

# COMMUNITY MANAGEMENT OF RURAL WATER SUPPLY

Community Water <sup>plus</sup>



Centre of Excellence for Change, Chennai

Investigating the resource implications of the 'plus' in community management of rural water supply systems in India: Nenmeni Sudha Jala Vitharana Society (NSJVS), Kerala



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Community Water <sup>plus</sup> is a 20 case study research project managed by Cranfield University, UK, on behalf of the Department of Foreign Affairs and Trade (DFAT) of the Australian Government

## Executive summary

Kerala, one of the smaller states of India, located on the south-west coast, is known for its development model, focused on literacy and women centred socio-economic empowerment. It has been the first to implement decentralised local governance, with its People's Plan in the late 1990's. With the support of World Bank, the Kerala Government has piloted a new service delivery model for rural water supply service. The *Nenmeni Sudha Jala Vitharana Society* (NSJVS- Nenmeni Drinking Water Supply Society) is one such model under the World Bank aided Jananidhi I Project and this case study explores how the community manages its own service delivery in a professional manner.

The NSJVS is a registered non-profit organisation established to manage a rural piped water supply scheme in the Nenmeni Gram Panchayat. The end users of the water supply scheme make up the Society's General Body with some becoming part of the democratically elected Executive Committee. As a registered public body, they are bound by the relevant laws of the land for its governance.

The technical and managerial competencies developed during the implementation of the Jananidhi programme in the 2005-2007 period have paved the way for the success of this community management approach, as well as its sustainability. The well-defined project cycle with intensive emphasis on pre-planning and planning before implementation of the project was the key to sustain the results of the initial 27 month project. Notwithstanding the considerable external investment in software during the intensive capital development phase, implemented with the involvement of a support organisation (NGO Shreyas), the NSJVS is an independent body with a dedicated team under a technically sound and efficient leadership that not only manages the water supply scheme very professionally but also provides expertise to other organisations involved in water supply management.

The governing body, as well as the administrators, maintain transparency within the organisation and this helps the NSJVS attract more consumers, from 727 in 2007 to nearly 3,000 in 2015 and in expanding their area coverage, besides taking over three other failing schemes from the Gram Panchayat and converting them in to fully functional water supply schemes. With only little more than a third of the population being served at present the NSJVS has to confront many challenges with their professionalism to reach 100 % coverage with potable water supply in the Nenmeni Gram Panchayat. The operational expenditure at the service provider level for 2014-15 was INR 254 per person served, funded against the revenue generated of INR 249 per person, coming from various sources including the tariff, membership entry fee, subscription fee, training fees, etc . This success should be seen in the light of the socio-environment-economic background of Kerala and the decentralised governance in practice there, where the management of water was seen, along with other socio-economic and environmental aspects, in an integrated manner. Notwithstanding this considerable success, the study notes the ongoing subsidy to power costs through the GP support for pumping to be paid for to the state electricity board at domestic electricity rates and also for the external support to improve water quality through a new treatment plant.

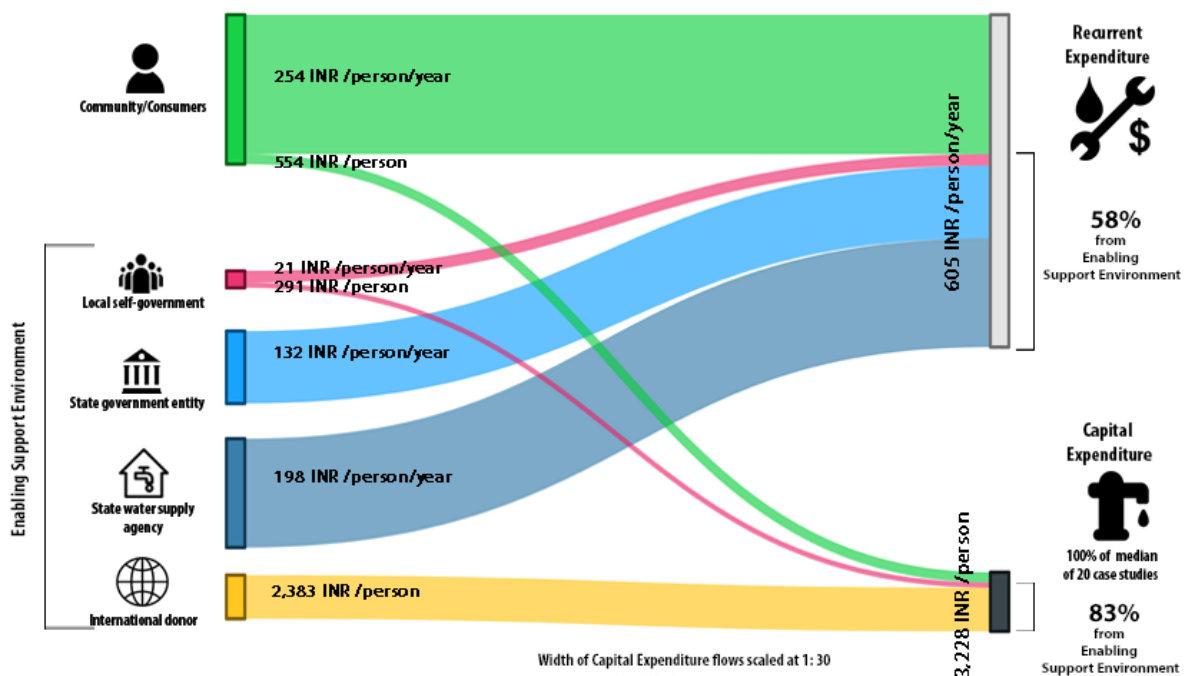
Kerala Nenmeni Summary Cost Table - calculated as the average cost per person, that is averaging across the three 'successful' villag

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 554	-	INR 554	INR 171	INR 66	-	-	INR 17	INR 254
Local self-government	INR 291	-	INR 291	INR 21	-	-	-	-	INR 21
State government entity	-	-	-	-	INR 132	-	-	-	INR 132
State water supply agency	-	-	-	-	-	-	-	INR 198	INR 198
National Government	-	-	-	-	-	-	-	-	-
NGO national & international	-	-	-	-	-	-	-	-	-
International donor	INR 1,768	INR 615	INR 2,383	-	-	-	-	-	-
TOTALS	INR 2,613	INR 615	INR 3,228	INR 192	INR 198	-	-	INR 215	INR 605
Median of 20 case studies			INR 3,231						INR 207
'Plus' %age	79%	100%	83%	11%	67%	-	-	92%	58%
Median of 20 case studies			95%						57%

The information in the Summary Cost Table has been visualised in the Financial Flow Diagram, below, as an advocacy and communication tool. It aims to assist policy-makers and programme developers to understand better the 'plus' resource implications necessary for sustainable community-managed rural water supply services.

## Financial Flows - Rural Water Supply

Kerala Nenmeni, India



## Acknowledgements

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Appreciation and gratitude is extended to the residents of Nenmeni Panchayat and specifically to the members of NSJVS.

This research project has investigated twenty reportedly successful community-managed rural water supply programmes and approaches across India, from which we have subsequently developed understanding on the support needed to make community-management service provision successful and sustainable. The project has been implemented by a consortium of partners, including: the Administrative Staff College of India (ASCI), the Centre of Excellence for Change (CEC), Malaviya National Institute of Technology (MNIT), the Xavier Institute of Social Service (XISS) and IRC, The Netherlands with overall project coordination provided by Cranfield University, UK.



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### 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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## Abbreviations

BC	Beneficiary Committee
BG	Beneficiary Group
DPMU	District Project Management Unit
GP	Gram Panchayat
KRWSA	Kerala Rural Water Supply and Sanitation Agency
KWA	Kerala Water Authority
NSJVS	Nenmeni Sudha Jala Vitharana Society
SLEC	Scheme Level Execution Committee
SO	Support Organisation
STM	Scheme Transfer Memorandum
TMC	Transition Management Committee

# COMMUNITY MANAGEMENT OF RURAL WATER SUPPLY

## Community Water <sup>plus</sup>

### 1 Introduction

One of the smallest states in India, located in the south-west coast, Kerala is a forerunner in human development with a Human Development Index of 0.79 against the national average of 0.47 (IAMR 2011) among the different states of the country. For this third densely populated state on the south-west coast of India with 859 persons per square kilometres (Census 2011, India average 325), the rural-urban continuum is a particular characteristic which minimises the differentials in basic service provision. The 'People's Plan', implemented in Kerala during the late 1990's, is a model for decentralised local self-governance promulgated under the 73<sup>rd</sup> and 74<sup>th</sup> constitutional amendments in India. Kerala has a hilly terrain on the eastern side of the State, bounded by Western Ghats with peaks upto 2695 meters high, constituting 48% of the State, a central mid-land and a low lying western part bound by the Arabian Sea, on average two metres below Mean Sea Level. The average annual rainfall is around 3,000 mm and there are abundant water resources within the State, from perennial rivers, springs, to lakes and ponds.

Kerala presently has a very low level of piped water supply coverage, below 30% of households availing water from piped water supply (including treated & untreated) with 47% of households using open wells for their domestic water requirements (Census 2011). Increasing problems in water quality including that of faecal contamination in household wells, as well as water scarcity are becoming major problems in Kerala.

With increasing quality of life and a high level of decentralised local governance, Kerala now sets an example for professionalised community management for better public service delivery. The *Nenmeni Sudha Jala Vitharana Society* (NSJVS- Nenmeni Drinking Water Supply Society) is one such model under the World Bank aided Jananidhi I Project and this case study explore how the community manages the service delivery in a professional manner

#### 1.1 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 of the project – based on the empirical evidence from the 20 cases - 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 presents the study results based on the piped water supply scheme managed by a non-profit association of the water users in Nenmeni GP of Wayanad District in Kerala which was part of the World Bank aided Jalanidhi I Project.

## 1.2 Structure of the report

The following chapters present the analysis and findings of the data, following the description of the Conceptual framework of the study and the methodology adopted in this introduction. The second chapter focuses upon the contributors to the Enabling Support Environment; the Jalanidhi Project in general and the Jalanidhi. The Community Service Providers' detailed description, their performance assessment, partnership capabilities etc. are analysed and presented in the following Chapter 3, along with the household service levels, verified by agreed criteria. Chapter 4 presents the costs incurred for creating the enabling support environment for the best practice. The conclusions from the study are presented in Chapter 6.

## 1.3 Methodology

This section elaborates the research methodology adopted in this case study. An overview of all the research elements assessed is provided and it is followed by discussion on the units of analysis at which these assessments are done and how these units are sampled. After that, the tools and instruments which are used to do the analysis for each of the research elements are presented along with the relevant indicator sets and scoring.

### Conceptual framework

While community management has successfully contributed to increased access to rural water supply, there is a limit to what this model has achieved in terms of the sustainability of these services. It is acknowledged that communities have a pivotal role in their own service provision but continued support from government and other entities remain critical. The way and extent of this continued support is yet to be determined and better insight is required to calculate the exact modalities and the costs of providing support.

Because of its long history of community management, coupled with water-sector reforms of the 1990s and 2000s, India provides a rich set of experiences regarding community management of rural water supply, including a variety of support mechanisms.



