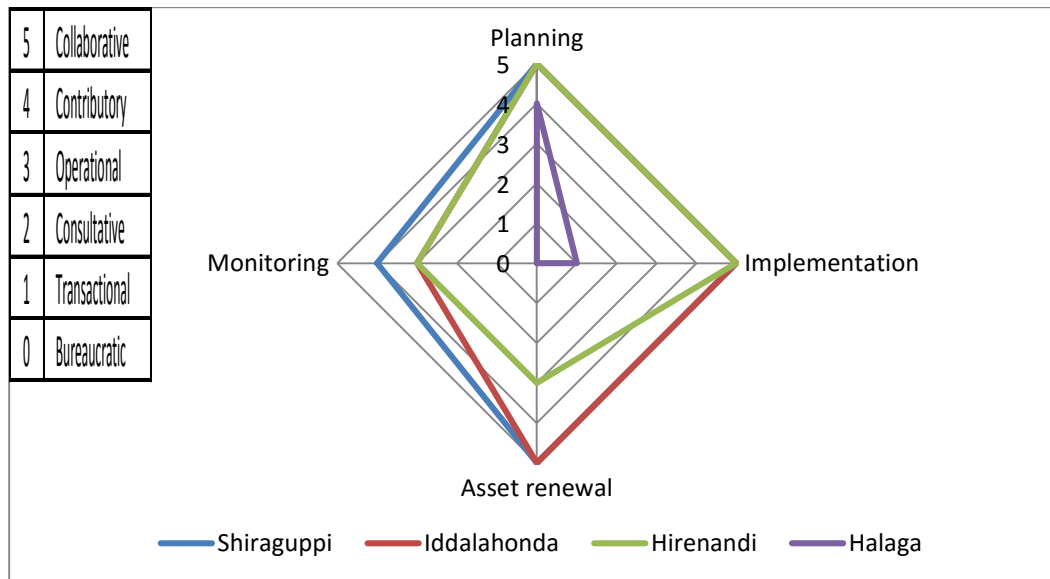
Figure 5 Enabling Environment Partnering Assessment

Asset renewal: As the infrastructure provided reaches its life span, or the infrastructure needs to be improved due to changing water demands and population growth, asset renewal must take place. For this purpose a socio-technical assessment will be made by the ESE working with the CSP. In the case of Iddalahonda village, the CSP have gone beyond board to adopt green energy technologies and service expansion at the cost their surplus finances.

Monitoring: This is an area where improvement is necessary in order to provide proactive services by the ESE. This may be due to the staff shortages, transfers, changes that have taken place at the policy level. Retaining the social development team members need to be given a serious thought in order to provide, improve and ensure sustainability in drinking water supply and its management.

3 Community Service Provider Level

The last section explained how the ESE operates and provides support to villages but in this section we examine experiences of support at the village level by investigating the community service providers that have been supported by the ESE. The section introduces the four villages and their service providers before moving to an assessment of their performance and partnering.

3.1 Context and descriptors of the community service providers

For the present study, four villages have been selected to assess the performance of Jal Nirmal and the RDWSD. This includes Shiraguppi, Iddalahond and Hirenandi villages which were all part of the Jal Nirmal project and *Halaga* which is under normal RDWSD support. All these villages are in Belagavi district which is in north-west Karnataka bordering Goa. It is the second most populous district in the state with nearly 5 million residents. The district capital – Belagavi – from which the district takes its name, is a key administrative centre for North Karnataka. As part of Jal Nirmal, the responsive communities were required to share 10% of the infrastructure cost and agree to meet the 100% of the operation and maintenance costs. They were also expected to form VWSCs to take on the operation and maintenance of the scheme. As already explained, the VWSC is a standing committee of the Gram Panchayat and the members are elected in the Gram Sabha. Since 1992 and the 73rd amendment to the constitution of India, which placed responsibility for many public services with the Gram Panchayat, the federal and state governments of India have been devolving power to villages so in this way the Jal Nirmal project was deem consistent with this broader process of devolution. In the three Jal Nirmal villages, namely, Shiraguppi, Iddalahonda and Hirenandi, the VWSCs were formed and trained on various aspects of operation, maintenance and administration. However, in *Halaga*, the control village, though there is a VWSC, water distribution responsibilities are with the Gram Panchayat, as the VWSC has not been capacitated to the extent required as was done in Jal Nirmal villages. The salient features of the study villages are given in the table below:

Table 6 Salient features of study villages

Characteristics	Shiraguppi	Iddalahonda	Hirenandi	*Halaga*
No. of households	2741	294	862	1007
Population	9683	1504	3365	8140
Source	Surface water	Ground water	Surface water	Ground water
No. of household with tap connections	1552	237	110	127
No. of public stand posts	0	5	8	274
Water tariff	INR 1000/annum/ household with tap & INR 240/ annum/ extra house as per GP records	INR 40/ month/ household tap INR 20/ month/ household for public tap users	INR 50/ month/ household tap INR 25/ month/ household for public tap users	INR 30/ month/ household tap INR. 20/ month/ household for public tap users
Metered tap connection	No	Yes	No	No
Enabling Support Environment (ESE)	Jal Nirmal & RDW&SD (PRED)	Jal Nirmal & RDW&SD (PRED)	Jal Nirmal & RDW&SD (PRED)	RDW&SD (PRED & GP)
Community Service Provider	Trained VWSC & GP	Trained VWSC & GP	Niketan Engg., GP & Trained VWSC	VWSC & GP
Date of scheme dedication	11.07.2007	18.03.2007	08.10.2009	Data not available

3.1.1   Shiraguppi village:

There are 2,741 households in the village at present; of these, 2,378 households are joint families and have common tap water connections (i.e.1189) and the rest 363 families are nuclear families and thus there are only 1,552 household tap connections in the village. The water supply is from river Krishna through river lift coupled with water treatment systems established near the village. The Village Water and Sanitation Committee (VWSC) was formed in 1995 during the implementation of first World Bank assisted programme called Integrated Rural Water Supply and Sanitation (IRWSS) project. At that time there were only 300 household connections and 35 Public Stand Posts (PSPs). The monthly water tariff then was INR 41.50 for household tap connections and INR 10 for PSP users. The infrastructure and systems created then lasted for 10 years. In 2005, heavy rainfall in the area led to floods in the river Krishna and the facilities were damaged. Later, the VWSC demanded revival of the drinking water system and then, the new facility was created. It was also decided by VWSC and GP that all the families shall be provided with household tap connections (one tap connection for a joint family of two households) and PSPs shall be discontinued. The project was completed and revived water supply scheme was handed over to the GP on 11.07.2007. Since then, the VWSC has decided to increase the water tariff @ INR 1000 per tap connection per annum and INR 240 per annum for additional houses and other properties in the village. The VWSC has been trained very well and they take care of the water supply system. The success of Shiraguppi water supply programme is due to three major factors; a) well designed water supply system, b) efficient water distribution and management system and c) stringent water tariff collection system.

3.1.2   Iddalahonda village:

There are 294 households in the village at present; of these, 237 households have individual household tap water connections and the rest 57 families depend on 5 PSPs. The Village Water and Sanitation Committee (VWSC) was formed in mid of 2005 during the implementation of second World Bank assisted programme called Jal Nirmal. Iddalahonda is a groundwater based drinking water supply system. Though Iddalahonda is in good rainfall zone, but water supply from borewells during summer had been a problem. The VWSC members and the Jal Nirmal authorities identified a suitable location to construct an open well near a steam with checkdams on the upstream side to ensure source sustainability. The project was completed and handed over to the VWSC & GP on 18.03.2007. Since then, the VWSC has decided to collect a monthly water tariff of INR 40 per tap connection and INR 20 for houses dependent on PSPs. The VWSC has been trained very well and they take care of the water supply system. Iddalahonda villagers also installed solar power system, to combat the power crisis. The VWSC recently installed water meters and in future water tariff collection will be on volumetric consumption basis. The success of Iddalahonda water supply programme is due to a) balanced VWSC composition of wisely elders and enthusiastic youth, b) efficient water distribution and management system and c) constant awareness programme.

3.1.3   Hirenandi village:

Hirenandi village is part of a well-designed Multi Village Scheme (MVS) for drinking water supply for nine villages falling in 3 GPs. There are 862 households in the village at present; of these, 110 households have individual household tap water connections and the rest of the families depend on eight PSPs. The Village Water and Sanitation Committee (VWSC) was formed in mid of 2005 during the implementation of second World Bank assisted programme called Jal Nirmal. This MVS is a surface water based drinking water supply system, drawing water from Ghataprabha river. Initially,

the drinking water supply was from borewells but during summer there had been a problem with both quantity and quality. The VWSCs requested a river water supply system as a lasting solution and Jal Nirmal authorities identified a MVS after studying the technical and socio-economic factors. The project was completed and handed over to the Joint Committee formed with representatives from all the nine VWSCs and three GPs. The MVS was dedicated to public on 08.10.2009. Since then, the VWSC has decided to collect a monthly water tariff of INR 50 per tap connection and INR 25 for houses dependent on PSPs. The operation and maintenance (O&M) of the common system and supply of drinking water up to the respective villages has been given to a private company called Niketan Engineering by RDWSD with financial support for O&M. However the RDWSD would like to reduce their contribution and increase the community contribution through water tariff collection. The respective VWSCs take the responsibility of water distributions in their respective villages and collect the water tariff and hand it over to the Joint Committee. Since the water tariff collection was not sufficient to meet the O & M costs, as there are very few household connections, the VWSC has decided to increase the household connections. VWSC & Jal Nirmal (now RDWSD) are creating awareness among the public about the advantages of individual household connection and it is anticipated that this could be achieved by 2015-16. The success of Hirenandi water supply programme is due to a) Niketan Engineering Company ensuring regular water supply and b) efficient functioning of Joint Committee and c) constant awareness programme. However VWSCs of respective villages are taking proactive steps to increase the number of household connections to ensure enough revenue and to reduce the burden on the state government.

3.1.4 *Halaga* village:

Halaga village is located very close to newly constructed state legislature building in Belgaum called 'Suvarna Vidhana Soudha'. *Halaga* village is currently dependent on groundwater based Single Village Scheme (SVS) for drinking water supply. This village has been assured water supply from the same source as that of Suvarna Vidhana Soudha, but it is not realized and people face problem of drinking water during the summer months. The people are dependent on private water tankers that charge very high rates for three summer months even today. There are 1,007 households in the village at present; of these, 127 households have individual household tap water connections and the rest of the families depend on PSPs. The VWSC was formed during 2012 but was not capacitated the way the Jal Nirmal villages have been and thus the functioning has been very poor. GP only takes care of drinking water supply as and when the water is available in the existing borewells, and hence it is very erratic. Still a monthly water tariff of INR 30 per tap connection and INR 20 for houses dependent on PSPs is being levied as per the order of RDPR department, GoK. The water tariff collection is not sufficient to meet the O & M costs, and hence GP takes care through its other funds. VWSC & RDWSD together with Taluk Panchayath thru Gram Panchayath have not created awareness among the public and hence VWSC is defunct. The people are still awaiting the water supply from the source that supplies water to Suvarna Vidhana Soudha and hence the development work is still to be completed. However people are facing drinking water problem and are dependent on private water tankers during summer months.

3.2   Community service provider indicators

The performance of the CSP in its functions of governance (transparency, accountability, participation, and gender balance), fiscal management and equity are assessed across the villages. The governance parameters such as transparency, accountability and participation are excellent in Shiraguppi and Iddalahonda villages as is evident from their operations and the way the records are

Interaction between the researchers and VWSC members in Iddalhonda village

maintained and made available to anybody for verification. In the case of Shiraguppi the VWSC consisted of young and energetic people with considerable exposure to urban culture and as a result are in a position to demand and make decisions, whereas in Iddalahonda the VWSC is formed out of experienced persons having wisdom and as such in a position to persuade the community and officials in taking decisions which are cost effective. The gender balance is the only parameter that needs to be improved to make it a perfect fit in these two villages. Hirenandi has to improve on accountability and participation front besides gender balance, but is also little complex as it is a part of a Multi Village Scheme (MVS). *Halaga* have to go a long way on various fronts as the CSP has to be trained and empowered. The VWSC members lack some key knowledge and also promises made to include the village in better water supply scheme as it is situated close to the new state secretariat built in Belagavi city has left a vacuum in the minds of all stakeholders concerned.

In all the three Jal Nirmal villages, there is evidence of several mechanisms to inform and provide accountability to users and these are all used regularly. During the household interviews, the interviewees of both Shiraguppi and Iddlahonda were found to be well aware of each and every activity taken up by the VWSC. In case of Hirenandi, though majority of the interviewees are aware of the various activities, but their understanding is lower than the other Jal Nirmal villages. This could be due the fact that as this village is part of a MVS the technical challenge is larger. This means that the KRDWSD is subsidising heavily the scheme and there is a contractor to provide the water service up to the OHT of the village. In *Halaga*, there are no clear communications and information sharing mechanisms on water supply and users are not updated on constant basis.

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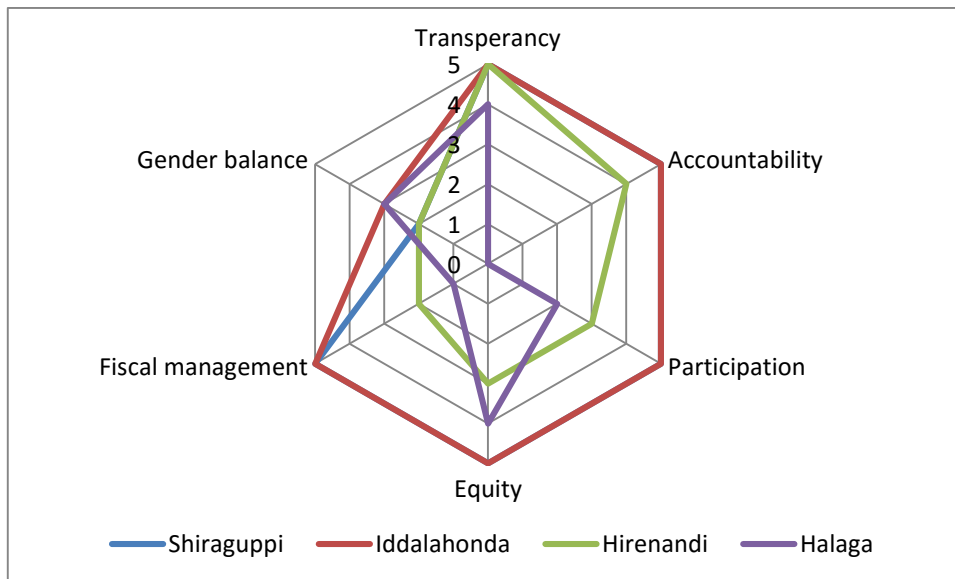
Figure 6 Performance of CSPs across study villages

Fiscal management in Shiraguppi and Iddalahonda is excellent with the water tariff collection standardised and both VWSCs bank accounts in surplus. In case of Shiraguppi, the demand is raised on an annual basis by the Gram Panchayat through meetings and the individual households pay the tariff into the designated bank account and have to provide the proof to the Gram Panchayat. In the case of Iddalahonda, monthly metered bills are issued by the Gram Panahayat and the households

Focus Group Discussion with VWSC members in Hirenandi village

pay these in the GP office and also at times the bill collector collects from individual households. The metered tap connections have resulted in optimal utilization of water resulting in water saving. The

water tariff collection has to be improved in the case of Hirenandi and *Halaga* villages as the government is subsidizing to a large extent and also the VWSC and the community need to be educated and empowered to achieve financial sustainability. Equity in the VWSCs and the response to all the communities and sections of the society has been excellent in case of Shiraguppi and Iddalahonda villages when compared to Hirenandi and *Halaga* villages. This may be due to willingness of the people from different sections of the society to participate in the VWSC and the time availability and awareness among the general public.

3.3   Community service provider participation assessment

This section provides an overview of the extent of community participation in service delivery. Participation is understood functionally as 'an active process whereby beneficiaries influence the direction and execution of development projects rather than merely receive a share of project benefits' (Paul, 1987). Using a participation ladder adapted from Arnstein (1968) and Adnan et al. (1992) and specifically designed for this project, the degree of community participation in community service provision is assessed at each stage of the service delivery cycle: capital investment, service delivery, asset renewal, and service expansion. The discussions with CSP members and the household survey formed the basis to arrive at conclusions as given below.
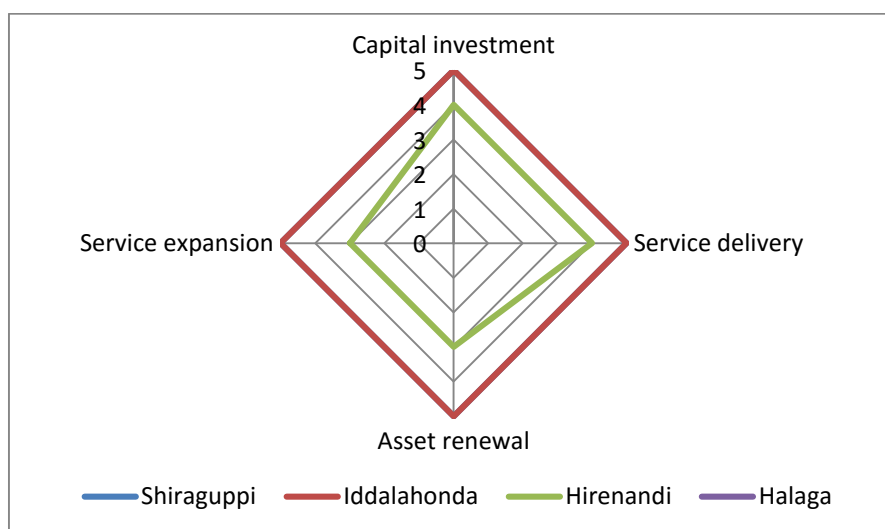
Figure 7 Participation assessment of CSP across study villages

Of all the four parameters assessed, both Shiraguppi and Iddalahonda villages scored excellent as they willingly contributed 10% of the capital cost, ensure reliable water supply as has been decided by the community, and has been responsive to both asset renewal and service expansion as and when necessary. In case of Hirenandi village, the contribution has been subsidised and the service delivery below normal, as the community does not have direct ownership and the scheme is shared across nine villages falling in three GPs. Any asset renewal and service expansion need to be decided in the joint committee of all the three GPs put together. *Halaga* village is totally dependent on government and the community need to be educated and empowered for assuming responsibility in future. The same is detailed against each indicator for all the study villages in the Appendix.

3.4   Community Service Provider Costing

Community-based management is partly built upon the principle that user tariffs can cover the operation and maintenance expenditure of rural water supplies. In Shiraguppi and Iddalahonda, the OpEX is fully met through tariff collection. In the case of Hirenandi it is partially met but it is to a much lesser extent in *Halaga* village. Hence, the support from government is inevitable in case of lesser evolved VWSCs as the community funds are inadequate to meet the OpEx. The following table presents the OpEx details of four study villages for the year 2013-14.

Table 7 Community Service Provider costing across study villages for the year 2013-14

Particulars of Expenditure	Shiraguppi	Iddalahonda	Hirenandi	Halaga
Staff salaries of those involved (annual)	341,172	82,380	308,010	Data not available with the VWSC/GP on the day of field visit
Electricity charges	809,050	37,609	420,122	
Physical maintenance cost (includes replacements)	325,000	6,000	270,080	
Chlorination + water quality testing	155,000	2,000	31,810	
Administration + MISC.	25,00	1000	62,450	
Actual expenditure	**16,32,722**	**128,989**	**10,92,472**	
Particulars of income	**Shiraguppi**	**Iddalahonda**	**Hirenandi***	**Halaga**
Household tap connection charges	14,58,000	1,13,760	1,27,920	
Non-house connections	1,78,320	13,680	4,68,000	
Commercial connections	0	0	0	
Interest on deposit	0	8400	0	
Any other income	0	0	496552	
Total income	**16,36,320**	**1,35,840**	**5,95,920**	**2,07,570**
Surplus/deficit	**3,598**	**6,851**	**0**	
*In case of Hirenandi village, still the household tap connections are limited and hence government of Karnataka is meeting the expenditure and pays directly to the private entrepreneur M/s Niketan Engineering Company that is responsible to supply the drinking water and maintain the assets of MVS scheme that is operation.				

It can be inferred from the above that the assured water supply with household tap connections, well trained VWSCs, enthusiastic youth ably supported by wise elders and women can ensure collection of water tariff to meet the operational expenditure. However, the annual incremental increase has to match the inflation and raising costs of spares have to be planned carefully. RDWSD at the divisional and sub-divisional level has to work in collaboration with PRIs to strengthen the capacities of VWSCs in order to deliver the services in a sustainable manner to ensure drinking water security. However, the per capita costs also need to be worked out to include them in the annual action plans of Gram Panchayaths and also that of RDWSD.

4   Household service levels

In all the villages, GP–VWSC co-operate as service provider and manages the water supply. In order to get an insight into the service levels that people receive, household surveys are organised with a closed format through random sampling. In each village, 30 households are selected and information collected to understand coverage and service level in terms of quantity, quality, accessibility and reliability. The results of the analysis for the above characteristics are presented below.

4.1   Description of households

It could be seen from the data presented below that most of the households belong to Hindu religion ranging from 67% in Shiraguppi to 97% in Hirenandi. About 7% of the sample households belong to Muslim in *Halaga* and Shiraguppi. Christians and Jains constitute 7% and 20% of sample households selected in Shiraguppi, respectively. Households that belong to vulnerable sections (SC&ST) vary from 10% to 43% in the study villages. The percentage of households that are below the poverty line varied from 63% in *Halaga* to 100% households in Hirenandi.

Table 8 Distribution of households in terms of religion, caste and economic status

Village	Religion				Caste			Economic status
	Hindu	**Muslim**	**Christian**	**Jain**	**SC**	**ST**	**Others**	**BPL**
Shiraguppi	20	2	2	6	7	2	21	20
	67%	7%	7%	20%	23%	7%	70%	67%
Iddalahonda	30	0	0	0	5	0	25	21
	100%				17%		83%	70%
Hirenandi	29	0	0	1	8	5	17	30
	97%			3%	27%	17%	57%	100%
Halaga	28	2	0	0	3	0	27	19
	93%	7%			10%		90%	63%

4.2   Household coverage and service levels

The household coverage rate among those surveyed was 100% in Shiraguppi and Iddalahonda. The extent of household connection coverage in Hirenandi was 37%, and 10% in *Halaga* village with the rest of the sample receiving their water from public stand posts as well as hand pumps. It is evident from the analysis that the pattern of access to water by social groups is similar irrespective of caste or other group. The focus group discussion with the villagers revealed that the access to piped water supply connection is more determined by geographical spread of the pipeline rather than social background of the people. Such issues are taken care of during planning and execution of the works. Household survey analysis for quantity, accessibility, perceived water quality and reliability was carried out and the results are tabulated below. Only in *Halaga* was there a reported difference between summer and non-summer so for the other villages only one service level is shown.

5.2.1 Quantity: In case of the sources that are sustainable and perennial in nature, the quantity of water supplied to each households is high as observed in Shiraguppi and Iddalahonda, irrespective of their geographic location and socio-economic status. Though the source is sustainable as observed in Hirenandi, the quantity of water supplied varied from sub-standard to improved levels. This is mainly due to limited hours of pumping coupled with less number of household connections. Moreover, the

VWSC in this case has no direct control of the water supply infrastructure created. As majority of the families in Hirenandi are BPL, and draw water from public stand posts, they utilise less water, so as to save time for livelihood activities. In case of *Halaga*, the source is not sustainable and hence people face problems during summer as groundwater depletes. All the people buy water during summer, except those that are close to borewells fitted with hand pumps and 1 HP power pump.