The Community Water Plus is a research project that aims to gain insight into the modalities and costs of service provision by studying a sample of the most successful community-managed rural water programmes. The research will scrutinise the resource implications of the 'plus' factor across a range of conditions and technologies in the sample programmes. It will emerge with answers to what type, extent and style of supporting organisations are prevalent in the rural water supply chain. It will look at what combination of factors and organisations most positively influence water services delivery to ensure sustainability.

From experience and reviewing the current literature, the research considers a number of concepts and insights.

Firstly, sustainable services delivery requires a combination of a meaningful level of community engagement and community management and on-going government support. The extent and quality of community participation and engagement can be assessed against a ladder representing different levels in the community, ranging from labour contributions and decision-making pertaining to minor issues, to full responsibility and decision-making on all key aspects of the services after finalisation of implementation.

Secondly, whereas community participation is crucial to success, it is important to keep a healthy balance between the levels of this participation and the level and degree of outside support – often from local government. If the levels of outside support are consistently too high, community participation may be at risk. It is thus critical that community management is professionalised through balanced, on-going support so that they can retain meaningful engagement throughout all the supply stages. The level, needs and possibilities for outside support differ according to the socio-economic status of the communities as well as the types of technology used. Different support demands are made in villages with rudimentary technology in comparison to villages with reticulated systems.

Thirdly, the success of community management is gauged through a range of measures, including the service level, meaning the effectiveness of supply; the equity in supply; its sustainability; and the degree to which recurrent costs are covered. In this instance the socio-economic situation prevailing in the community; the level of outside support; the professionalisation of the community management and the technology applied all play a role in determining success. Finally, it is evident that on-going support comes at a cost: it simply costs more to organise intense community empowerment processes and to carry out regular support activities with communities. Thus, where the spending on support is low, the level of success in community management is often low as well.

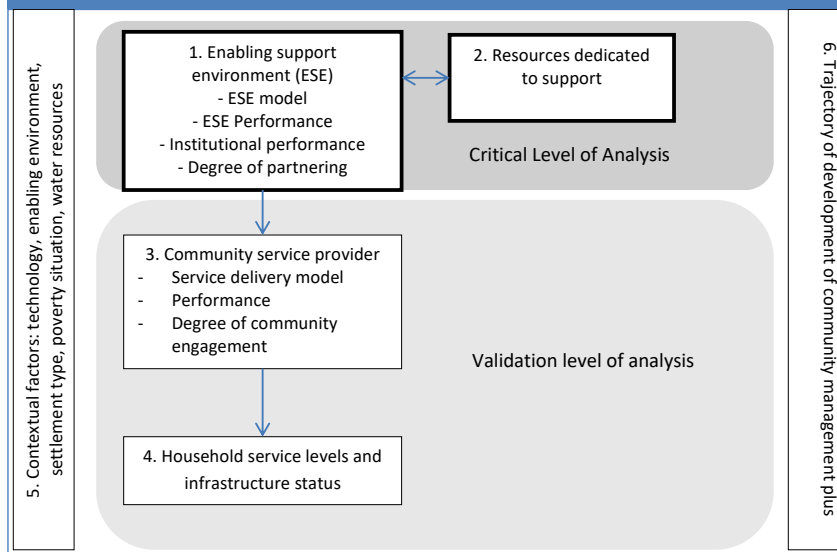
The research outlined in this paper will delve deeper and investigate at what cost the support was provided and their level of success measured against the findings. To validate that indeed these support programmes were successful, the performance of the community service providers that they supported and the services that the households eventually received, will be appraised. This is all put into the context in which the programme operates and the development trajectory the programme followed. In this way, more concrete evidence of what a successful support programme looks like and what it costs, will become clear. Thereby, the research will contribute to better insights into the 'plus' that community management so badly needs to perform more sustainably.

## Elements of research

Community Water <sup>plus</sup> (community management of rural water supply systems) is a research project that aims to gain insights into the type and level of support and professionalisation that is needed, and the resource implications of this 'plus' (in terms of money, staffing, and other factors), in order to achieve sustainable community management. To achieve this, the research investigates twenty case studies of 'successful' (as initially reported) community-managed rural water schemes across India where the range of States, and their varying socio-economic as well as hydrological conditions, gives a good sample of technologies and approaches which are of relevance to many lower-income countries. Ultimately, the hypothesis underpinning the research is that some level of external support is needed to deliver on-going high quality water services through a community management model. Key to this support is what this research labels the 'enabling support environment' (ESE) that fulfils both 'service authority and monitoring' functions, such as planning, coordination, regulation, monitoring and oversight, and 'direct support' functions, such as technical assistance and financial contributions (Lockwood and Smits, 2011).

The research focuses on the level of water service people receive so as to validate the degree of success found under the different programmes. The way in which the community are involved in delivering this service is considered through what the study terms the 'community service provider' (CSP), which is the entity that takes on the responsibility for everyday operation and minor maintenance of the water supply service. It is recognised that an effective CSP should reflect both the local community and the complexity of the water system, leading to divergent models of management and participation. However, firstly we investigate the form, function and resource implications of the ESE, along with an analysis of the strengths and weaknesses of this particular model. The study finishes with a detailed consideration of the total cost of providing water services, with a focus on the costs incurred by the ESE – whether directly or indirectly.

Figure 1.1 provides an overview of the different elements, whilst a detailed research methodology and explanation of the underlying has previously been published as part of the Community Water <sup>plus</sup> project: "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>



**Figure 1 Elements of Research**

### 1.3.1 Selection of Unit of Assessment for the study

This research study was conducted in the Nenmeni Grama Panchayat of Sultan Bathery Block of Wayanad district in Kerala. This village was shortlisted based on the State level scanning of successful cases taken up initially under the Community Water<sup>plus</sup> study team. Nenmeni GP is relatively large and there were 79 schemes taken up under Jalanidhi including one rehabilitation of a 1991 implemented KWA Scheme that was meant to supply water for most of the area in Nenmeni Gram Panchayat. The Beneficiary Group(BG) formed under the KWA rehabilitated scheme, which took the form of Nenmeni Sudha Jala Vitharana Society (NSJVS), as a registered society, to manage the operation and maintenance of the rehabilitated scheme is the unit for study here. With its office in Cheeral village, NSJVS is one the most acclaimed service providers and therefore the detailed study has been made about the NSJVS. The NSJVS service reaches 18 of 23 Wards (Ward I to XVIII) of the Gram Panchayat. In these Wards only a portion of the households availed the water supply from the NSJVS. The remaining households receive water supply from other service providers (other Beneficiary Groups of Jalanidhi) or they have their own open wells. The number of households coming under the NSJVS service varied from below 10 to 360 in the different Wards. Three Wards from the eighteen were selected based on the location (one at head end and two at tail ends) and the number of household connections (above 60 numbers) for the detailed study. They are Ward IV, Ward XI and Ward XIV.

The Ward XIX of the same Gram Panchayat but where the NSJVS do not serve has been taken as a control ward for comparison of the service level.

Data collection was conducted during October – November 2015. In total, 8 key informant interviews, 3 focus groups and 120 household surveys were collected as well as material from secondary sources (such as organisation reports). All prices quoted are given in Indian Rupees (INR) and have been converted to 2014 prices.

## 2 Enabling Support Environment

The Jalanidhi Project was implemented in Nenmeni Panchayat during 2005-07 and the fact that the project could create such high level impact in terms of water supply service delivery should be seen in the context of the socio-economic and gender development as well as the decentralised local governance in the State. The case studied here, the NSJVS, is an outcome of the Jalanidhi Project and hence this section provide a description about the Jalanidhi approach and how it worked for the Nenmeni Gram Panchayat.

### 2.1 Jalanidhi I

In order to address the issues of low water supply coverage a new model, with end-user participation, was recommended by the World Bank (WB) based on such successful initiatives as in the Olavanna village in North Kerala. Thus the Kerala Government started implementing the new rural water supply schemes, named Jalanidhi, in the year 1999 with support of World Bank.

The overall Project Development Objective was to assist the Government of Kerala in improving the quality of rural water supply and environmental sanitation service delivery to achieve sustainability of investments.

Specific project development objectives were to demonstrate the viability of cost- recovery and institutional reforms by developing, testing and implementing the new service delivery model on a pilot basis, and to build the State's capacity in improved sector management in order to scale up the new decentralised service delivery model state-wide.

The Project philosophy as stated by the project document:

**Demand driven approach** - Unlike the supply-driven approach hitherto followed, this project will be implemented based on the need of the people. The Project will be introduced only in areas where interested groups of people show their willingness to participate in the project and abiding by the conditions of cost-sharing. The group then gets a legal entity by registering themselves and only then proceeds with the rest of the planning. The source selection, technology selection, purchase, contracting and implementation is done by this registered body, the beneficiary group with technical help from Support Organisations. This inculcates a sense of ownership in the people.

**Cost sharing** - To ensure stakeholder involvement in the project, 15% of the capital costs is borne by the beneficiary community. Of the remaining, the Gram Panchayat bear 10% and 75% is the share of the State Government.

**Cost Recovery** - The Beneficiary Groups themselves meet 100% of the recurring costs of operations and maintenance. This lightens the burden on the state exchequer, thereby helping the Government to utilise funds for other priority needs as in the health sector.

**Integrated Approach** - The objective of the Project being sustainable supply of safe drinking water, sustainability of source, sustainability of operations, regularity and adequacy of supply and quality of water needs to be ensured. This is being met through other well-

integrated components. Sustainability of source is ensured through Point- Source recharge measures. Quality is ascertained through a mix of Sanitation & Hygiene promotion and provision of infrastructure like latrines, compost pits etc. Sustainability of system is ensured through community empowerment, capacity building, women empowerment and social mobilisation.

**Pro-Poor Approach** - Special efforts have been taken in the project design to include the poor and vulnerable while selecting the user groups. The project has been so designed to incorporate the beneficiary contribution of 15% of capital costs either through cash or in kind, as labour. Intra-group subsidisation and even inter- group subsidisation is permitted at the behest of and under the total responsibility of the beneficiary groups. Thrift & Credit schemes are promoted in the Beneficiary Groups as "Self Help Groups" which are operated by the women of that group.

**Women Development Initiatives** - Women are the most affected both directly and indirectly, during water shortages. The project makes conscious efforts to mainstream the women users in the planning and decision-making activities. Apart from this, they are also encouraged to form "Thrift & Credit Groups" to help them make the payments towards the recurring expenditures of the water supply system. Income generation activities are also designed in the project where groups of women are given financial assistance and skill development training to start viable micro- enterprises of their choice.

**Community Empowerment** - Capacity building and equipping the community to operate the project is a major thrust area of this project as this is planned, designed, implemented, owned, and operated by the users themselves. This will not only ensure the involvement of the people but will also chart a new path to community- based approach for meeting any local needs.

**Community Contracting** - The users themselves are fully involved in all the activities right from identifying their sources, deciding on the technology to be utilised, community contracting and implementation till the operations and maintenance aspects of the schemes. All contracting of goods, works, and services will be done at the user level itself for which adequate training will be provided and guidelines made available.

**Utilization of available resources** - The Schemes already operational in these project areas, will also be rehabilitated, and handed over to the User groups. This will ensure efficient utilization of investments made.