Table 9 Quantity of water by household in the villages

Quantity	Shiraguppi	Iddalahonda	Hirenandi	*Halaga*	
				Summer	Non-summer
High	86.67	60.00	0.00	0.00	53.33
Improved	13.33	40.00	16.67	3.33	26.67
Basic	0.00	0.00	0.00	0.00	3.33
Sub-standard	0.00	0.00	83.33	10.00	16.67
No service	0.00	0.00	0.00	86.67	0.00

5.2.2 Accessibility: Accessibility is excellent in case of Shiraguppi and Iddalahonda villages as all households have their individual tap connections. In Hirenandi village, accessibility varied from good to very good, as there are sufficient numbers of public stand posts and water supply is regular. In *Halaga* village, the accessibility is good as long as water is available in the well.

Table 10 Accessibility of water by household in the villages

Accessibility	Shiraguppi	Iddalahonda	Hirenandi	*Halaga*
Excellent	100	100	0	3
Very Good	0	0	17	10
Good	0	0	83	87
Poor	0	0	0	0

5.2.3 Water quality: Quality of water in all the three best practice villages is good as it is being treated and supplied. In case of *Halaga*, water is considered to be safe, as it is groundwater with no contamination.

Table 11 Water quality perception of water by household in the villages

Perceived water quality	Shiraguppi	Iddalahonda	Hirenandi	*Halaga*
Good	100	100	100	0
Safe	0	0	0	100
Sub-standard	0	0	0	0

5.2.4 Reliability: Reliability of water supply during summer and non-summer months in best practice villages is high. In case of *Halaga* village, there is no reliability of water supply during summer and also VWSC is not empowered to the extent required.

Table 12 Reliability of water supply by household in the villages (summer)

Reliability during summer	Shiraguppi	Iddalahonda	Hirenandi	*Halaga*
High	100	100	100	0
Improved	0	0	0	0
Sub-standard	0	0	0	10

No service	0	0	0	90

Table 13 Reliability of water supply by household in the villages (non-summer)

Reliability during non-summer	Shiraguppi	Iddalahonda	Hirenandi	*Halaga*
High	100	100	100	0
Improved	0	0	0	10
Sub-standard	0	0	0	90
No service	0	0	0	0

In summary, Iddalahonda village has high service levels on all counts as adequate and potable water is made available to everybody at all times without any discrimination and measures adopted for sustainability of the source and systems. The community is also conscious of the expenditure and making use of technological innovations like solar energy utilisation, groundwater recharge to improve source sustainability, introducing metering systems for volumetric payments, service delivery as decided by the community (once in two days). Local wisdom and social commitment (handing over of a well and permitting to construct the OHSR by two individuals for the public cause) of

Water treatment plant of Mamadapur MVS scheme (Hirenandi)

the people are noteworthy. Shiraguppi is no less than Iddalahonda, except it was communicated to us during interviews that the water sometimes contains sediments (during early monsoon and summer season). Water is supplied once in two days as decided by the community but more than their requirement. All the households in the village have access to individual taps, though few joint families have one tap connection. The equity and sustainability issues have been well taken care and there are no complaints as of now.

In Hirenandi village, though the water supply until the OHT is adequate the distribution needs to be improved as not all families access the desired/equal quantity of water. Potability is also an issue sometimes in monsoon like Shiraguppi.

Halga village is dependent on groundwater source and the water availability for about four to six months is an issue. If the annual rainfall is lower than normal than the the problem is acute. This clearly impacts on all other parameters.

5   Costing

This section presents the costs associated with supporting rural water supply in Belagavi. It provides data, where available, on both Capital Expenditure (CapEx) on software and hardware. Following this it presents the current costs of Operational Expenditure (OpEx) as well as estimates for direct and indirect support costs. These costs help in identifying the 'plus' component that supports the sustainable functioning of community-managed rural water supply systems. All costs are given in INR unless otherwise specified. The costs incurred in the past are adjusted to 2014 prices using the annual average consumer price index calculated by the Reserve bank of India. Software costs are based on 2014 prices and the number of man days and salaries gathered in key informant interviews at the ESE level. The costs were collected from RDWSD and per person costs were worked out.

5.1   CapEx (Hardware & software)

CapEx costs may be categorized into two – hardware and software components. First we present CapEx on hardware, which covers investment in initial construction costs as well as staff salaries for technical design, preparation of tender and construction supervision. Under Jal Nirmal, 90% of the CapEx on hardware costs are borne by the government and the rest 10% is the contribution from community and the GP. In the Shiraguppi this came to INR 1.73 crores i.e. @ INR 1,790 per person. In case of Iddalahonda village it works out INR 2,199 per person at a total cost of INR 0.33 crores. The prorate cost of Hirenandi MVS has been 1.80 crore @ INR 5,351 per person.

Table 14 CapEx Hardware				
Particulars of Costs	**Shiraguppi**	**Iddalahonda**	**Hirenandi***	*Halaga***
Total CAPEX Hardware costs (INR)	16,997,345	30,36,092	176,69,232	49,89,800
Hardware HR costs (INR)	338,317	271,548	338,317	271,548
Total Hardware costs (CAPEX+HR costs) in INR	**173,35,662**	**33,07,640**	**180,07,549**	**52,61,348**
Community + GP contribution	**18,17,250**	**32,46,00**	**20,70,128**	**0**
• *Hirenandi village is part of a Multi Village Scheme and the hardware costs are worked out on prorate basis taking into consideration the number of households.				
• **Halaga village is a control village and the community contribution for CAPEX hardware was not collected but borne by the RDWSD only.				

CapEx on software covers the expenses for initial capacity building and training.Community Mobilizers are involved in empowering the community in general and VWSC in particular. The costs involved in this phase are grouped into CapEx Software. The following costs are captured for the software component during the implementation of the scheme.

Table 15 CapEx Software				
Particulars of Costs	**Shiraguppi**	**Iddalahonda**	**Hirenandi**	*Halaga*
Number of staff days	180	180	181	0
Community Organizer's time in days	144	144	144	0
Asst. Director's time in days	36	36	36	0
Software HR costs (INR)	1,93,154	1,93,154	1,93,154	0
Travel and subsistence costs (INR)	75,000	75,000	75,000	0
Any information materials and supplies costs (INR)	70,000	70,000	7,0000	0
Total estimated CAPEX Direct Support costs (INR)	3,38,154	3,38,154	3,38,154	0

It can be observed from the cost tables that the hardware costs are dependent on the type of source and the number of people that will get the service. Though the software costs are uniform across the villages, but it varies from INR 34 to INR 224 depending on the population. The time spent by the Community Mobilizer and Asst. Director will be same for each of these villages.

Table 16 Total CapEx Costs per person

Particulars of Costs	Shiraguppi	Iddalahonda	Hirenandi	*Halaga*
CapEx Hardware	1,790	2,199	5,351	646
CapEx Software	34	224	100	0
Total CapEx (INR)	**1,825**	**2,424**	**5,451**	**646**

5.2 Recurrent costs

Recurrent costs include expenditure on labour, fuel, chemicals and regular purchases of any other materials at the CSP level. Minor maintenance is the routine maintenance needed to keep systems running at peak performance, but does not include major repairs. Salaries of pump/bore operators, valve men, support staff, etc. are used, and these are payable by the people. The tariff has been fixed based on the expenditure incurred and is shared equally by all households using the service.

Table 17 Costs involved in OPEX Direct Support

Particulars of Costs	Shiraguppi	Iddalahonda	Hirenandi	*Halaga*
Staff salaries of those involved (annual)	3,41,172	82,380	308,010	Data not available with the VWSC/GP on the day of field visit
Electricity charges	8,09,050	37,609	420,122	
Physical maintenance cost (includes replacements)	3,25,000	6,000	270,080	
Chlorination + water quality testing	1,55,000	2,000	31,810	
Administration + MISC.	2,500	1,000	62,450	
Total estimated annual OPEX Direct Support costs	**16,32,722**	**1,28,989**	**10,92,472**	

From Table 17 it can be observed that the major expenses are towards pump operators and electricity charges. Physical maintenance is also high in case of surface water sources as observed from Shiraguppi and Hirenandi villages, whereas it is nominal in case of groundwater sources, as observed from Iddalahonda village. The annual water tariff collection for 2013-14 is given below:

Table 18 Water tariff collected to meet the expenditure (2013-14)

Particulars	Shiraguppi	Iddalahonda	Hirenandi*	*Halaga*
Household tap connection charges	14,58,000	1,13,760	1,27,920	
Non-house connections	1,78,320	13,680	4,68,000	
Any other income		8,400	4,96,552	
Total	**16,36,320**	**1,35,840**	**5,95,920**	**2,07,570**
Actual expenditure	**16,32,722**	**1,28,989**	**10,92,472**	
Surplus/deficit	**3,598**	**6,851**	**0**	
*In case of Hirenandi, still the household tap connections are limited and hence GoK is meeting the expenditure and pays directly to the private entrepreneur M/s Niketan Engineering Company that is responsible to supply the drinking water and maintain the assets of MVS scheme that is operation.				

5.3   Capital maintenance costs

Capital maintenance costs are shared between RDWSD and VWSC. In case of major break down, RDWSD bears the cost. VWSC manages minor repair and expansion works by paying from the user charges collected. VWSC is responsible for the service delivery and employs a few people to meet its logistical and technical requirement and such persons are paid from the user charges collected. VWSCs of Shiraguppi and Iddalahonda are able to demonstrate having built their capacities and with hand-holding assistance from RDWSD, they can be self-sufficient by raising their own funds for providing sustainable water supplies to the community. RDWSD has adequate human and financial resources for providing the required support. It is found that RDWSD assumes major role during the creation of infrastructure or asset renewal and extends support to service provision only on request basis but not in a structured manner as is evident from the study of control village. Empowered VWSCs through capacitation have been able to provide and maintain service level at a level more than normative with the help of ESE. In the absence of capacitation, the role of VWSC is becoming negligible. The service provision is being done by the GP as noticed in control village. It is therefore, essential to sensitize the village leaders and community members on their roles and responsibilities with regard to the drinking water supply services.

5.4   Overview of costs

The overview of costs per person ranges between INR 1,993 in case of Shiraguppi as compared to INR. 57,768 in Hirenandi village. If the average life span of the infrastructure created is assumed to be 15 years, then a maximum of INR 363 per person per annum (i.e. one rupee a day per person) has to be earmarked by the state to provide the basic infrastructure. The operational expenditure works out a maximum of INR 325 per annum per person, again almost one rupee a day per person. Thus, the provision of infrastructure costs being high (INR 5,500 per person) and to be incurred in one go, the state has to plan accordingly. It can also be observed that shallow groundwater sources cost less as compared to surface water sources to be supplied from a distance. The cost is almost 45% or say 50% and hence groundwater sources, can be thought of as economically viable sources and also can be managed by the VWSC as the source is normally within the village limits, provided the groundwater withdrawals in a given area for all the uses (drinking, livelihood activities, food production, and industry) does not exceed 70% of the average annual recharge and of good quality.

Table 19 Summary Cost Table (INR)

Karnataka Summary Cost Table - calculated as the average cost per person, that is averaging across the three 'successful' villages

Source of funds	Use of funds - implementation			Use of funds - annual recurrent					RECURRENT EXPENDITURE TOTAL
	CapEx hardware	CapEx software	CAPEX TOTAL	OpEx labour & materials	OpEx power	OpEx bulk water	OpEx enabling support	CapManEx	
Community/consumers	INR 156	INR 6	INR 162	INR 106	INR 78	-	-	-	INR 184
Local self-government	INR 156	INR 6	INR 162	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
State government entity	-	-	-	-	-	-	INR 9	-	INR 9
State water supply agency	-	-	-	-	-	-	-	-	-
National Government	-	-	-	-	-	-	-	-	-
NGO national & international	-	-	-	-	-	-	-	-	-
International donor	INR 2,802	INR 108	INR 2,910	-	-	-	-	-	-
TOTALS	INR 3,114	INR 120	INR 3,234	INR 106	INR 78	-	INR 9	-	INR 193
Median of 20 case studies			INR 3,231						INR 207
'Plus' %age	95%	95%	95%	0%	0%	-	100%	-	5%
Median of 20 case studies			95%						57%

Notes: CapManEx funded by State water supply agency; no costs incurred to date.