**Dovetailing with Decentralised Planning** - This project will be operationalised through the Gram Panchayats and the beneficiary groups, thereby acknowledging and strengthening the efforts of decentralised planning in Kerala.

Kerala Rural Water Supply and Sanitation Agency (KRWSA) is an autonomous governmental entity, conceived as the nodal organisation for implementing the Jalanidhi programme, in effect a 'project implementation unit'. The relative autonomy of KRWSA was one of the World Bank conditions for funding the programme, to prevent political interference. The KRWSA has a Governing Council and a civil servant of the Indian Administrative Service is the Executive Head.

The project components and the institutional arrangements are as follows:

**Table 2.1 Project Components and institutional arrangement under Jalanidhi**

Component	Implementing Agency	Activities
Component A	KRWSA on behalf of its General Body	Institution building Setting up and operationalising Kerala Rural Water Supply & Sanitation Agency (KRWSA) Sanitation & Hygiene Promotion (SHP) Capacity Building Gram Panchayat (GP) Strengthening
Component B	Beneficiary Groups, Gram Panchayats, Support Organisations, and KRWSA	Community Development & Infrastructure Building: – Community Development Support – Women's development Program – Construction of Schemes <ul style="list-style-type: none"> <li>• Drinking Water Schemes</li> <li>• Drainage &amp; Sullage</li> <li>• Latrines</li> <li>• Environmental Sanitation</li> <li>• Ground Water Recharge</li> </ul> – Tribal Development Program
Component C	Irrigation and Water Supply Dept, GoK	State-wide Sector Development and including: -Formulation of Long term sector Policy and Strategic Plan - Sector Information Management System - Other Special Studies
Component D	Rajiv Gandhi National Drinking Water Mission, GoI	National Sector Development – -policy implications related

The schedule of implementation spanned over a period of 27 months (Figure 2.1) and had clearly defined phases and the roles for all the stakeholders. The formation of a Beneficiary Group(BG) for each scheme and their capacity building holds the key in sustaining the community management of the facilities including water supply schemes - the Support Organisation (SO) had major role in that formation. The fund is channelized through the Gram Panchayat to the SO and BG, thus holding the Gram Panchayat responsible for implementation of the project. Once the implementation is complete, the SO and KRWSA formally exit from the Gram Panchayat. The Gram Panchayat's role is not found mandatory in supporting the Beneficiary Group that, by then, is turned in to an independent body with a legal status.

## **Box 1 Decentralisation in local governance in Kerala**

The 73<sup>rd</sup> and 74<sup>th</sup> amendments made during the year 1993 to Indian Constitution has added one more tier below the State level in Indian governance to take the democracy to the grass root level and to make the development process more participatory and oriented towards the local needs. The 73<sup>rd</sup> amendment that refers to rural local self- governance or *Panchayat Raj* give provisions for empowering the rural communities to participate in rural local bodies. The different States adopted these amendments, enacted appropriated acts of law and are at different stages of its implementation.

The Kerala Panchayat Raj Act 1994 has made provision for a three-tier in Panchayat Raj, viz; Gram Panchayat, Block Panchayat and District Panchayat. Kerala was the first State to experiment the decentralisation process with the 'People's Campaign for Decentralised Planning' (popularly known as People's Plan) during 1996-98 which made a new beginning by devolving a large proportion of the State Plan funds to the local authorities as untied grants for developmental works. The main features of the decentralisation process in Kerala comprise transfer of functions to different local authorities, financial allocation through statutory and formula based transfer, and a participatory and rational planning process to ensure appropriate and equitable utilization of funds. Most of the field staff of the line departments are now reporting to the Panchayat Raj Institutions who allocate them work, and hold disciplinary and leave granting authority. With the relatively large size of the Gram Panchayats in Kerala with about 30000 inhabitants, Ward Panchayats and Neighbourhood Groups were essential to below the Gram Panchayats to engage the citizens meaningfully in the process. Different Working Groups are constituted with the elected member, government officials, experts and representatives of public and with specific tasks to assess the needs, prepare plan and detailed projects, and to oversee the implementation of the projects and monitor them.

This was paralleled by the women – centric Poverty Alleviation programmes implemented in Kerala through the Neighbourhood Groups, which further federated in to Area Development Societies and Community Development Societies, popularly known as Kudumbasree. Linking the Kudumbasree to the local governance has multiplied the participation of empowered women in the local bodies. The statistics available for the last elected body of the year 2010 indicate that 55% of the elected Ward Members to the Gram Panchayat were women.

The institutions like Kerala Institute of Local Administration (KILA) facilitate capacity development of the elected members as well as other stakeholders through its programmes. The Information Kerala Mission that focus on ICTs for transparency and efficiency facilitated the sharing of all the information related to the local bodies on the internet in local language (the web link is <http://www.lsg.kerala.gov.in/htm/website.php?lang=en>). This helps in maintaining transparency for all the Panchayat Raj Institutions among the community they are part of.

More details on the process are available in KILA 2009, and <http://plan.lsgkerala.gov.in/>

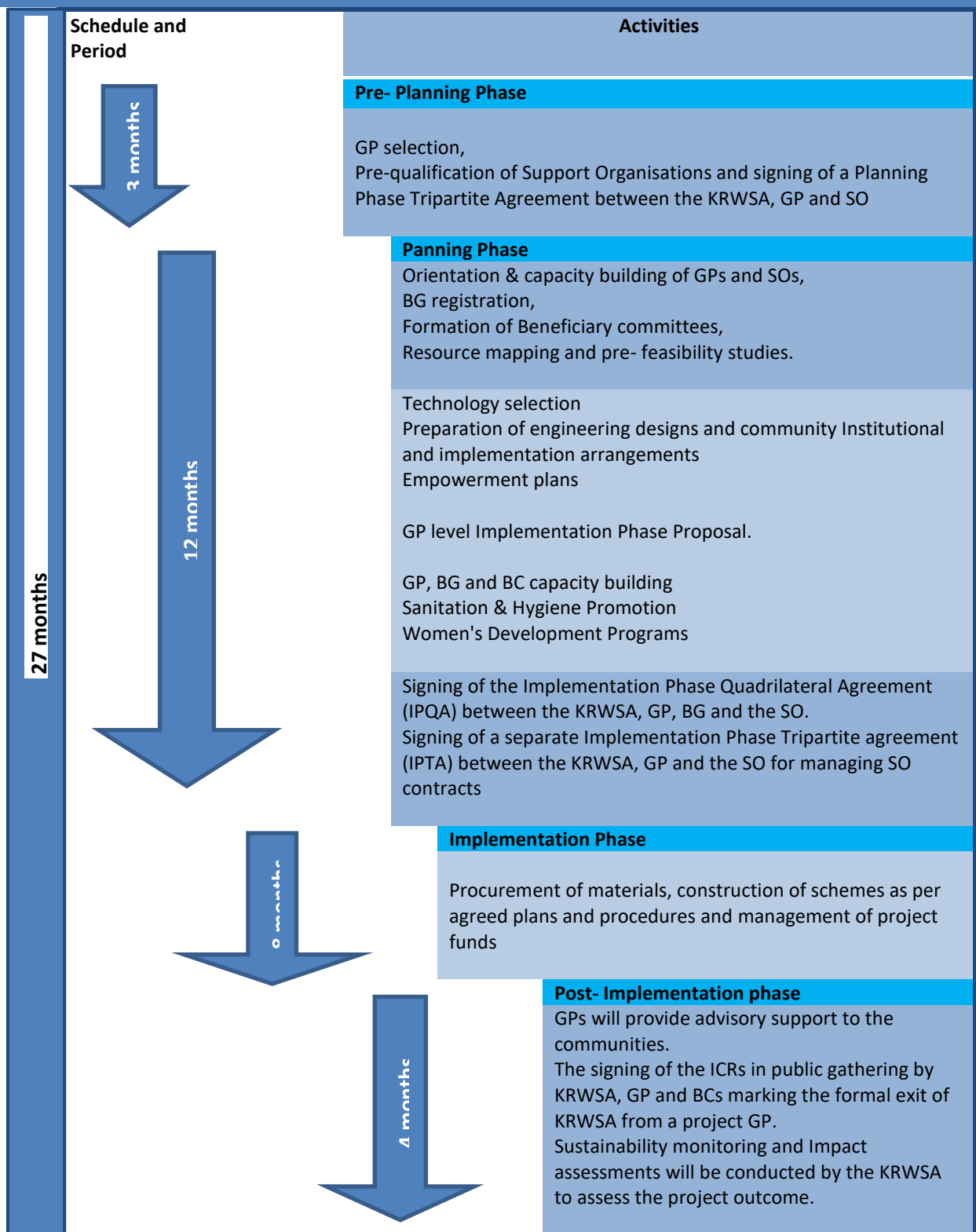


Figure 2.1 Schedule of the Jalanidhi Project



The Jalanidhi Project has achieved multiple times the targeted results (Baby Kurian, 2010) with reference to all the components except one (drainage) and all at a reduced cost.

**Table 2.2 Key Achievements under Jalanidhi (September 2010)**

Grama Panchayats (no of GPs)	Targeted	Actual covered	% actual
	80	112	140%
Financial Allocation INR Crore	Original	Actual expenditure	
	451	398.2	88%

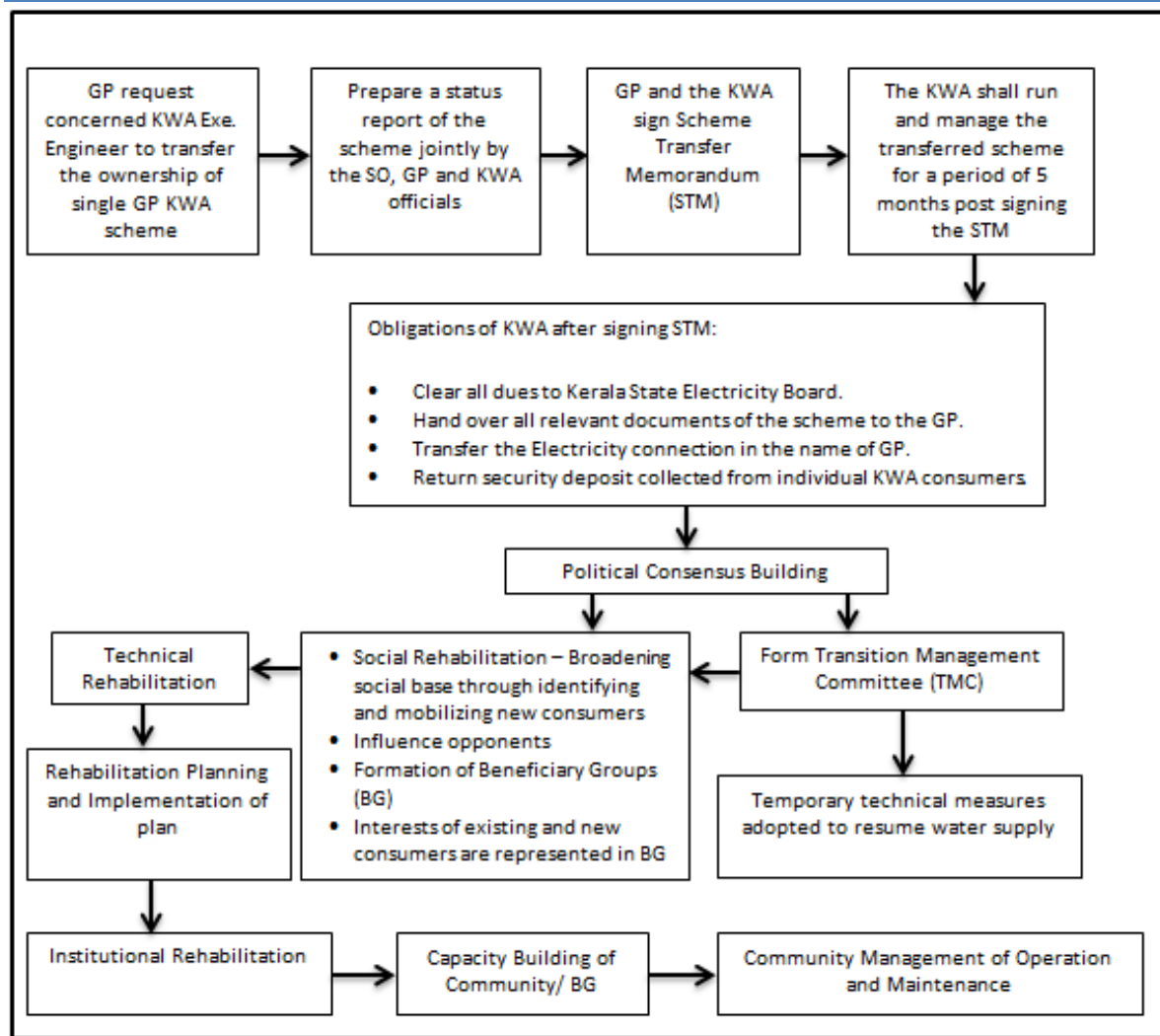
Source: Baby Kurian (2010)

Once schemes are completed KRWSA has no further responsibility for monitoring the systems which communities have taken over. When the project period is over KWRWSA hands over the facility and withdraws from that area/GP. It's a precondition for the Beneficiary Group for entry to the project that they have to take over the scheme. There are number of 'dead schemes' due to the community not being sufficiently capable.

## 2.2 Jalanidhi in Nenmeni GP

Nenmeni Gram Panchayat of Sulthan Bathery Block in Wayanad District of Kerala chose to participate in the Jalanidhi Project satisfying the three selection criteria; (a) a high proportion of poor and vulnerable groups, (b) water scarcity and, (c) demonstrated implementation capacity over the last three years.

The Gram Panchayat is the nodal agency responsible for the selection of schemes and beneficiary groups and facilitating their development. It was intended that communities seeking project assistance would be facilitated by an NGO to form an autonomous legally registered Beneficiary Group. Once registered, the beneficiary group was expected to undertake a participatory rapid appraisal to prepare a community empowerment plan. This was to be presented along with a memorandum of understanding signed by the Beneficiary Group, the Gram Panchayat, and KRWSA that would enable the group to access project financing. Subsequently the NGO- support organisation, Shreyas in this case, selected by the Gram Panchayat was to assist the Beneficiary Groups in finalizing the scheme design. Generally, except for large schemes, it was expected that most of the work would be done through local contracts or by the members of the beneficiary group. The beneficiary group was expected to raise 15 percent of the scheme capital cost in advance. The Gram Panchayat was to contribute 10 percent. Payment for project schemes was to be in three instalments from the special project account of Kerala Rural Water Supply and Sanitation Agency's District Project Management Units once the Gram Panchayat had certified the work. Collecting 50 percent of the estimated annual operation and management costs by the beneficiary group was a condition for the release of government's third and final instalment of construction finance. While this was the pattern adopted for new schemes initiated under the Jalanidhi project, the pattern adopted by rehabilitated scheme is captured in the flow chart below:



**Figure 2.2 Process in Nenmeni Jalanidhi Project** (Source: Kurian P.K., Kurian Baby V and Terry Thomas, 2013)

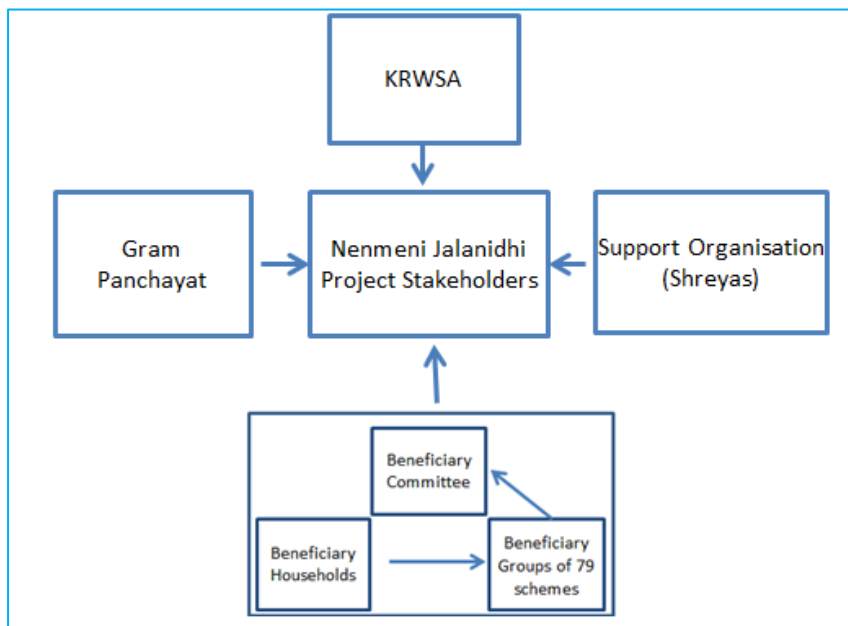
Under the Transition Management Committee (TMC), a total of 8 Beneficiary Groups (BG) with a total membership of approximately 240 households desired to join the KWA scheme. During rehabilitation, the water supply was maintained intact and the GP continued to pay for the cost of operations during this phase. It took about two years to complete the rehabilitation and provide new domestic connections. At the end of the transition phase, there were 727 domestic connections of which 389 were existing connections and the remaining ones new. Capital cost recovery is in such a way that the existing consumers were exempted from paying the connection charges for a new connection.

Work carried out during rehabilitation of the scheme:

- Repair and Maintenance of the dyke, infiltration gallery and collection tank at intake point: The infiltration gallery and the intake points were clogged and could not therefore supply clean water. This was overhauled thoroughly and cleaned so that water could be supplied without stoppage.
- Procurement of new pumps: An additional pump of 35 hp was procured and installed as a backup arrangement.

- Installation of silver ionization mechanism to purify water: The local community was uncomfortable with chlorinated water as it left an aftertaste, the community decided to install ionization system to purify water.
- Extension of distribution network: About 25,000 metres of new distribution line was laid as part of the rehabilitation work. The extension of the distribution line made it possible to provide water to an additional 338 households.

The Project was executed under the tripartite agreement between KRWSA, Nenmeni Gram Panchayat and the Support Organisation (SO) Shreyas.



**Figure 2.3 Stakeholders in Nenmeni Jalanidhi Project**

KRWSA has officially withdrawn from Nenmeni Gram Panchayat Jalanidhi and there is no mandate for them to support the community who are the managers of the water supply facility created in the project. However, they provide support depending on the type of demand from the Beneficiary Groups.

SHREYAS, the non-governmental Support Organisation also exited on completion of the project in 2007. However, the NGO continues to work in other sectors in this Gram Panchayat as well as in Jalanidhi projects in other areas. Shreyas uses Nenmeni Beneficiary groups as examples for other Gram Panchayats. On the other hand, Beneficiary Groups also seek Shreyas's advice when in need. For Nenmeni, such ongoing advice was not considered to be sufficiently significant to capture in the ESE costing section, below.

**Table 2.3 Achievements of Nenmeni Jananidhi**

Sl. No.	Activities	Number
1	Beneficiary groups formed	79
2	Total Households	5,112
3	Leaders Trained	722
4	Water Supply Schemes started	79
5	New latrines constructed	1,746
6	Conversion of deep pit latrine to double pit latrine (Progressing)	698
7	Women development initiatives, micro enterprises proposed	2
8	Rain Water Harvesting Units	90
9	Ferro cement Tanks	90
10	Compost Pits	1,146
11	Soak Pits	879
12	Vermi compost unit	56

Source: Shreyas

The Beneficiary Group for each scheme had a Transition Management Committee which later registered as separate Society (Scheme Level Executive Committee (SLEC), taking over the operation and maintenance of the scheme.

By 1 November 2007, the KRWSA and support organisation Shreyas exited the Nenmeni Jananidhi Project and all the schemes, after running them for two years 2005-07. The schemes were handed over to the respective Beneficiary Group / Scheme Level Execution Committee by the Gram Panchayat. There is no organisational role for the Gram Panchayat in the functioning of these registered Beneficiary Groups. This was evident from the fact that a list of successfully functioning schemes managed by the BGs was not available with the Gram Panchayat and the President was able to answer only with her personal knowledge and familiarity with the area. According to the Gram Panchayat, at present there are more than 25 schemes successfully managed by the Beneficiary Groups in the Panchayat. The Gram Panchayat work along with progressive BGs so that more and more water supply coverage is ensured. This is carried out in a mutually beneficial manner; normally by way of grant for capital expenditure that may be required in service expansion. There is also no financial allocation to the case studied here in the Gram Panchayat Development Plan and in order to achieve potable water supply coverage the Gram Panchayat favours more and more schemes based on management by the Beneficiary Groups (as stated in the Development Plan 2015-16). However, Gram Panchayats continue to play the supporting role when there is a need during the capital maintenance phase. Any such large scale expenditure is generally included in the village development plan developed by the Gram Panchayat.

Nenmeni SudhaJala Vitharana Society (NSJVS) is one among the 79 BGs formed in Nenmeni Gram Panchayat, and was the biggest one with 727 beneficiaries in the year 2007.