Table 20 Summary Cost Table (PPP USD$)

Karnataka Summary Cost Table - calculated as the average cost per person, that is averaging across the three 'successful' villages

Source of funds	Use of funds - implementation			Use of funds - annual recurrent					RECURRENT EXPENDITURE TOTAL
	CapEx hardware	CapEx software	CAPEX TOTAL	OpEx labour & materials	OpEx power	OpEx bulk water	OpEx enabling support	CapManEx	
Community/consumers	$ 8.87	$ 0.34	$ 9.22	$ 6.05	$ 4.43	-	-	-	$ 10.48
Local self-government	$ 8.87	$ 0.34	$ 9.22	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
State government entity	-	-	-	-	-	-	$ 0.52	-	$ 0.52
State water supply agency	-	-	-	-	-	-	-	-	-
National Government	-	-	-	-	-	-	-	-	-
NGO national & international	-	-	-	-	-	-	-	-	-
International donor	$ 159.73	$ 6.16	$ 165.89	-	-	-	-	-	-
TOTALS	$ 177.48	$ 6.84	$ 184.32	$ 6.05	$ 4.43	-	$ 0.52	-	$ 11.00
Median of 20 case studies			$ 184.16						$ 11.78
'Plus' %age	95%	95%	95%	0%	0%	-	100%	-	5%
Median of 20 case studies			95%						57%

Notes: CapManEx funded by State water supply agency; no costs incurred to date.

The INR Indian Rupee conversion to the USD United States Dollar has been undertaken at the mid 2014 exchange rate of INR60/USD$ with a Purchasing Power Parity (PPP) multiplier of 3.42 applied in order to give the best interpretation of India costs in global terms (http://data.worldbank.org/indicator/PA.NUS.PRVT.PP).

6 Conclusions

The World Bank assisted Jal Nirmal project was operational in 13 districts in northern Karnataka from June 2001 to December 2014 and was implemented in 3061 villages. Now, Jal Nirmal project is concluded and RDWSD has taken over these villages into its general programme. RDWSD will provide the required services to these villages, on request basis depending on the need. In the study, three successful best practices villages, namely, Shiraguppi, Iddalahonda and Hirenandi developed under Jal Nirmal programme, were considered. One village *Halaga*, which did not receive the much needed support from the government in terms of renovation, expansion and capacitation of VWSC functionaries, was also studied, acting as the research's control village.

The Jal Nirmal measures described throughout the report that promoted high levels of community participation and management of the drinking water supply system have made the marked difference in the functioning of the water supply scheme, as evident from high proportion of household connections and regular payment of higher tariffs in Jal Nirmal villages. The level of professionalization at community level is high as these the VWSCs are well trained in record keeping and administrative duties. They also empowered to ensure basic O&M tasks are done well and can take on, with support, more advanced activities like undertaking water security and quality assessment measures and water metering. The degree of community engagement in service provision differs between the capital intensive phases (capital investment, renewal and enhancement), in which the community participates in an interactive manner, and the service provision phase, where there is more functional participation, but then CSP has to work within the framework set by government. As well as the community covering OpEx costs in those villages, in Shiraguppi and Iddalahonda the communities also paid 10% of the CapEx costs.
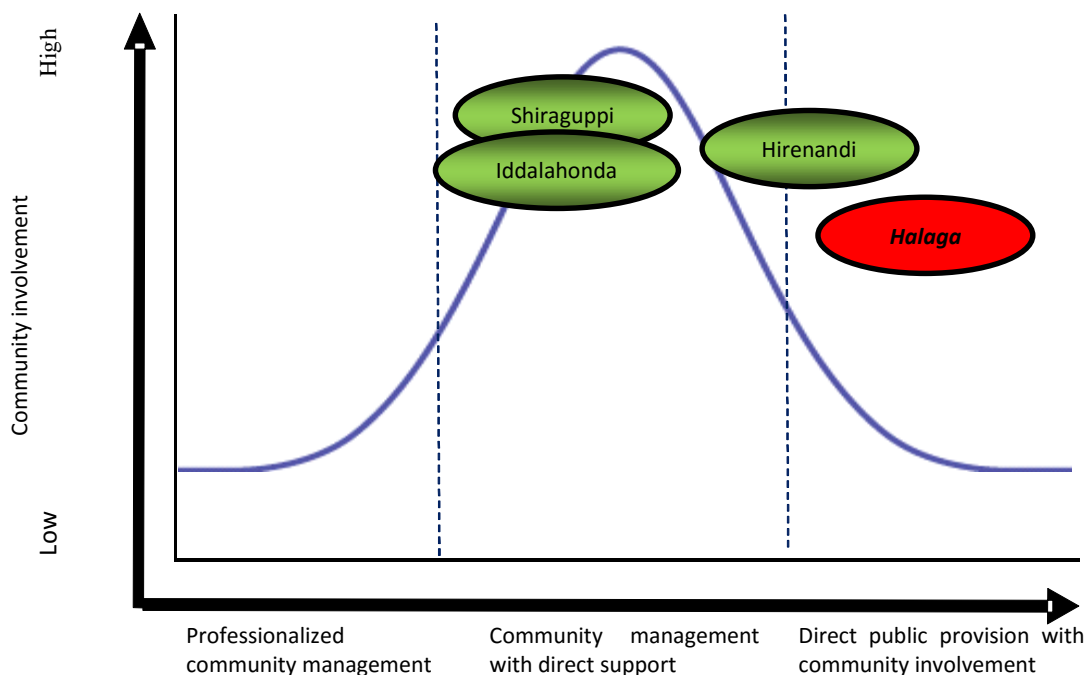
Figure 8 Villages allocated on the community management continuum

Normally, Karnataka government bears the initial Capex, CapManEx and even the electricity charges that constitute the major proportion of OpEx in providing drinking water supply to its citizens in the rural area. This conventional set-up is evident in the control village but not in the Jal Nirmal villages. Based on the continuum of Community Management given in the Community Water Plus Concept and Methods paper (Smits et al. 2015), the Jal Nirmal villages can therefore be conceptualised to be a form of "community Management with Direct Support", whereas the control village can be located just below the success cases representing a model of Community Involvement with Direct Support.

The Jal Nirmal model of surface water sources cost about INR 5,452 and that of groundwater sources INR 2,424 per person. The conventional model costs about INR 646 per person, but the difference in water resources availability, quantity, quality, reliability and sustainability are of paramount importance. Out of the capex, the software part constitutes only about INR 225 at the maximum as observed from Iddalahonda village, i.e. a maximum of 10.2% of the hardware cost. This rounded to 10%, is what the community contribution has been collected in Jal Nirmal project and the people can definitely pay, provided a sustainable and reliable water supply is ensured with adequate quantity, good quality and its provision at the door step of the households. In fact this will be about six days' wages per family as per minimum wages act of MGNREGS for the year 2015-16 for Karnataka (i.e. INR 204/day).

RDWSD is found to be an effective ESE given the complex physico-socio-economic background of the state. It follows a professionalised support model, with clear vision and division of roles and responsibilities that provides comprehensive and structured support, in a demand-responsive manner. It is performing its role in an effective manner, but can improve in several aspects, including monitoring client satisfaction, addressing issues related to source and system sustainability. It is also found to focus mainly its support role during the implementation of new infrastructure, or asset renewal and enhancement, whilst support to service provision, is done only on-request basis, and not in a structured manner. During capital investments, partnering is consultative in the sense that ESE and CSP jointly decide on what to be developed but follow standard procedures for how to develop it, in terms of financing, procurement rules, training and technical designs.

Concluding it is evident that a sustainable drinking water strategy revolves around the parameters depicted in the pyramid below. The social mobilization of the community is a prerequisite to sustain the operation and maintenance functions in an effective way. Involvement of youth along with experienced people having wisdom is a must in the VWSCs for ensuring adequate, safe and continuous supplies. Capacitating VWSC on local conditions and proposing strategies and risks associated along with mitigation steps is the need of the day. Transparency ensures voluntary support from the community. In this way, the RDWSD needs to change its role from implementer to facilitator in all the phases and maintain continuous dialogue with the local body. We believe, real O & M is possible when O becomes Ownership by the Gram Panchayat and M becomes management by the VWSC. Only then the overarching objective of community management will be achieved by converting resource users into managers.

SUSTAINABLE DRINKING WATER STRATEGY

Figure 9 Proposed sustainable drinking water strategy

8. References

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9   Appendix 1

9.1   ESE Tables

Best Practice villages: Activity and Responsibility Matrix of ESE																	
Entities / Actors	Tasks / Activities																
	Allocation of finance / Budgetary approval	Monitoring service levels & water quality	Project planning	Infrastructure design & implementation	Social intervention design and implementation	Operation and minor maintenance	Ongoing software support to community	Water resources management measures	Capital Maintenance and renewal	Major repair	Approval of user charges	User charge collection	Management of community involvement	Community capacity development & Training	Dispute resolution	Paying of water charges	Evaluation/performance assessment
Central Government	INT + PAY	INT	INT	INT + PAY	INT	INT	INT	INT + PAY	INT + PAY	INT	INT	INT	INT	INT	INT	INT	INT
State Government entity)	RES + PAY	INV	INV	INV + PAY	INV + PAY	INT	INV + PAY	RES + PAY	RES + PAY	RES + PAY	INT	INT	INT	RES + PAY	INT	INT	INT
Regulatory agencies	RES	RES	RES	RES	RES	INT	RES	RES	RES	RES	INT	INT	INT	RES	INT	INT	INT
Local government/ Gram Panchayat	INV + PAY	INT	INV	INV + PAY	INT	RES + PAY	INV	RES	RES	INV	RES	RES	RES	INV	RES	RES	RES
NGOs (Only in case of Hirenandi village)	INV	INV	INV	INV	INV	INV	INV	RES	INV	INV	INV	INT	INT	INT	RES	RES	INT
Water committee	INV	INT	INV	INV	INV	INV	INV	RES	INV	INV	RES	RES	RES	RES	RES	RES	RES
Households	INT	INT	INT	INT	INV	INT + PAY	INV	INT	INT	INT	RES + PAY	RES + PAY	INV	INV	INV	RES + PAY	INV

Control Village: Activity and Responsibility Matrix of ESE												
Entities / Actors	Tasks / Activities											
	Allocation of finance / Budgetary approval	Monitoring service levels & water quality	Project planning	Infrastructure design & implementation	Operation and minor maintenance	Water resources management measures	Capital Maintenance and renewal	Major repair	Approval of user charges	User charge collection	Dispute resolution	Paying of water charges
Central Government	INT + PAY	INT	INT	INT + PAY	INT	INT + PAY	INT + PAY	INT	INT	INT	INT	INT
State Government entity)	RES + PAY	INV	INV	INV + PAY	INT	RES + PAY	RES + PAY	RES + PAY	INT	INT	INT	INT
Regulatory agencies	RES	RES	RES	RES	INT	RES	RES	RES	INT	INT	INT	INT
Local government/ Gram Panchayat	INV + PAY	INT	INV	INV + PAY	RES + PAY	RES	RES	INV	RES	RES	RES	RES
Water committee	INV	INT	INV	INV	INV	RES	INV	INV	RES	RES	RES	RES
Households	INT	INT	INT	INT	INT + PAY	INT	INT	INT	RES + PAY	RES + PAY	INV	RES + PAY

Institutional Assessment Details of best (Jal Nirmal) villages

Organisational autonomy	Agreement
1. Sets own organisational policies and goals and changes them as necessary to provide guidance and direction in achieving the objectives of the institution	Strongly Agree (4)
2. Determines level of funding required to meet organisational goals and secures sufficient funds from appropriate sources	Strongly Agree (4)
3. Conducts such studies as may be necessary and carries out long-term planning to meet the expected demands on the institution; approves and acts on such studies and plans, including appropriate levels of investment to meet future demand	Strongly Agree (4)
4. Determines own organisational structure including roles and responsibilities of major divisions	Strongly Agree (4)
5. Employs levels of employee compensation, including salaries and benefits, sufficient to attract and retain capable staff	Strongly Agree (4)
Average Score	**4**

Community Water plus

Leadership	Agreement
1. Provides clear sense of mission; articulates mission; involves people with the mission so they get a sense of ownership of mission; gets people excited about the mission, believing in it.	Strongly Agree (4)
2. Identifies clear performance standards and is strict but fair; gives positive and negative feedback where due; disciplines where necessary based on performance.	Agree (3)
3. Maintains sense of balance between future vision and everyday operational matters.	Strongly Agree (4)
4. Demonstrates personal integrity (i.e., does not claim false overtime, take money, or cut corners for personal gain); instils sense of integrity in others.	Strongly Agree (4)
5. Continuously guides technical staff on need to ensure that levels of technology used by the institution are those which are most suitable in terms of simplicity of operation and maintenance; monitors activities in this regard.	Strongly Agree (4)
Average Score	**3.8**
Management and Administration	
1. Managers have a clear sense of their own and others' roles and responsibilities. They communicate roles and expectations clearly to others and involve them in the process of defining their roles and responsibilities.	Strongly Agree (4)
2. People are held accountable for getting work done.	Strongly Agree (4)
3. Administrative systems for the following functions have been developed and are regularly used. (Note: rate each system for effectiveness.)	
a. Accounting and Budgeting	Strongly Agree (4)
b. Personnel	Strongly Agree (4)
c. Management Information	Strongly Agree (4)
Average score	**4**
Community Orientation	
1. Staff at every level demonstrate that they are oriented toward serving the community / community service provider, and ensure engagement with different groups within community, including the most marginalized; when observed, their decisions and actions are clearly driven by what is best for the community.	Strongly Agree (4)
2. There are identifiable mechanisms for communities / community service providers to interact with key areas of the institution over important matters (e.g., call-down for technical assistance, bill disputes, service problems), that are also accessible to the most marginalized groups within the community.	Strongly Agree (4)
3. There is clear evidence that the institution responds to complaints, emergencies, and suggestions which community members / community service providers make.	Strongly Agree (4)
4. There are identifiable, ongoing, and effective measures to educate communities / community service providers about institutional services and requirements.	Strongly Agree (4)
5. The institution makes efforts to invite and evoke an effective level of community / community service providers participation (e.g., mechanisms for communities to bring concerns/complaints to the institutions).	Strongly Agree (4)
Average score	**4**
Technical Capability	
1. Consistently makes sound technical decisions and effectively serves management by conducting technical studies and planning as requested.	Strongly Agree (4)
2. Ensures effective control of the quality of the end product and all other technical operations.	Strongly Agree (4)
3. Uses or adapts technology which is suitable for the specific needs of the institution and avoids temptation to use more exciting-but not appropriate-technologies learned by staff who were trained in other settings.	Agree (3)
4. Maintains levels of in-house technical skills adequate for routine technical responsibilities and sub-contracts to outside specialists those tasks which are either beyond the institution's own capabilities or necessary to meet peak needs.	Strongly Agree (4)
5. Conducts practical research and experiments to improve existing uses of technology for local conditions and needs.	Agree (3)
Average score	**3.6**
Developing and Maintaining Staff	
1. A clear process for determining skill needs exists and is the basis for designing training programmes.	Strongly Agree (4)
2. A system exists for developing competent managers and supervisors.	Strongly Agree (4)
3. The institution provides adequate incentives to maintain staff (i.e. salary levels, employee, benefits)	Agree (3)
4. A clear system exists for hiring qualified personnel and firing or disciplining personnel when necessary.	Agree (3)
5. A career path is open to social/community development staff and technical staff and management staff.	Agree (3)
Average score	**3.4**
Organizational Culture	
1. An observable team spirit exists among the staff.	Strongly Agree (4)
2. People express a sense of ownership and pride about working that is communicated by such statements as "this is a good place to work."	Strongly Agree (4)
3. Employees are able to articulate the history and legends of the organization in positive ways.	Strongly Agree (4)
4. Continuity in the organizational culture is maintained (even with staff turnover at high or low organizational levels).	Agree (3)
5. Staff place a value on maintaining the organisations physical infrastructure (offices, treatment plants, grounds) of the organization. Facilities look clean, well maintained, and attractive.	Strongly Agree (4)
Average score	**3.8**

Interactions with Key External Institutions	
1. Top management stays well informed about external policy, financial, and regulatory issues and actions.	Strongly Agree (4)
2. Management maintains direct contact with the key individuals in all important external entities.	Strongly Agree (4)
3. Specific strategies are formulated to influence policies, legislation, and other activities to obtain necessary approvals and resources.	Disagree (2)
4. Programmes are developed to influence the public in support of institutional goals.	Strongly Agree (4)
5. To the extent to which it is not already responsible/involved in services, local government/Panchayati Raj is kept full informed and involved in the process of support and monitoring	Strongly Agree (4)
Average score	**3.6**

Institutional Assessment Details of control village (*Halaga*)

Organisational autonomy	Agreement
1. Sets own organisational policies and goals and changes them as necessary to provide guidance and direction in achieving the objectives of the institution	Strongly Agree (4)
2. Determines level of funding required to meet organisational goals and secures sufficient funds from appropriate sources	Strongly Agree (4)
3. Conducts such studies as may be necessary and carries out long-term planning to meet the expected demands on the institution; approves and acts on such studies and plans, including appropriate levels of investment to meet future demand	Strongly Agree (4)
4. Determines own organisational structure including roles and responsibilities of major divisions	Strongly Agree (4)
5. Employs levels of employee compensation, including salaries and benefits, sufficient to attract and retain capable staff	Strongly Agree (4)
Average Score	**4**
Leadership	**Agreement**
1. Provides clear sense of mission; articulates mission; involves people with the mission so they get a sense of ownership of mission; gets people excited about the mission, believing in it.	Strongly Agree (4)
2. Identifies clear performance standards and is strict but fair; gives positive and negative feedback where due; disciplines where necessary based on performance.	Strongly Agree (4)
3. Maintains sense of balance between future vision and everyday operational matters.	Disagree (2)
4. Demonstrates personal integrity (i.e., does not claim false overtime, take money, or cut corners for personal gain); instils sense of integrity in others.	Strongly Agree (4)
5. Continuously guides technical staff on need to ensure that levels of technology used by the institution are those which are most suitable in terms of simplicity of operation and maintenance; monitors activities in this regard.	Strongly Agree (4)
Average Score	**3.6**
Management and Administration	
1. Managers have a clear sense of their own and others' roles and responsibilities. They communicate roles and expectations clearly to others and involve them in the process of defining their roles and responsibilities.	Strongly Agree (4)
2. People are held accountable for getting work done.	Strongly Agree (4)
3. Administrative systems for the following functions have been developed and are regularly used. (Note: rate each system for effectiveness.)	
a. Accounting and Budgeting	Strongly Agree (4)
b. Personnel	Strongly Agree (4)
c. Management Information	Agree (3)
Average score	**3.8**
Community Orientation	
1. Staff at every level demonstrate that they are oriented toward serving the community / community service provider, and ensure engagement with different groups within community, including the most marginalized; when observed, their decisions and actions are clearly driven by what is best for the community.	Disagree (2)
2. There are identifiable mechanisms for communities / community service providers to interact with key areas of the institution over important matters (e.g., call-down for technical assistance, bill disputes, service problems), that are also accessible to the most marginalized groups within the community.	Agree (3)
3. There is clear evidence that the institution responds to complaints, emergencies, and suggestions which community members / community service providers make.	Disagree (2)
4. There are identifiable, ongoing, and effective measures to educate communities / community service providers about institutional services and requirements.	Strongly Disagree (1)
5. The institution makes efforts to invite and evoke an effective level of community / community service providers participation (e.g., mechanisms for communities to bring concerns/complaints to the institutions).	Strongly Disagree (1)
Average score	**1.8**

Technical Capability	
1. Consistently makes sound technical decisions and effectively serves management by conducting technical studies and planning as requested.	Strongly Agree (4)
2. Ensures effective control of the quality of the end product and all other technical operations.	Strongly Agree (4)
3. Uses or adapts technology which is suitable for the specific needs of the institution and avoids temptation to use more exciting-but not appropriate-technologies learned by staff who were trained in other settings.	Strongly Agree (4)
4. Maintains levels of in-house technical skills adequate for routine technical responsibilities and sub-contracts to outside specialists those tasks which are either beyond the institution's own capabilities or necessary to meet peak needs.	Agree (3)
5. Conducts practical research and experiments to improve existing uses of technology for local conditions and needs.	Agree (3)
Average score	**3.6**
Developing and Maintaining Staff	
1. A clear process for determining skill needs exists and is the basis for designing training programmes.	Agree (3)
2. A system exists for developing competent managers and supervisors.	Strongly Agree (4)
3. The institution provides adequate incentives to maintain staff (i.e. salary levels, employee, benefits)	Agree (3)
4. A clear system exists for hiring qualified personnel and firing or disciplining personnel when necessary.	Strongly Agree (4)
5. A career path is open to social/community development staff and technical staff and management staff.	Agree (3)
Average score	**3.4**
Organizational Culture	
1. An observable team spirit exists among the staff.	Agree (3)
2. People express a sense of ownership and pride about working that is communicated by such statements as "this is a good place to work."	Agree (3)
3. Employees are able to articulate the history and legends of the organization in positive ways.	Strongly Agree (4)
4. Continuity in the organizational culture is maintained (even with staff turnover at high or low organizational levels).	Strongly Agree (4)
5. Staff place a value on maintaining the organisations physical infrastructure (offices, treatment plants, grounds) of the organization. Facilities look clean, well maintained, and attractive.	Strongly Agree (4)
Average score	**3.6**
Interactions with Key External Institutions	
1. Top management stays well informed about external policy, financial, and regulatory issues and actions.	Strongly Agree (4)
2. Management maintains direct contact with the key individuals in all important external entities.	Agree (3)
3. Specific strategies are formulated to influence policies, legislation, and other activities to obtain necessary approvals and resources.	Disagree (2)
4. Programmes are developed to influence the public in support of institutional goals.	Agree (3)
5. To the extent to which it is not already responsible/involved in services, local government/Panchayati Raj is kept full informed and involved in the process of support and monitoring	Disagree (2)
Average score	**2.8**

Community Water plus

9.2 Partnering assessment tables

Partnering assessment details of Jal Nirmal villages

Capital Investment (implementation)	Statement	Agreement
A. Collaborative	ESE and CSP share responsibility for decisions regarding hardware (e.g. infrastructure) and software (e.g. capacity building) development during implementation	Strongly Agree (4)
B. Contributory	ESE and CSP pool financial resources to meet the costs of capital investment in hardware and software provision during implementation	Strongly Agree (4)
C. Operational	ESE and CSP work together contributing labour and/or resources to deliver hardware and software provision during implementation	Strongly Agree (4)
D. Consultative	ESE and CSP communicate regularly during implementation with structured opportunities for feedback and dialogue	Strongly Agree (4)
E. Transactional	ESE and CSP initially negotiate a implementation plan that is then delivered by the ESE	Strongly Agree (4)
F. Bureaucratic	ESE provides CSP with a standardised model of hardware and software provision during implementation	Strongly Agree (4)