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

Due to the failure of a scheme that was implemented by KWA from 1991, the Nenmeni scheme was proposed for rehabilitation under the Jananidhi programme and the future beneficiaries of the

scheme formed a Beneficiary Group to become part of Jalanidhi in the year 2005. The scheme was commissioned after rehabilitation in the year 2007 and the NSJVS took over the management of the facility. The origin, development and the contributors of NSJVS can be made in to three stages as given below:

**Table 2.4 Timeline of NSJVS**

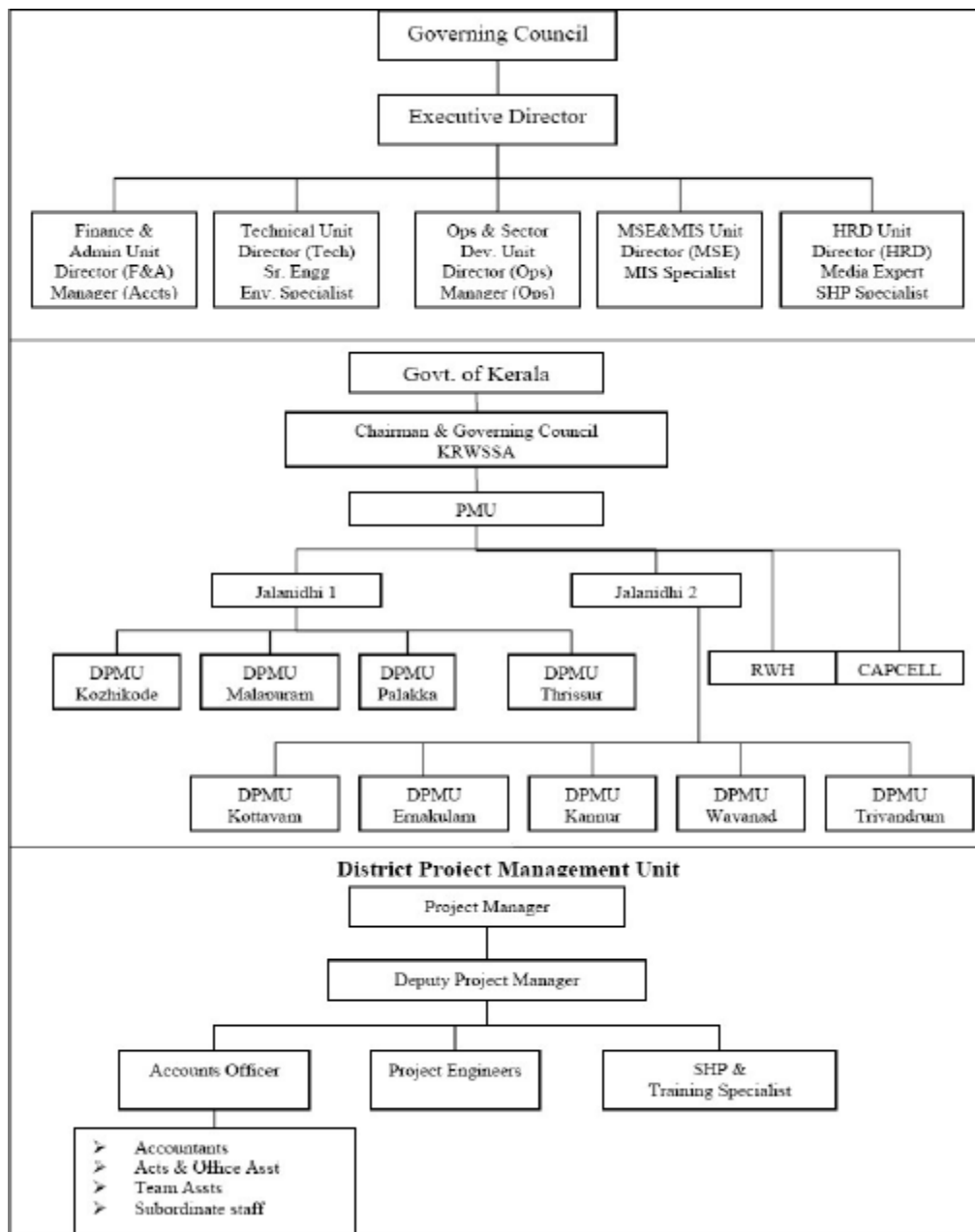
Phase	Period	Stages	Agencies involved
Prior to Jalanidhi	1988-1991	Construction of Nenmeni Rural Water Scheme by Kerala Water Authority	KWA
	1991-2005	Operation and maintenance by KWA	
Jalanidhi	2005-2007	Scheme transfer and operation and maintenance by Gram Panchayat	KRWSA, GP, SO, BG
Post Jalanidhi	1 Nov 2007 onwards	Commissioning after the rehabilitation and scheme operation and maintenance by NSJVS	NSJVS

The success of NSJVS as an independent entity exclusively meant for provision of water supply was made possible only by the efficient execution of the meticulously spelt out project activities implemented through the participatory process (as in Figure 2.1) by the agencies involved during the implementation. A considerable time has lapsed since the project execution and many personnel who were involved in the project have moved out, thus making it difficult to obtain data regarding ESE's role during implementation. However, attempts were made and the maximum information what could be gathered is presented here.

## 2.4 Enabling support environment description

### Overview of activities by the ESE - KRWSA (Kerala Rural Water Supply and Sanitation Agency)

Responsibilities of KRWSA included selection of Gram Panchayat to the scheme, and formalising the entry of GP by signing the agreements, approving an eligible SO and engaging them in the specified tasks like pre-feasibility survey, engineering survey, scheme design, etc as per the project activities. The review and approval of the study was carried out by KRWSA through its District/Regional Project Management Unit (RPMU). At this juncture, Beneficiary Groups are formed and are involved in the process of finalizing the source and the service area. Once the Beneficiary Groups express their willingness to participate and implement based on the identified source and plan, the estimated cost is set before the Beneficiary Groups elucidating the cost sharing pattern. During the process, the SO also engages in the process of disseminating knowledge and capacitating the community to ensure sustainability. Once the budget is approved by the BGs, the BGs are to collect and deposit 50 per cent of their share in the project cost in a project account. The administrative and technical sanctions are given at this point for implementing the planned scheme, subsequently; the BGs will make a formal request to KRWSA through the Gram Panchayat for the release of 40 per cent (out of the total 75 per cent) of the KRWSA share in project cost. This request is forwarded to the District/Regional Project Management Units where it is scrutinized and the fund, if approved, is transferred in the same route while again formulating an agreement with the Gram Panchayat and the Beneficiary Groups. The remaining share is disbursed in conformity with the developments at the ground level which also follows a similar pattern. The infrastructure and work is assessed periodically by the KRWSA.



**Figure 2.4 Organisational Structure of KRWSA Source: Project Appraisal Document 2007**

Institutional Setup of KRWSA: There are a total of 240 employees at KRWSA. The main Project Management Unit (PMU) is at Trivandrum and houses 5 Functional Directors (Operations, Technical, Human Resource Development, Finance and Monitoring & Evaluation) along with Deputy Directors, Specialist Officers and Project Associates. There are three Regional Project Management Units (RPMU) where there is a Regional Project Director and a board with Accounts Officer, Manager-Community Development, Manager- Technical, Water Conservation Specialists, Environment Sanitation Specialists and other support staff in each. At the Gram Panchayat level, there is a Project Commissioner and an accountant along with support staff. They are in charge of managing the

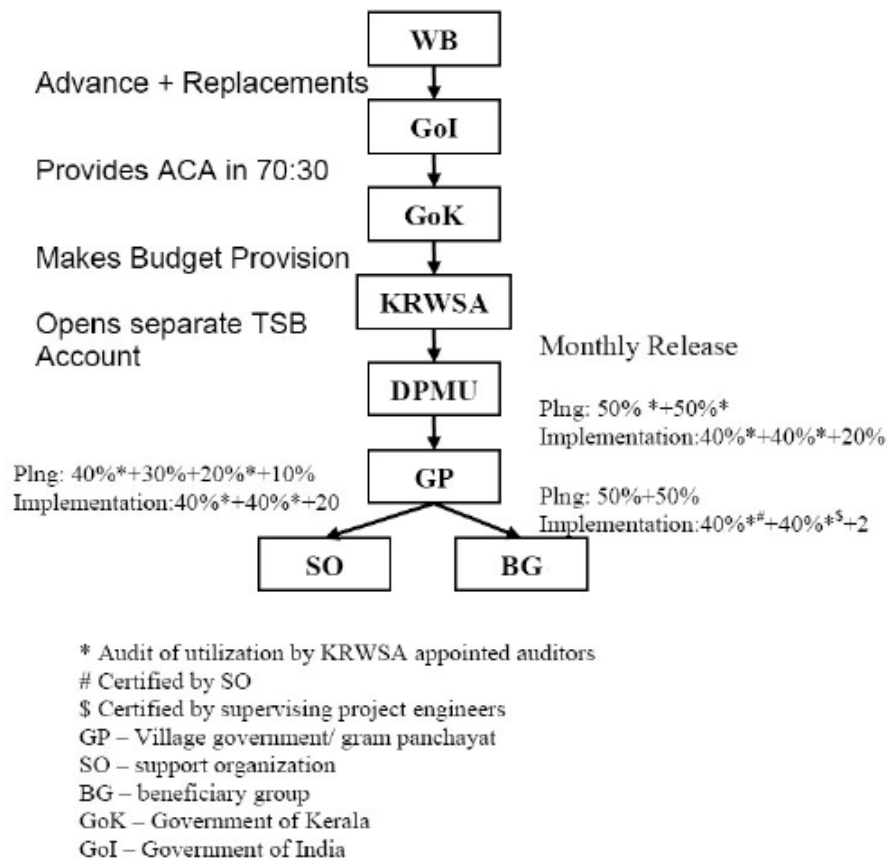
Supporting Organisations in the task at the grass root level. Although it was the District Project Management Unit responsible in place of the present Regional Project Management Unit, during Jananidhi implementation in Nenmeni, the administrative structure was more or less the same.

### **Shreyas - the Support Organisation**

Shreyas, a Social Development Organisation, was founded in the year 1979 by the Malankara Catholic Diocese of Sultan Bathery, dedicated to the development and the empowerment of the marginalized regardless of religion, gender, colour, caste, and political affiliation. It operates in the five northern districts of Kerala namely Wayanad, Kozhikode, Kannur, Kasargod, Malappuram and Nilgiris district of Tamil Nadu. Since its inception, Shreyas, has been engaged in building up a new social order with gender and environmental sensitivity based on moral values and principles propagated by the Catholic church. Shreyas has a well-knit relationship with PRIs and other Government and Non-Governmental institutions. Shreyas, with the responsibility of community capacity building during the implementing phase worked with a total staff strength of 28 members to meet its objectives, which consisted of 1 team leader, 1 senior engineer with a minimum qualification of M.Tech and experience of 3 years, 12 junior engineers with a minimum qualification of B.Tech, 1 Community development supervisor, 1 accountant, 2 social workers and 10 community facilitators. The BG and TMC were trained with main focus on organizing the community to create a sound institutional arrangement and in making sure that the community poses the basic technical knowledge pertaining to the scheme. The community training programmes included: (i) Leadership training, (ii) Appreciative Enquiry, (iii) Sanitation and Health, (iv) Women Empowerment, (v) Effective Communication, (vi) Soil and Water Conservation, (vii) Organic farming, (viii) Effective Decision Making and Conflict Management. The technical training included: (i) Masonry training, (ii) Plumbing/Motor Welding, (iii) Infrastructure Maintenance along with Orientation programmes and exposure visits to empower and ensure that the community was well equipped to take the scheme forward.

### **Nenmeni Gram Panchayat**

As per the Jananidhi policy the Gram Panchayat is the main implementing agency of the project within the Panchayat during the two year implementation period, and has a major role in identifying the SO, training and development of the BGs with the assistance of KRWSA and SO. Besides, the Gram Panchayat is a part of the Transition Management Committee (TMC) for the schemes. Further, it monitored the developments at the ground level and reported the progress to the KRWSA for further sanction of funds. Every decision made with regard to the schemes would go through the Gram Panchayat to ensure that decisions taken are in compliance with the agreements signed with the KRWSA and SO, thus holding the Gram Panchayat more responsible in the implementation.