On-going service delivery	Statement	Agreement
A. Collaborative	ESE and CSP share responsibility for decisions regarding administration, management and operation and maintenance	Disagree (2)
B. Contributory	ESE and CSP pool financial resources to cover costs of administration, management, and operation and maintenance	Strongly Agree (4)
C. Operational	ESE and CSP work together contributing labour and/or resources to support administration, management, operation and maintenance	Strongly Agree (4)
D. Consultative	The ESE and CSP have a systematic and transparent system for sharing information regarding administration, management, and operation and maintenance	Strongly Agree (4)
E. Transactional	The ESE and CSP fulfil different elements of the administration, management, and operation and maintenance functions as per negotiated arrangements	Strongly Agree (4)
F. Bureaucratic	Bureaucratic standards dictate the system for administration, management, and operation and maintenance	Strongly Agree (4)

Asset Renewal	Statement	Agreement
A. Collaborative	ESE and CSP share responsibility for decision making regarding asset renewal	Strongly Agree (4)
B. Contributory	ESE and CSP save and pool financial resources to meet the costs of asset renewal	Disagree (2)
C. Operational	ESE and service provider contribute labour and/or resources for asset renewal	Strongly Agree (4)
D. Consultative	ESE and CSP systematically share information regarding service levels and technology status enabling proper planning for asset renewal	Strongly Agree (4)
E. Transactional	Asset renewal is dependent on negotiations between ESE and CSP following a request from the CSP	Strongly Agree (4)
F. Bureaucratic	Asset renewal is dependent on generic programme timelines (i.e. every X years)	Disagree (2)

Service Enhancement or Expansion	Statement	Agreement
A. Collaborative	ESE and CSP share responsibility for decisions regarding service enhancement or expansion	Strongly Agree (4)
B. Contributory	ESE and CSP save and pool financial resources to meet the costs of service enhancement or expansion	Strongly Agree (4)
C. Operational	ESE and CSP contribute labour and/or resources for service enhancement or expansion	Strongly Agree (4)
D. Consultative	Information regarding service levels, technology status and population is systematically shared, enabling proper planning for service enhancement or expansion	Strongly Agree (4)
E. Transactional	Service enhancement or expansion is dependent on negotiations between ESE and CSP following a request from the CSP	Strongly Agree (4)
F. Bureaucratic	Planned asset replacement, expansion or renewal is dependent on generic programme timelines (e.g. every X years and/or with every X% of population increase)	Disagree (2)

Overall partnering assessment of best practice (Jal Nirmal) villages

Type of partnering	Capital investment (implementation)	Service delivery: administration, management and operation and maintenance	Capital renewal score	Service enhancement or expansion	Mean average Score
A. Collaborative	Strongly Agree (4)	Disagree (2)	Strongly Agree (4)	Strongly Agree (4)	3.5
B. Contributory	Strongly Agree (4)	Strongly Agree (4)	Disagree (2)	Strongly Agree (4)	3.5
C. Operational	Strongly Agree (4)	Strongly Agree (4)	Strongly Agree (4)	Strongly Agree (4)	4
D. Consultative	Strongly Agree (4)	Strongly Agree (4)	Strongly Agree (4)	Strongly Agree (4)	4
E. Transactional	Strongly Wagree (4)	Strongly Agree (4)	Strongly Agree (4)	Strongly Agree (4)	4
F. Bureaucratic	Strongly Agree (4)	Strongly Agree (4)	Disagree (2)	Disagree (2)	3

Partnering assessment details of control village (*Halaga*)

Capital Investment (implementation)	Statement	Agreement
A. Collaborative	ESE and CSP share responsibility for decisions regarding hardware (e.g. infrastructure) and software (e.g. capacity building) development during implementation	Strongly Agree (4)
B. Contributory	ESE and CSP pool financial resources to meet the costs of capital investment in hardware and software provision during implementation	Strongly Disagree (1)
C. Operational	ESE and CSP work together contributing labour and/or resources to deliver hardware and software provision during implementation	Strongly Disagree (1)
D. Consultative	ESE and CSP communicate regularly during implementation with structured opportunities for feedback and dialogue	Disagree (2)
E. Transactional	ESE and CSP initially negotiate a implementation plan that is then delivered by the ESE	Strongly Disagree (1)
F. Bureaucratic	ESE provides CSP with a standardised model of hardware and software provision during implementation	Strongly Agree (4)
On-going service delivery	**Statement**	**Agreement**
A. Collaborative	ESE and CSP share responsibility for decisions regarding administration, management and operation and maintenance	Strongly Disagree (1)
B. Contributory	ESE and CSP pool financial resources to cover costs of administration, management, and operation and maintenance	Disagree (2)
C. Operational	ESE and CSP work together contributing labour and/or resources to support administration, management, operation and maintenance	Disagree (2)
D. Consultative	The ESE and CSP have a systematic and transparent system for sharing information regarding administration, management, and operation and maintenance	Strongly Disagree (1)
E. Transactional	The ESE and CSP fulfil different elements of the administration, management, and operation and maintenance functions as per negotiated arrangements	Disagree (2)
F. Bureaucratic	Bureaucratic standards dictate the system for administration, management, and operation and maintenance	Strongly Agree (4)
Asset Renewal	**Statement**	**Agreement**
A. Collaborative	ESE and CSP share responsibility for decision making regarding asset renewal	Strongly Disagree (1)
B. Contributory	ESE and CSP save and pool financial resources to meet the costs of asset renewal	Strongly Disagree (1)
C. Operational	ESE and service provider contribute labour and/or resources for asset renewal	Disagree (2)
D. Consultative	ESE and CSP systematically share information regarding service levels and technology status enabling proper planning for asset renewal	Disagree (2)
E. Transactional	Asset renewal is dependent on negotiations between ESE and CSP following a request from the CSP	Disagree (2)
F. Bureaucratic	Asset renewal is dependent on generic programme timelines (i.e. every X years)	Strongly Agree (4)
Service Enhancement or Expansion	**Statement**	**Agreement**
A. Collaborative	ESE and CSP share responsibility for decisions regarding service enhancement or expansion	Strongly Disagree (1)
B. Contributory	ESE and CSP save and pool financial resources to meet the costs of service enhancement or expansion	Disagree (2)
C. Operational	ESE and CSP contribute labour and/or resources for service enhancement or expansion	Disagree (2)
D. Consultative	Information regarding service levels, technology status and population is systematically shared, enabling proper planning for service enhancement or expansion	Strongly Disagree (1)
E. Transactional	Service enhancement or expansion is dependent on negotiations between ESE and CSP following a request from the CSP	Strongly Disagree (1)
F. Bureaucratic	Planned asset replacement, expansion or renewal is dependent on generic programme timelines (e.g. every X years and/or with every X% of population increase)	Strongly Agree (4)

Overall partnering assessment of control village (*Halaga*)

Type of partnering	Capital investment (implementation)	Service delivery: administration, management and operation and maintenance	Capital renewal score	Service enhancement or expansion	Mean average Score
A. Collaborative	Strongly Agree (4)	Strongly Disagree (1)	Strongly Disagree (1)	Strongly Disagree (1)	1.75
B. Contributory	Strongly Disagree (1)	Disagree (2)	Strongly Disagree (1)	Disagree (2)	1.5
C. Operational	Strongly Disagree (1)	Disagree (2)	Disagree (2)	Disagree (2)	1.75
D. Consultative	Disagree (2)	Strongly Disagree (1)	Disagree (2)	Strongly Disagree (1)	1.5
E. Transactional	Strongly Disagree (1)	Disagree (2)	Disagree (2)	Strongly Disagree (1)	1.5
F. Bureaucratic	Strongly Agree (4)	Strongly Agree (4)	Strongly Agree (4)	Strongly Agree (4)	4

9.3   CSP Activity and Responsibility Matrices

Descriptors of CSP Best Practice 1 – Shiraguppi village, Athani Taluk		
1. Characteristics	**Response**	**Explanation / Working / Comments**
1.1 Type of organisations	Formal water committee	VWSC in place and very active
2. Organizational capacity		
2.1 Staffing of governing body of CSP	18	Committee includes Chairman, Secretary & Treasurer
2.2 Staffing of the CSP	5	Bill Collector – 1; Watermen - 4
3. Scale of operation of the CSP		
3.1 Coverage		
3.1.1 Population supplied with water by the CSP	9683	
3.1.1. Size of population in service area	9683	
3.1 Coverage	1.00	
3.2 Coverage with household connections	1552	
3.2.1 Number of households with household connections	1552	Entire population of 9683 are covered with water supply
3.2.2 Households served by the CSP	1552	
3.2 Coverage with household connections	1.00	
3.3 Coverage with household connections among vulnerable groups		
3.3.1 Number of SC/ST [and other vulnerable group] households with household connections	670	SC=662 & ST=8
3.3.2 SC/St [and other vulnerable group] households served by the CSP	670	SC=662 & ST=8
3.3 Coverage with household connections among vulnerable groups	1.00	
4. Financial descriptor		
4.1 Tariff structure* *Where relevant indicate whether there are more advanced forms of differentiation such as progressive block tariffs (in comment section)	1000	Rs.1000/- charged per household per annum. And is paid directly into the bank account by the users
4.2 Connection costs	500	
4.3 Total capital expenditure	0	No capital expenditure during last year; however during installation of the scheme an amount of Rs. 121.15 lakhs was spent
Descriptors of CSP Best Practice 2 – Iddalahonda village, Khanapur taluk		
1. Characteristics	**Response**	**Explanation / Working / Comments**
1.1 Type of organisations	Formal water committee	VWSC is in place and very active
2. Organizational capacity		
2.1 Staffing of governing body of CSP	21	Committee includes Chairman, Secretary & Treasurer
2.2 Staffing of the CSP	2	Bill Collector -1; Water man - 1
3. Scale of operation of the CSP		
3.1 Coverage		
3.1.1 Population supplied with water by the CSP	1504	
3.1.1. Size of population in service area	1504	
3.1 Coverage	1.00	
3.2 Coverage with household connections		
3.2.1 Number of households with household connections	341	Entire population of 1504 are covered with water supply
3.2.2 Households served by the CSP	341	
3.2 Coverage with household connections	1.00	
3.3 Coverage with household connections among vulnerable groups		
3.3.1 Number of SC/ST [and other vulnerable group] households with household connections	15	SC=14 & ST = 1
3.3.2 SC/St [and other vulnerable group] households served by the CSP	15	SC=14 & ST = 1
3.3 Coverage with household connections among vulnerable groups	1.00	
4. Financial descriptor		
4.1 Tariff structure* *Where relevant indicate whether there are more advanced forms of differentiation such as progressive block tariffs (in comment section)	40	Rs.40/- charged per household per month. Water meters have been installed and water tariff on volumetric basis from the coming year onwards
4.2 Connection costs	1000	
4.3 Total capital expenditure	0	No capital expenditure during last year; however Rs. 21.46 lakhs was spent initially