**Figure 2.5 Fund Flow for Jalanidhi** Source: Project Appraisal Document 2007

It was during the Jalanidhi implementation stage, that the support agencies worked very intensively. The activity matrix given below indicate the agencies involved with their responsibilities. This is presented for the Jalanidhi and prior period as well as post-Jalanidhi period. The detailed information provided is related to the capital investment stage only.



# COMMUNITY MANAGEMENT OF RURAL WATER SUPPLY

plus  
Community Water

**Table 2.5 NSJVS Activity and Responsibility Matrix**

Entities / Actors	Tasks / Activities- Capital Implementation Stage 1991--2007																		
	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																			
State Government entity)-KWA 1991-2005	RES + PAY	RES	RES	RES + PAY		RES + PAY		RES + PAY	RES + PAY	RES + PAY	RES	RES + PAY						RES	
State Government entity) –KRWSA (2005-07)	RES + PAY		RES + PAY	RES + PAY	RES + PAY			RES + PAY											
Local government/ Gram Panchayat (2005-07)	RES + PAY		INV	INV	INV	RES								RES				RES	
NGOs- Support Organisation (2005-07)	RES	RES	RES	RES	RES			RES					RES	RES	RES		RES	RES	RES
Beneficiary Groups (2005-07)	RES + PAY	INV	INV	INV	INV	INT + PAY	INT	INV	INT		RES	RES	INV	INT	INV	RES + PAY	INV	RES	INT
	Tasks / Activities- Operation and Maintenance -2007 onwards																		
Water committee-registered as NGO- NSJVS	RES + PAY	RES + PAY	RES + PAY	RES + PAY	RES + PAY	RES + PAY	RES + PAY	RES + PAY	RES + PAY	RES + PAY	RES	RES + PAY	RES + PAY	RES + PAY	RES		RES + PAY	RES + PAY	RES
Operator or mechanic		INV				INV		INV											
Households		INV												INV		RES + PAY			
Local government/ Gram Panchayat														INV		RES + PAY			

# COMMUNITY MANAGEMENT OF RURAL WATER SUPPLY

## Community Water <sup>plus</sup>

### 2.5 Enabling support environment performance indicators

The enabling support entities had their role during implementation of the project and there was an official exit for the ESEs. However, the NSJVJ seeks need-based support from KRWSA. The GP as well as support organisation Shreyas make use of the expertise available with the NSJVS.

#### 2.5.1 ESE- KRWSA

Formality of the mandate for support: KRWSA is a special purpose vehicle formed under the State Government with clear mandate, vision and mission to implement the Jalanidhi project, thus with a clear mandate to support the CSP during the implementation stage.

Working methods: The KRWSA has tools and methods and used them effectively to provide support to the Beneficiary Group though not directly. The support is provided through the Gram Panchayat and Support Organisation.

Information management: The KRWSA had more than one tool and that was effectively used to track the performance of the service providers it supports and uses that to monitor its own impact. The field team of KRWSA was available in the Panchayat. The GP as well as the Support Organisation had to necessarily report the progress

Communication between service support authority and service providers: The KRWSA had different methods to communicate with the service provider but a formal way, through the Gram Panchayat, was the most often used.

Client satisfaction: KRWSA monitors the Beneficiary Group / service providers through the GP

#### 2.5.2 ESE- Shreyas

Formality of the mandate for support: Shreyas, the NGO contracted support organisation had clearly articulated role in the implementation period of the project/ scheme

Working methods: the ESE Support Organisation had tools and methods for all the areas of support in the project and they used it systematically too.

Information management: The ESE Support Organisation had tools to monitor the performance of the Beneficiary Group and they used the same in their functioning as well.

Communication between service support authority and service providers: The Support Organisation also had different communication channels and they have used them effectively to work with the Beneficiary Group.

Client satisfaction: The Support Organisation being a community oriented organisation, they maintain close contacts with the Beneficiary Group with whom they had to work in the project, and saw to that the BGs get the required service from them.

## 2.5.3 ESE- Gram Panchayat

**Formality of the mandate for support:** the Gram Panchayat had a clearly articulated vision and objectives for its support function in the project. Their performance would have got benefitted from the similar political ideologies of the GP leadership and the State leadership.

**Working methods:** Being the implementing agency at the Panchayat level the Gram Panchayat had more liaison work to be carried out. There were tools and methods for all areas of support and as the discussions revealed they were applied in a systematic manner. The close supervision of the team from KRWSA has been a guiding factor for the Gram Panchayat in their work.

**Information management:** The Gram Panchayat used more than one tools to track the performance of the service providers it supports and uses that to plan its work, but not monitor its own impact. Given the fact that there are different arms for the Gram Panchayat, like neighbourhood groups, working committees etc, the information regarding any issues in the execution of the project was known to them.

**Communication between service support authority and service providers:** During the implementation stage, the Gram Panchayat used more than one communication channel and had closely watched the service providers

**Client satisfaction:** Though there was no official mechanism to monitor the client satisfaction, as the Gram Panchayat had close contact with most of the Beneficiary Groups, they could get the first hand information about level of satisfaction.

**Table 2.6 QIS Indicators of the ESEs**

QIS Indicators	ESE 1 KRWSA	ESE 2 Shreyas	ESE 3 GP
Indicator 1.1. Formality of the mandate for support	100	75	75
Indicator 1.2 Working methods	100	100	100
Indicator 1.3 Information management	100	100	75
Indicator 1.4 Communication between service support authority and service providers	100	100	100
Indicator 3.1 Client satisfaction	100	100	100

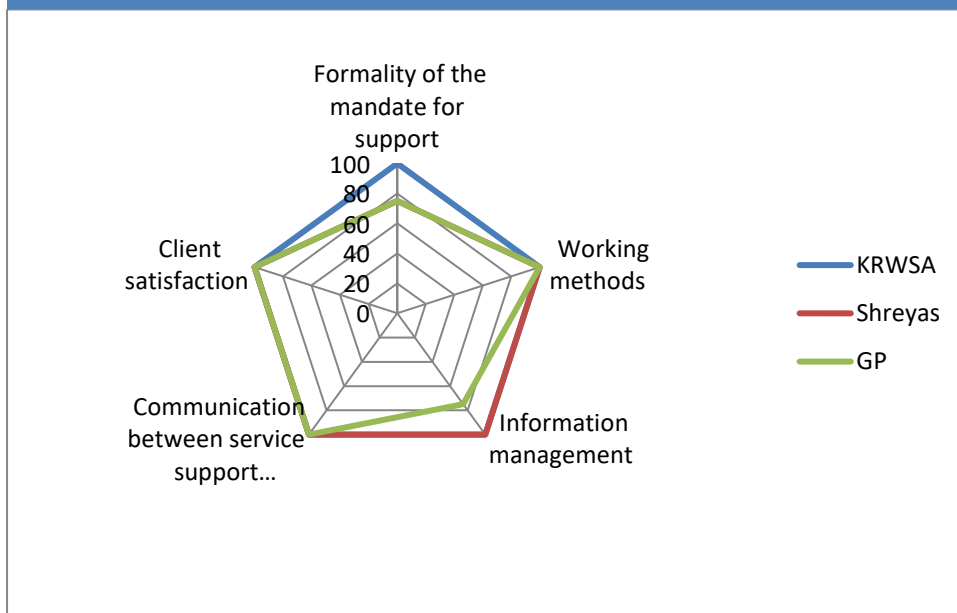


Figure 2.6 QIS Indicators of Performance of ESEs

## 2.6 Enabling support environment institutional assessment

### 2.6.1 ESE: KRWSA

**Organisational autonomy:** The KRWSA is an entity under the State government but with considerable organisational autonomy and this was one of the pre-condition of approving the project by the World Bank.

**Leadership:** One of the major benefits of this project is the fact that it has a strong leadership who can communicate ideas effectively to the respective communities. Working with the mission of providing access to water to the marginalized, it has always involved the community according to the mandates set and have created a sense of ownership among the community. The ability to be clear of facts and act accordingly for the larger benefit of the society has been at the core of its functioning. While proud of their achievements, they are aware of the shortcomings and strive continuously to rectify it and implement better community managed models. New techniques being experimented in the second phase include bulk water distribution to multiple GPs from a single source. Thus factors such as simplicity in operation with the use of better technology are being looked into in the schemes that are in the design phase at present.

**Management and Administration:** There is clearly a high sense of roles and responsibilities among the workforce in the organisation and information is communicated effectively as and when it is required both within and outside the organisation. Administrative systems for accounting and budgeting, personnel, and Information management have been developed and regularly put to use to monitor the impact of the work that is executed. Though obtaining documents related to the financial transactions of the period in which it served the role of the ESE proved to be futile, the researchers were able to obtain the audited accounts of the last financial year.

**Community Orientation :** Being an organisation formed with the objective of mobilizing the community to actively participate in the supply of drinking water, the staffs demonstrate a high sense of morale and are quick to understand the larger interest involved while serving a particular community. Measures to educate the community of the institutional services and requirements are carried out effectively during the support phase. As the responsibility of the maintenance and operation rests with the community, the mechanisms are developed at the community level to overcome any hurdles that arise from time to time. Thus, instilling a sense of ownership at the time of planning plays a crucial role in sustaining the momentum created. Mechanisms to communicate with other external bodies at the state and Gram Panchayat level have also been formulated.

**Technical Capability:** The institution arrangement enables the organisation to make sound technical decisions and monitors its implementation effectively. While adapting technology suitable to the existing conditions, the ESE ensures quality in the service implemented. The organisation carries out most of its work through subsidiary bodies such as the Regional project Management Units, SOs and other involved community contractors. It should be remembered that the technical assistance is restricted to the period in which the support is provided (27 months). The ESE does not carry out any practical research or experiments to improve the uses of technology unless a demand is raised by the CSP.

**Developing and Maintaining Staff:** Though the institutional arrangement is unparalleled, due to officers being transferred within/between government agencies, the scope for growth within the organisation is limited for a certain section. Further, key informant interview have pointed out that the current staff strength is inadequate of meeting the rising demand. Though the top level is willing to take up new initiatives and, attempts to increase coverage, the lack of proper ground staff has been a handicap. On the other hand, those involved with the scheme at various levels have gone on to become able leaders in their own respective communities which speaks of the skills that one develops as a result of the association with the scheme and their own community. Recruiting a suitable person based on his/her qualifications, experience and knowledge has been one of the strengths of the organisation as marketing the idea involves a great deal of conviction.

**Organisational Culture:** Those who have been associated with the organisation since its inception in 2001 express a sense of ownership and pride about working environment. Even those who have had a relatively lesser stint approve of the work and the environment in which they work. Some hold a treasury of knowledge as they are able to trace back the roots and the refinement the scheme went through over the past decade. Though the staff turn is high, the organisational culture is continued as the objectives remain the same. While a high turnover rate can have detrimental effects on such a project, the organisation has managed to pull through as it was able to utilize the vast experience, while sticking to the objective, it possessed through the widening work force.

**Interactions with Key External Institutions:** In its relationship with other agencies, the ESE interacts with key external institutions through an established bureaucratic setup and ensures that its objectives are conveyed and necessary agreements obtained before initiating any work. Its activities are developed to mould the public into meeting its organisational goals. Mobilizing the community being a pivotal role, gathering public support for influencing policies at the national and state level is

a major aim with which the organisation functions. The ESE makes it a priority to identify the GP as a liaison between itself and the Beneficiary Group elected Scheme Level Executive Committee.

### 2.6.2 ESE – Shreyas

**Organisational autonomy:** The ESE Shreyas, being a non-governmental institution, had organisational autonomy and worked with flexibility towards fulfilling its role as Support Organisation for Nenmeni in the Jalanidhi Project

**Leadership:** Since its inception in 1979, the organisation has been working with a clear sense of mission and vision. The ability to engage people in its activities to create a sense of ownership among those involved with the day to day affairs of the organisation. While identifying its performance standards, the organisation is quick to give out positive and negative reinforcement to ensure that its values and standards are adhered to.

**Management and Administration:** The organisational structure ensured that the roles, responsibilities, and expectations are communicated clearly to those involved it is entrusted so that those responsible are held accountable for the work disseminated. Administrative systems for accounting and budgeting, personnel, and management information have been developed are regularly put to use to monitor the impact of the work that is executed. However, obtaining documents with regard to the expenses incurred while the organisation played the role of SO proved to be a hectic task for the research staff. Though a team spirit exists within the organisation, information is not communicated effectively between departments.

**Community Orientation:** The activities carried out have the ultimate aim of enhancing the capacity of the community to meet its needs through the resources it possesses and are locally available. The ESE has also developed mechanisms to interact with external agencies that have a stake in the activities implemented the community being the sole beneficiary, their concerns and suggestions are given an ear to while ensuring that communities are educated about institutional services and requirements.

**Technical Capability:** Basically an organisation aiming at community capacity development, they have the necessary expertise and when in need the service is availed from outside to ensure the objective of the tasks are met without fail. Capital renewal to ensure better service delivery is an area in which the ESE has provided maximum support. The need for a better water treatment plant, which has been proposed, gathered momentum with the support extended by the ESE. However, the ESE has no direct role in the implementation phase though it played a role in the scheme design.

**Developing and Maintaining Staff:** The scope for growth within the organisation has been pointed out in the key informant interviews as the organisation provides adequate incentives/benefits along with developing the individual's capability to take up more responsibilities and challenges.

**Organisational Culture:** A pride among staff about the institution in which they work in was clearly visible in the interactions made formally and informally with personnel of the organisation. The ability to engage itself with the local population has been the driving force which has continued till date.

**Interactions with Key External Institutions:** The ESE Shreyas interacts with key external institutions in a professional manner and ensures that its objectives are conveyed and necessary sanctions obtained. Gathering public support for influencing policies at the national and state level is a major aim with which the organisation functions. However, it must be noted that the organisation in no way endorses obtaining projects through fabricated methods. It should also be noted the ESE ensures that all stakeholders in the community are involved in achieving the institutional objectives.

### 2.6.3 ESE- Gram Panchayat

**Organisational autonomy:** Decentralisation through the three tier system of Panchayat Raj as envisaged in the 73rd constitutional amendment; implemented in Kerala as per the Kerala Panchayat Raj Act 1994 provide organisational autonomy to the Gram Panchayats to a great extent. Devolution of power enable the Gram Panchayats to manage the officials of line departments under which the 29 items of rural administration including provision of drinking water are covered.

**Leadership:** The Gram Panchayat played its role that was very vital in the implementation of Jananidhi project. Its ability to convince the community of the benefits and its ability to carry out the procedures spelt out is the primary determinant for the successful implementation of the Jananidhi model. The major benefit of such a project for the Gram Panchayat is the absence of future investments by them in the sector which was foreseen by those at the helm while the project was adopted. Though not technically qualified to carry out such projects, the leaders were able to point the beneficiary population in the right direction in obtaining the required support to plan and implement the community managed water supply scheme.

**Management and Administration:** Though the present officials were not able to produce any sort of documents supporting their claims in the support given out during the planning and implementation phases, the leadership at the time of adopting the model at the Gram Panchayat level were careful in documenting and presenting the required documents as and when it was required. The rehabilitation process of the Nenmeni scheme which faced tremendous amount of resistance from various sectors with in the Gram Panchayat were overridden with able leadership and communication.

**Community Orientation:** Being an elected people's representative body in a decentralised democracy, the GP is very much community oriented. The community consultation process is undertaken not only as part of scheme rehabilitation but also in all the other development programmes as well. This process undertaken by the Gram Panchayat is a mark of community oriented actions among the leaders in creating a sustainable water delivery mechanism. The role played by the Gram Panchayat in educating the community of the benefits of the scheme at the time of adopting the Jananidhi model is the one main reason for the developments witnessed in the sector in the Gram Panchayat today.

**Technical Capability:** Though the Gram Panchayat does not possess technically qualified personnel to make sound technical decisions, it has invited the support of various bodies when necessary.

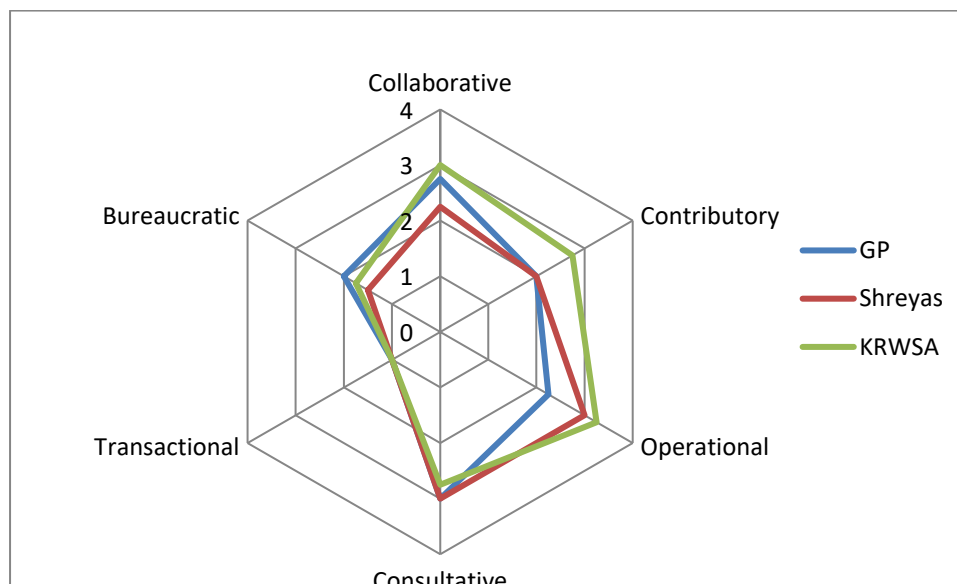
**Developing and Maintaining Staff:** The Gram Panchayat is authorised to effectively use the services of the government officials and staff under their disposal, however the Gram Panchayat has no role in developing the skills of the staff or maintaining them.

**Organisational Culture:** Being a public body, the staff do not always exhibit a team spirit as there are individuals from varying political affiliations. However, this has not stood in the way of providing exceptional service to the respective population.

**Interactions with Key External Institutions (3):** In its relationship with other agencies, the Gram Panchayat has succeeded in being able to convince all stakeholders of the need for such a project in the Gram Panchayat. Though the Jananidhi project functions with a clear mandate on its own, the Gram Panchayat has been instrumental in influencing various bodies within and outside the Gram Panchayat in obtaining a favourable position.

**Table 2.7 ESE- Institutional Assessment (Mean Scores)**

Statements	GP	SHREYAS	KRWSA
Organisational autonomy	3	2.4	3
Leadership	3.6	3.2	3.6
Management and Administration	2.83	3	3
Community Orientation	3	2.6	3.2
Technical Capability	1.8	3.4	2.8
Developing and Maintaining Staff	1.6	3.4	3
Organisational Culture	2.2	3.6	3.2
Interactions with Key External Institutions	3	3.2	3.2



**Figure 2.7 Institutional Assessment- Average scores**

## 2.7 Enabling support environment partnering assessment

This section will help the reader understand the degree of partnering between the Enabling Support Entity (ESE) and the Community Service Provider (CSP).



## **Partnership during Capital Investment (implementation)**

Collaborative: ESE and CSP shared responsibility for decisions regarding hardware (e.g. infrastructure) and software (e.g. capacity building) development during implementation stage. When all the schemes in the GP were transferred under the Jalanidhi/KRWSA from the KWA to GP for its operation and maintenance, the old damaged scheme of KWA also was transferred to GP.

The infrastructure setup in 1991-1992 by the Kerala Water Authority (KWA) was for the Nenmeni Rural Water Supply Scheme and to cover the Nenmeni Grama Panchayat. The Gram Panchayat along with Shreyas, KRWSA, and the community shared the responsibility in selecting the suitable technology and hardware for the rehabilitation process. Though the GP did not contribute any technical expertise in selecting the appropriate technology or infrastructure, it played the role of a monitoring body ensuring the adopted measures were suitable.

Contributory: During implementation, the enablers and the community pooled financial resources to meet the costs of capital investment in hardware and software provision. The facility at present in Nenmeni was originated with financial resources mobilized by the Kerala Water Authority in 1991-2, however, for the rehabilitation process under Jalanidhi it was shared by the GP(10%), KRWSA(75%) and the beneficiaries(15%).

Operational: at Implementation Stage: The pre-feasibility report and the detailed scheme report were shared among all the stakeholders, that is, the GP, KRWSA, SO and the community. During the capital intensive implementation phase under Jalanidhi, a consultative model is adopted by the ESE and the service provider. Information on the service model is collected and presented before the community for approval.

Consultative: the enablers and the community service provider communicated regularly during implementation with structured opportunities for feedback and dialogue. At the implementation stage, all the stakeholders including the enablers had their respective role to perform and the whole project was based on joint analysis.

Transactional The enablers, in consultation with the TMC and community, determined the user charges in the capital intensive implementation while the responsibility lies with the service provider thereafter.

The primary objective of engaging the community in the planning phase is to empower them to carry the scheme forward effectively once the enablers terminate their role. Thus the service provider in the form of community beneficiaries group at the implementation stage is given access and freedom to negotiate service delivery arrangements.

## **During Asset Renewal and Service Enhancement:**

Post Jalanidhi, asset renewal as well as service enhancement besides service delivery, are the responsibility of the community, NSJVS in this case. It is up to NSJVS to decide if and where to seek support. They have approached KRWSA/Jalanidhi regarding the requirement for a treatment plant to enhance the quality of water supplied. The KRWSA in turn mobilised the additional funds from World Bank and now the treatment plant with capacity of 1.5 mld, at a cost of INR 2 crore, has been

implemented at the scheme of NSJVS (operation of the plant was inaugurated after the field survey for this research). The GP sought the collaboration of NSJVS in many ways. Three schemes which were non-functional were handed over to the NSJVS during the years 2010, 2011 and 2012 for the operation and maintenance. Further, to enhance service delivery of other schemes within the Panchayat, the GP sought collaboration of the NSJVS to lay the pipeline.