Descriptors of CSP Best Practice 3 – Hirenandi village, Gokak Taluk		
1. Characteristics	**Response**	**Explanation / Working / Comments**
1.1 Type of organisations	Other, specify	Formal water committee supported by external agency (Niketan Engg. Co.)
2. Organizational capacity		
2.1 Staffing of governing body of CSP	18	
2.2 Staffing of the CSP	2	Bill Collector – 1; Water man - 1
3. Scale of operation of the CSP		
3.1 Coverage		
3.1.1 Population supplied with water by the CSP	3365	
3.1.1. Size of population in service area	3365	
3.1 Coverage	1.00	
3.2 Coverage with household connections		
3.2.1 Number of households with household connections	110	
3.2.2 Households served by the CSP	643	
3.2 Coverage with household connections	0.17	
3.3 Coverage with household connections among vulnerable groups		
3.3.1 Number of SC/ST [and other vulnerable group] households with household connections	124	
3.3.2 SC/St [and other vulnerable group] households served by the CSP	207	SC = 90; ST = 117
3.3 Coverage with household connections among vulnerable groups	0.60	
4. Financial descriptor		
4.1 Tariff structure* *Where relevant indicate whether there are more advanced forms of differentiation such as progressive block tariffs (in comment section)	Rs. 50/ month	Water tariff collection is upto 85%
4.2 Connection costs	1000	
4.3 Total capital expenditure	0	No capital expenditure during last year; however Rs. 919.79 lakhs was spent initially for a multi-village scheme of 9 villages falling in 3 GPs
Descriptors of CSP Control 4 – *Halaga* village, Belagavi Taluk		
1. Characteristics	**Response**	**Explanation / Working / Comments**
1.1 Type of organisations	Formal water committee	
2. Organizational capacity		
2.1 Staffing of governing body of CSP	29	
2.2 Staffing of the CSP	1	Water man - 1
3. Scale of operation of the CSP		
3.1 Coverage		
3.1.1 Population supplied with water by the CSP	8140	only from June/July to Jan/Feb
3.1.1. Size of population in service area	8140	only from June/July to Jan/Feb
3.1 Coverage	1.00	
3.2 Coverage with household connections		
3.2.1 Number of households with household connections	127	
3.2.2 Households served by the CSP	1442	
3.2 Coverage with household connections	0.09	
3.3 Coverage with household connections among vulnerable groups		
3.3.1 Number of SC/ST [and other vulnerable group] households with household connections	12	
3.3.2 SC/St [and other vulnerable group] households served by the CSP	147	SC = 136; ST = 11
3.3 Coverage with household connections among vulnerable groups	0.08	
4. Financial descriptor		
4.1 Tariff structure* *Where relevant indicate whether there are more advanced forms of differentiation such as progressive block tariffs (in comment section)	Rs. 30/ month/ household	
4.2 Connection costs	Rs. 1000/- per household	
4.3 Total capital expenditure	0	No capital costs were incurred during last year

Best Practice Activity and Responsibility Matrix – Shiraguppi village, Athani taluk

Entities / Actors	Allocation of finance / Budgetary approval	Monitoring service levels & water quality	Project planning	Infrastructure design & implementation	Social intervention design and implementation	Operation and minor maintenance	Ongoing software support to community	Water resources management measures	Capital Maintenance and renewal	Major repair	Approval of user charges	User charge collection	Management of community involvement	Community capacity development & Training	Dispute resolution	Paying of water charges	Institutional & human resources development	Auditing	Evaluation/performance assessment
Central Government	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT
State Government	RES + PAY	RES + PAY	RES + PAY	RES + PAY	INT + PAY	INT	INV + PAY	RES + PAY	RES + PAY	RES + PAY	INT	INT	INT	INV + PAY	INT	INT	INT + PAY	INT	INT
Regulatory agencies	RES + PAY	RES + PAY	RES + PAY	RES + PAY	INT + PAY	INV	INV + PAY	RES + PAY	RES + PAY	RES + PAY	INT	INT	INT	INV + PAY	INT	INT	INV + PAY	INT	INT
Gram Panchayat	INV	INV	INV	INV	INT	RES + PAY	INV	RES	INV	INV	RES	RES	RES	INV	RES	RES	INV	RES	RES
Water committee	INV	INV	INV	INV	INV	RES	INV	RES	INV	INV	RES	RES	RES	INV	RES	RES	INV	RES	RES
Operator or mechanic	INT	INV	INV	INV	INT	RES	INT	INT	INT	INT	INT	RES	INT	INT	INT	INT	INT	INT	INT
Households	INT	INV	INV	INT	INT	INT	INT	INT	INV	INT	RES + PAY	RES + PAY	INV	INT	INT	RES + PAY	INT	INT	INV

Best Practice Activity and Responsibility Matrix – Iddalahonda village, Khanapur taluk

Entities / Actors	Allocation of finance / Budgetary approval	Monitoring service levels & water quality	Project planning	Infrastructure design & implementation	Social intervention design and implementation	Operation and minor maintenance	Ongoing software support to community	Water resources management measures	Capital Maintenance and renewal	Major repair	Approval of user charges	User charge collection	Management of community involvement	Community capacity development & Training	Dispute resolution	Paying of water charges	Institutional & human resources development	Auditing	Evaluation/performance assessment
Central Government	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT
State Government	RES + PAY	RES + PAY	RES + PAY	RES + PAY	INT + PAY	INT	INV + PAY	RES + PAY	RES + PAY	RES + PAY	INT	INT	INT	INV + PAY	INT	INT	INT + PAY	INT	INT
Regulatory agencies	RES + PAY	RES + PAY	RES + PAY	RES + PAY	INT + PAY	INV	INV + PAY	RES + PAY	RES + PAY	RES + PAY	INT	INT	INT	INV + PAY	INT	INT	INV + PAY	INT	INT
Gram Panchayat	INV	INV	INV	INV	INT	RES + PAY	INV	RES	INV	INV	RES	RES	RES	INV	RES	RES	INV	RES	RES
Water committee	INV	INV	INV	INV	INV	RES	INV	RES	INV	INV	RES	RES	RES	INV	RES	RES	INV	RES	RES
Operator or mechanic	INT	INV	INV	INV	INT	RES	INT	INT	INT	INT	INT	RES	INT	INT	INT	INT	INT	INT	INT
Households	INT	INV	INV	INT	INT	INT	INT	INT	INV	INT	RES + PAY	RES + PAY	INV	INT	INT	RES + PAY	INT	INT	INV

Best Practice Activity and Responsibility Matrix – Hirenandi village, Gokak taluk

Entities / Actors	Allocation of finance / Budgetary approval	Monitoring service levels & water quality	Project planning	Infrastructure design & implementation	Social intervention design and implementation	Operation and minor maintenance	Ongoing software support to community	Water resources management measures	Capital Maintenance and renewal	Major repair	Approval of user charges	User charge collection	Management of community involvement	Community capacity development & Training	Dispute resolution	Paying of water charges	Institutional & human resources development	Auditing	Evaluation/performance assessment
Central Government	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT
State Government	RES + PAY	RES + PAY	RES + PAY	RES + PAY	INT + PAY	INT	INV + PAY	RES + PAY	RES + PAY	RES + PAY	INT	INT	INT	INV + PAY	INT	INT	INT + PAY	INT	INT
Regulatory agencies	RES + PAY	RES + PAY	RES + PAY	RES + PAY	INT + PAY	INV	INV + PAY	RES + PAY	RES + PAY	RES + PAY	INT	INT	INT	INV + PAY	INT	INT	INV + PAY	INT	INT
Gram Panchayat	INV	INV	INV	INV	INT	RES + PAY	INV	RES	INV	INV	RES	RES	RES	INV	RES	RES	INV	RES	RES
Water committee	INV	INV	INV	INV	INV	RES	INV	RES	INV	INV	RES	RES	RES	INV	RES	RES	INV	RES	RES
Operator or mechanic	INT	INV	INV	INV	INT	RES	INT	INT	INT	INT	INT	RES	INT	INT	INT	INT	INT	INT	INT
Households	INT	INV	INV	INT	INT	INT	INT	INT	INV	INT	RES + PAY	RES + PAY	INV	INT	INT	RES + PAY	INT	INT	INV

Activity and Responsibility Matrix of control village – *Halaga* village, Belagavi taluk

Entities / Actors	Allocation of finance / Budgetary approval	Monitoring service levels & water quality	Project planning	Infrastructure design & implementation	Social intervention design and implementation	Operation and minor maintenance	Ongoing software support to community	Water resources management measures	Capital Maintenance and renewal	Major repair	Approval of user charges	User charge collection	Management of community involvement	Community capacity development & Training	Dispute resolution	Paying of water charges	Institutional & human resources development	Auditing	Evaluation/performance assessment
Central Government	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT	INT
State Government	RES + PAY	RES + PAY	RES + PAY	RES + PAY	INT	INT	INT	RES + PAY	RES + PAY	RES + PAY	INT	INT	INT	INT	INT	INT	INT	INT	INT
Regulatory agencies	RES + PAY	RES + PAY	RES + PAY	RES + PAY	INT	INV	INT	RES + PAY	RES + PAY	RES + PAY	INT	INT	INT	INT	INT	INT	INT	INT	INT
Gram Panchayat	INV	INV	INV	INV	INT	INV + PAY	INT	RES	INV	INV	RES	RES	RES	INT	RES	RES	INT	RES	RES
Water committee	INV	INV	INV	INV	INT	RES	INT	INV	INT	INT	RES	RES	INT	INT	INV	RES	INT	RES	INV
Operator or mechanic	INT	INV	INV	INV	INT	RES	INT	INT	INT	INT	INT	RES	INT	INT	INT	INT	INT	INT	INT
Households	INT	INV	INV	INT	INT	INT	INT	INT	INT	INT	RES + PAY	RES + PAY	INT	INT	INT	RES + PAY	INT	INT	INV

Community Water ^{plus}

9.4 CSP Performance Indicators

QIS Indicators for CSP Best Practice 1 – Shiriguppi village, Athani Taluk		
Indicator	**Score**	**Explanation**
1.3 Selection of the Board of the service provider	100	The CSP has a formal document that describes how elections for its governing should take place. This was followed duly during the last elections.
1.4 Information sharing and accountability mechanisms	100	The CSP has several mechanisms to inform and provide accountability to users. These are all used regularly.
2.2 Cash reserves	100	The CSP actively manages a cash reserve both through petty tax box and bank account and regularly replenishes it from a dedicated part of its revenues.
2.3 Book keeping	100	The CSP tracks its income and expenditure systematically and produces an annual account. The annual accounts have been audited and approved.
3.1 Technical folder	100	The CSP has a folder with both the map and design of the system and the operational manual and guidelines and it consults these when it needs to.
3.2 Registry of operational information	100	The CSP has more than two of the five types of records and all are up to date
3.4 Water metering	N/A	This measure is not applicable to this ESE
3.5 Waters security measures	100	A water security plan is in place and in execution
3.6 Water quality management	100	A comprehensive water quality management plan is in place that has been provided or approved by a competent ESE. This plan is being executed.

Performance Indicators CSP Best Practice 1 – Shiriguppi village, Athani Taluk		
Indicator	Definition	Explanation / Working / Comments
Governance		
1.1 Formal establishment of service provider	April 2005	
1.1.1 Number of formal legal requirements related to service provision	VWSC is the CSP	
1.1.2 Number of formal legal requirements complied with	100%	
1.2 Statutes	Yes	Since VWSC is standing committee of GP, it enjoys all statutory powers
1.3 Selection of the Board of the service provider	100	Unanimous selection through Grama Sabha
1.4 Information sharing and accountability mechanisms	100	Transparent
1.5 Gender balance in the governing body of the CSP	Less than specified	
1.5.1 Number of women in the governing body of CSP	3	
1.5.1 Total number of members of the governing body	18	
1.5 Gender balance in the governing body of the CSP	0.17	
1.6 Capacity of the personnel and board of the provider	Possess as per requirement	
1.6.1 Number of members of the personnel and governing body of the CSP that have received formal training for their function	18	
1.6.2 Number of personnel and governing body members	18	
1.6 Capacity of the personnel and board of the provider	1	

Finance		
2.1 Financial balance of recurrent revenue and expenditure		
2.1.1 Total Annual Revenue (user charges, government subsidy, any other income)	INR 17,94,040.00	
2.1.2 Total Annual Expenditure (OpEx, CapManEx etc)	INR 17,69,399.00	
2.1 Financial balance of recurrent revenue and expenditure	INR 24,641.00	
2.2 Cash reserves	100	
2.3 Book keeping	100	
2.4 Non-payment rate	Nil	
2.4.1 Number of users who more than three months of water fees	0	
2.4.2 Number of users	1552	
2.4 Non-payment rate	0	
Technical performance		
3.1 Technical folder	100	
3.2 Registry of operational information	100	
3.3 Response time	Immediate	
3.4 Water metering	N/A	
3.5 Waters security measures	100	
3.6 Water quality management	100	

QIS Indicators for CSP Best Practice 2 – Iddlahonda village, Khanapur taluk		
Indicator	Score	Explanation
1.3 Selection of the Board of the service provider	100	The CSP has a formal document that describes how elections for its governing should take place. This was followed duly during the last elections.
1.4 Information sharing and accountability mechanisms	100	The CSP has several mechanisms to inform and provide accountability to users. These are all used regularly.
2.2 Cash reserves	100	The CSP actively manages a cash reserve both through petty tax box and bank account and regularly replenishes it from a dedicated part of its revenues.
2.3 Book keeping	100	The CSP tracks its income and expenditure systematically and produces an annual account. The annual accounts have been audited and approved.
3.1 Technical folder	100	The CSP has a folder with both the map and design of the system and the operational manual and guidelines and it consults these when it needs to.
3.2 Registry of operational information	100	The CSP has more than two of the five types of records and all are up to date
3.4 Water metering	75	All users with household connections have water meters. These are read regularly and used for billing.
3.5 Waters security measures	100	A water security plan is in place and in execution
3.6 Water quality management	100	A comprehensive water quality management plan is in place that has been provided or approved by a competent ESE. This plan is being executed.

Performance Indicators CSP Best Practice 2 – Iddalahonda village, Khanapur taluk		
Indicator	**Definition**	**Explanation / Working / Comments**
Governance		
1.1 Formal establishment of service provider	April 2005	
1.1.1 Number of formal legal requirements related to service provision	VWSC is the CSP	
1.1.2 Number of formal legal requirements complied with	100%	
1.2 Statutes	Yes	Since VWSC is standing committee of GP, it enjoys all statutory powers
1.3 Selection of the Board of the service provider	100	Unanimous selection through Grama Sabha
1.4 Information sharing and accountability mechanisms	100	Transparent
1.5 Gender balance in the governing body of the CSP	Less than specified	
1.5.1 Number of women in the governing body of CSP	7	
1.5.1 Total number of members of the governing body	21	
1.5 Gender balance in the governing body of the CSP	0.33	
1.6 Capacity of the personnel and board of the provider	Possess as per requirement	
1.6.1 Number of members of the personnel and governing body of the CSP that have received formal training for their function	21	
1.6.2 Number of personnel and governing body members	21	
1.6 Capacity of the personnel and board of the provider	1	
Finance		
2.1 Financial balance of recurrent revenue and expenditure		
2.1.1 Total Annual Revenue (user charges, government subsidy, any other income)	INR 1,35,840.00	
2.1.2 Total Annual Expenditure (OpEx, CapManEx etc)	INR 1,28,989.00	
2.1 Financial balance of recurrent revenue and expenditure	INR 6,851.00	
2.2 Cash reserves	100	
2.3 Book keeping	100	
2.4 Non-payment rate	Nil	
2.4.1 Number of users who more than three months of water fees	0	
2.4.2 Number of users	341	
2.4 Non-payment rate	0	
Technical performance		
3.1 Technical folder	100	
3.2 Registry of operational information	100	
3.3 Response time	Immediate	
3.4 Water metering	N/A	
3.5 Waters security measures	100	
3.6 Water quality management	100	

QIS Indicators for CSP Best Practice 3 – Hirenandi village, Gokak taluk		
Indicator	**Score**	**Explanation**
1.3 Selection of the Board of the service provider	100	The CSP has a formal document that describes how elections for its governing should take place. This was followed duly during the last elections.
1.4 Information sharing and accountability mechanisms	100	The CSP has several mechanisms to inform and provide accountability to users. These are all used regularly.
2.2 Cash reserves	100	The CSP actively manages a cash reserve both through petty tax box and bank account and regularly replenishes it from a dedicated part of its revenues.
2.3 Book keeping	100	The CSP tracks its income and expenditure systematically and produces an annual account. The annual accounts have been audited and approved.
3.1 Technical folder	100	The CSP has a folder with both the map and design of the system and the operational manual and guidelines and it consults these when it needs to.
3.2 Registry of operational information	100	The CSP has more than two of the five types of records and all are up to date
3.4 Water metering	N/A	This measure is not applicable to this ESE
3.5 Waters security measures	100	A water security plan is in place and in execution
3.6 Water quality management	100	A comprehensive water quality management plan is in place that has been provided or approved by a competent ESE. This plan is being executed.
Performance Indicators CSP Best Practice 3 – Hirenandi village, Gokak taluk		
Indicator	**Definition**	**Explanation / Working / Comments**
Governance		
1.1 Formal establishment of service provider	April 2008	
1.1.1 Number of formal legal requirements related to service provision	VWSC & Niketan Engg. Co., a private agency are the CSPs	Since this village is part of Multi Village Scheme (MVS), a private company - Niketan Engg. Co. is given the responsibility to manage the water supply till the OHTs of the villages and beyond that the distribution in the village is managed by the VWSP
1.1.2 Number of formal legal requirements complied with	100%	
1.2 Statutes	Yes	Since VWSC is standing committee of GP, it enjoys all statutory powers
1.3 Selection of the Board of the service provider	100	Unanimous selection through Grama Sabha
1.4 Information sharing and accountability mechanisms	100	Transparent
1.5 Gender balance in the governing body of the CSP	Less than specified	
1.5.1 Number of women in the governing body of CSP	5	
1.5.1 Total number of members of the governing body	20	
1.5 Gender balance in the governing body of the CSP	0.25	
1.6 Capacity of the personnel and board of the provider	Possess as per requirement	
1.6.1 Number of members of the personnel and governing body of the CSP that have received formal training for their function	20	
1.6.2 Number of personnel and governing body members	20	
1.6 Capacity of the personnel and board of the provider	1	

Finance		
2.1 Financial balance of recurrent revenue and expenditure		
2.1.1 Total Annual Revenue (user charges, government subsidy, any other income)	INR 2,83,200.00	
2.1.2 Total Annual Expenditure (OpEx, CapManEx etc)	INR 2,28,154.00	
2.1 Financial balance of recurrent revenue and expenditure	INR 55,046.00	
2.2 Cash reserves	100	
2.3 Book keeping	100	
2.4 Non-payment rate	Nil	
2.4.1 Number of users who more than three months of water fees	0	
2.4.2 Number of users	864	
2.4 Non-payment rate	0	
Technical performance		
3.1 Technical folder	100	
3.2 Registry of operational information	100	
3.3 Response time	Immediate	
3.4 Water metering	N/A	
3.5 Waters security measures	100	
3.6 Water quality management	100	

QIS Indicators for CSP Control 4 – *Halaga* village, Belagavi taluk		
Indicator	**Score**	**Explanation**
1.3 Selection of the Board of the service provider	100	The CSP has a formal document that describes how elections for its governing should take place. This was followed duly during the last elections.
1.4 Information sharing and accountability mechanisms	25	The CSP has at least one mechanism through which users are informed and accountability is provided. But this is not used regularly.
2.2 Cash reserves	25	The CSP actively has a cash reserve, either in the form of a petty tax box or bank account, which it replenishes on an irregular basis
2.3 Book keeping	50	The CSP regularly tracks its income and expenditure sheet and produces an annual account.
3.1 Technical folder	0	The CSP has no map, design or operational manual and guideline of the system nor is it able to access those from relevant government bodies
3.2 Registry of operational information	No data	There is not enough data to make this judgement
3.4 Water metering	N/A	This measure is not applicable to this ESE
3.5 Waters security measures	0	No water security measures are taken, neither is any plan in place
3.6 Water quality management	50	A water quality management plan has been developed and is followed most of the time but not always.

Performance Indicators CSP Control 4 – *Halaga* village, Belagavi taluk		
Indicator	**Definition**	**Explanation / Working / Comments**
Governance		
1.1 Formal establishment of service provider	April 2012	
1.1.1 Number of formal legal requirements related to service provision	VWSC is the CSP	
1.1.2 Number of formal legal requirements complied with	100%	
1.2 Statutes	Yes	Since VWSC is standing committee of GP, it enjoys all statutory powers
1.3 Selection of the Board of the service provider	100	Unanimous selection through Grama Sabha
1.4 Information sharing and accountability mechanisms	100	Transparent
1.5 Gender balance in the governing body of the CSP	Less than specified	
1.5.1 Number of women in the governing body of CSP	12	
1.5.1 Total number of members of the governing body	29	
1.5 Gender balance in the governing body of the CSP	0.41	
1.6 Capacity of the personnel and board of the provider	Possess as per requirement	
1.6.1 Number of members of the personnel and governing body of the CSP that have received formal training for their function	0	
1.6.2 Number of personnel and governing body members	29	
1.6 Capacity of the personnel and board of the provider	0	
Finance		
2.1 Financial balance of recurrent revenue and expenditure		
2.1.1 Total Annual Revenue (user charges, government subsidy, any other income)	INR 1,70,931.00	
2.1.2 Total Annual Expenditure (OpEx, CapManEx etc)	INR 3,72,141.00	
2.1 Financial balance of recurrent revenue and expenditure	-INR 2,01,210.00	
2.2 Cash reserves	100	
2.3 Book keeping	100	
2.4 Non-payment rate	Nil	
2.4.1 Number of users who more than three months of water fees	316	
2.4.2 Number of users	380	
2.4 Non-payment rate	0.83	
Technical performance		
3.1 Technical folder	100	
3.2 Registry of operational information	100	
3.3 Response time	Immediate	
3.4 Water metering	N/A	
3.5 Waters security measures	100	
3.6 Water quality management	100	

9.5   Participation assessment tables

Community Participation CSP Best Practice 1 – Shiraguppi village, Athani taluk

Stage of delivery cycle	Score	Explanation
Capital Investment (implementation)	2. Interaction participation	The community in partnership with the service provider and/or support entities engage in a joint-analysis of implementation options before developing a plan
Service delivery	1. Self-mobilisation	The community take responsibility for administration, management and operation and maintenance, either directly or by outsourcing these functions to external entities
Asset Renewal	2. Interaction participation	The community in partnership with the service provider and/or support engage in joint-decision making regarding asset renewal
Service enhancement or expansion	2. Interaction participation	The community in partnership with the service provider and/or support engage in joint-decision making regarding service enhancement or expansion

Community Participation CSP Best Practice 2 – Iddalahonda village, Khanapur taluk

Stage of delivery cycle	Score	Explanation
Capital Investment (implementation)	2. Interaction participation	The community in partnership with the service provider and/or support entities engage in a joint-analysis of implementation options before developing a plan
Service delivery	1. Self-mobilisation	The community take responsibility for administration, management and operation and maintenance, either directly or by outsourcing these functions to external entities
Asset Renewal	2. Interaction participation	The community in partnership with the service provider and/or support engage in joint-decision making regarding asset renewal
Service enhancement or expansion	1. Self-mobilisation	The community practices self-supply and invests in service enhancement or expansion, or identifies need and seeks external support for service enhancement or expansion

Community Participation CSP Best Practice 3 – Hirenandi village, Gokak taluk

Stage of delivery cycle	Score	Explanation
Capital Investment (implementation)	3. Functional participation	The community is provided with a detailed implementation plan that they discuss and they have a chance to amend limited elements
Service delivery	2. Interaction participation	The community in partnership with the service provider and/or support entities engage in joint-decision making regarding appropriate arrangements for administration, management and operation and maintenance
Asset Renewal	3. Functional participation	The community is provided with an asset renewal plan that they discuss and they have a chance to amend limited elements
Service enhancement or expansion	2. Interaction participation	The community in partnership with the service provider and/or support engage in joint-decision making regarding service enhancement or expansion

Community Participation CSP Control 4 – *Halaga* village, Belagavi taluk

Stage of delivery cycle	Score	Explanation
Capital Investment (implementation)	3. Functional participation	The community is provided with a detailed implementation plan that they discuss and they have a chance to amend limited elements
Service delivery	4. Participation by consultation	The community discusses administration, management and operation and maintenance functions but have no formal decision making power to demand alternatives
Asset Renewal	5. Passive participation	Community Service Provider informs community members about asset renewal as per an externally designed plan
Service enhancement or expansion	4. Participation by consultation	Community members are asked about service enhancement or expansion but have no formal decision making power to demand alternatives