**Table 2.8 ESE - Type of Partnering (Mean Score)**

Type of partnering	GP	Shreyas	KRWSA
A. Collaborative	2.75	2.25	3
B. Contributory	2	2	2.75
C. Operational	2.25	3	3.25
D. Consultative	3	3	2.75
E. Transactional	1	1	1
F. Bureaucratic	2	1.5	1.75

## 3 Community Service Provider

Nenmeni SudhaJala Vitharana Society (Nenemeni Drinking Water Supply Society) is an offshoot of Jalanidhi Project implemented by the Kerala Government with funding from World Bank. The NSJVS, a registered non-profit organisation under the Society's Registration Act 1860 in Kerala. Registered in the year 2006, this Society is a metamorphosis of one community 'Beneficiary Group' formed under the World Bank aided Jalanidhi pilot project on service delivery models implemented by the State Government of Kerala in the Nenmeni Grama Panchayat during the period 2005-07.

### 3.1 Context

Description of the location and general context in which the CSPs operate that were assessed: NSJVS located in Cheeral village of the Nenmeni Gram Panchayat in Sultan Bathery Block of Wayanad district in Kerala. Wayanad is the least urbanised (3.87% population) of all the districts in Kerala and 36% of its population belong to aboriginal tribes. Spread across elevations from 700 meters and 2,100 meters above the mean sea level, the district is known for cash crops like pepper, cardamom, coffee, tea, spices and other condiments which add high value to the economy of the State. As is common in the State, for drinking water more than two thirds of the households (67.7 per cent as per 2011 Census) using surface water sources such as well, river, ponds or tanks. This along with extensive use of individual household latrines with pour/flush toilets with septic tank system (55.5 per cent as per 2011 Census) posing a threat to the quality of drinking water in this area. According to test results reported by the Kerala Water Authority, the State drinking water supply provider, more than 50 per cent of their samples during 2011-12 from the District showed presence of coliform bacteria and turbidity above the desired limit (CAG 2014).

Nenmeni is located near Sultan Bathery town and 115 kms away from the nearest rail and air link Kozhikode (Calicut). Nenmeni Gram Panchayat has 23 Wards and a total estimated population around 50,000 persons living in about 10,000 households as in 2014 (based on the data provided by the GP).

The GP was facing water shortage during the period when all the drinking water supply systems based on single village sources were transferred to them under the decentralisation process during late 1990s. In the year 2005, when the Jalanidhi project was initiated in the GP, there were 79 such schemes all of which were at different scales as well as different levels of functioning. Many of them needed one or the other kind of intervention. Among them, one was a major scheme run by the KWA. At the GP level, the programmes under Jalanidhi, including revival of all the schemes, cost INR 6,00,86,006 which included the rehabilitation of the KWA scheme at a cost of INR 49,11,768. The community Beneficiary Group which took over the revived KWA scheme with 727 households as beneficiaries in 2007 is the NSJVS. With nearly 3,000 beneficiaries today, the NSJVS water supply scheme covers 18 of the 23 wards of Nenmeni GP.

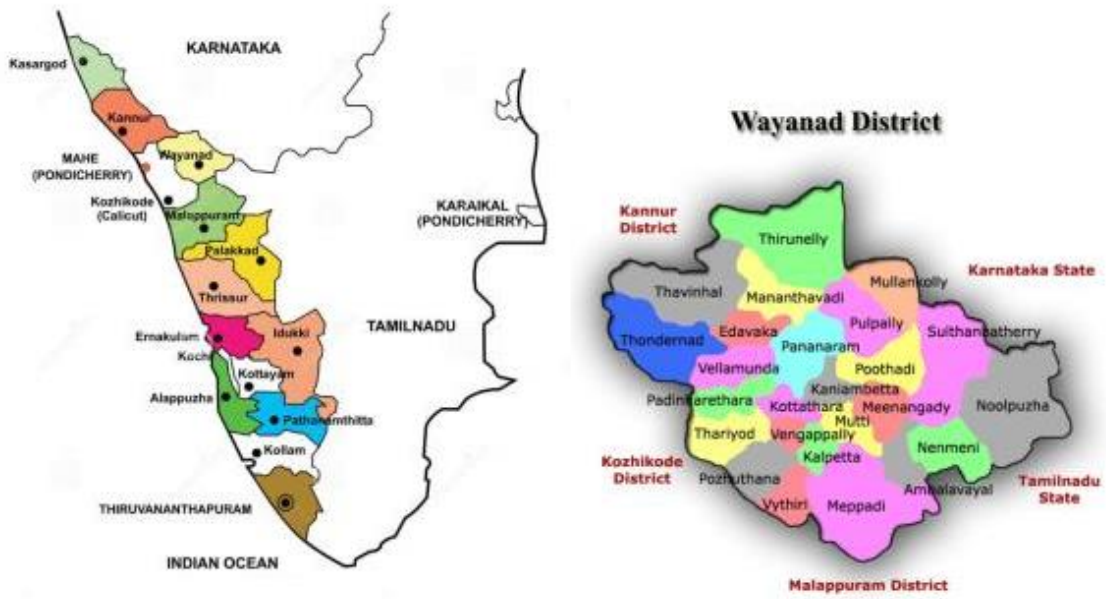


Figure 3.1 Location of NSJVS

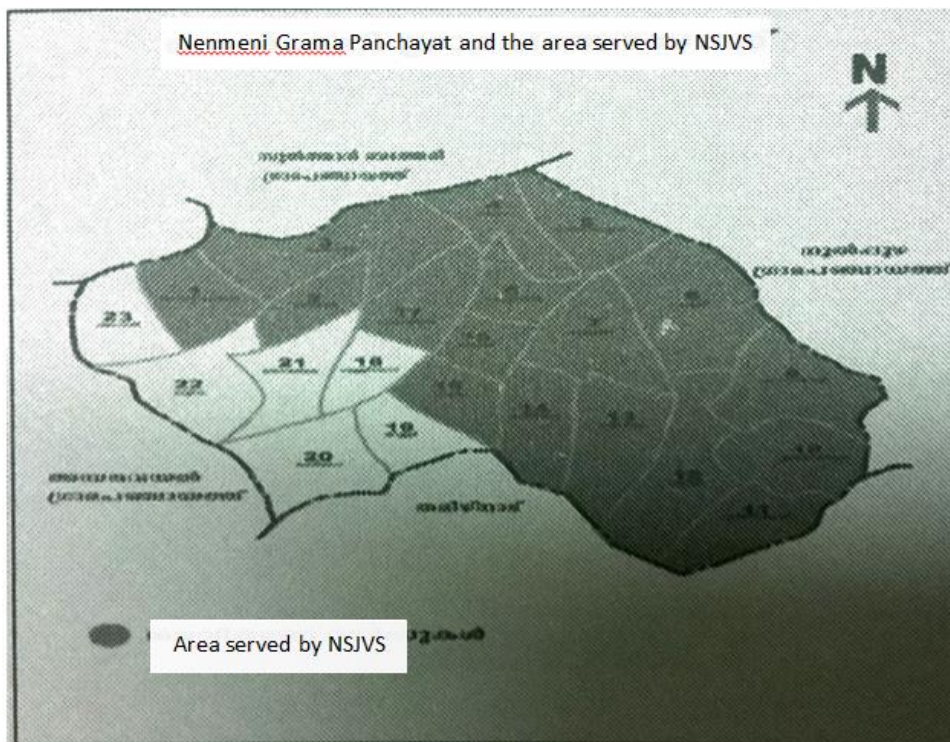


Figure 3.2 Area covered by NSJVS Water Supply

## Box 2 Basic Information about Nenmeni GP

1	District	Wayanad																														
2	Developmental Block	Sulthan Bathery																														
3	Revenue Villages	Cheeral, Nenmeni																														
4	Year of formation	1973																														
5	Area	69.39sq.km.																														
6	Population (Number of persons)	44096																														
7	Number of Households	9763																														
8	Number of SC Households	534																														
9	Number of ST Households	1803																														
10	Number of Wards	23																														
11	<p>No of Working Groups: 13</p> <p>Each Working Group is headed a Chairperson elected from the Members of GP, convened by the official of respective department and has other members including experts, Women representatives, etc. They have the responsibility to prepare the development plan and oversee its implementation and audit the same. The Groups are:</p> <table border="0"> <tr> <td>1. Accounts and Records</td> <td>2. Agriculture and allied sectors</td> </tr> <tr> <td>3. Animal husbandry and Dairy development</td> <td>4. Small scale industries</td> </tr> <tr> <td>5. Public works including Energy, Electricity</td> <td>6. Poverty Reduction</td> </tr> <tr> <td>7. Social Welfare</td> <td>8. Scheduled Caste Development</td> </tr> <tr> <td>9. Scheduled Tribe Development</td> <td>10. Development of Women and Children</td> </tr> <tr> <td>11. Health</td> <td>12. Drinking water and sanitation</td> </tr> <tr> <td>13. Education, Culture, Arts, Sports and Youth Welfare</td> <td></td> </tr> </table>		1. Accounts and Records	2. Agriculture and allied sectors	3. Animal husbandry and Dairy development	4. Small scale industries	5. Public works including Energy, Electricity	6. Poverty Reduction	7. Social Welfare	8. Scheduled Caste Development	9. Scheduled Tribe Development	10. Development of Women and Children	11. Health	12. Drinking water and sanitation	13. Education, Culture, Arts, Sports and Youth Welfare																	
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12	Total annual budget for 2015-16	INR 17,34,44,937																														
13	No of projects proposed for 2015-16	451																														
14	<p>Staff Structure of the Office:</p> <table border="0"> <tr> <td>Administrative Wing</td> <td>21</td> <td>Local Self Government Department</td> <td>3</td> </tr> <tr> <td>MGNREGA</td> <td>6</td> <td>Village Extension Office- Wing</td> <td>2</td> </tr> <tr> <td>Tribal Extension Wing</td> <td>1</td> <td>Kudumbashree</td> <td>3</td> </tr> </table>		Administrative Wing	21	Local Self Government Department	3	MGNREGA	6	Village Extension Office- Wing	2	Tribal Extension Wing	1	Kudumbashree	3																		
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15	<p>No of institutions/government offices within the GP:</p> <table border="0"> <tr> <td>1. Village Extension Office</td> <td>2. Primary Health Centres (Allopathy)</td> <td>2</td> </tr> <tr> <td>3. Ayurvedic Dispensary</td> <td>4. Homeo Dispensary</td> <td></td> </tr> <tr> <td>5. Veterinary Dispensary</td> <td>6. Telephone Exchange</td> <td></td> </tr> <tr> <td>7. Commercial Tax office</td> <td>8. Maveli Store (Govt Departmental Store)</td> <td></td> </tr> <tr> <td>9. Pre-metric Hostel</td> <td>10. Women ITI</td> <td></td> </tr> <tr> <td>11. Anganwadi-50</td> <td>12. Lower Primary School-8</td> <td></td> </tr> <tr> <td>13. Upper Primary School 4</td> <td>14. Higher Secondary School- 2</td> <td></td> </tr> <tr> <td>15. Continuing/non-formal Education Centre-3</td> <td>16. Post office- 8</td> <td></td> </tr> <tr> <td>17. Krishi Bhavan (Agriculture Department)</td> <td>18. Village Office 2</td> <td></td> </tr> <tr> <td>19. GP Office</td> <td>20. Banking and financial institutions</td> <td>5</td> </tr> </table>		1. Village Extension Office	2. Primary Health Centres (Allopathy)	2	3. Ayurvedic Dispensary	4. Homeo Dispensary		5. Veterinary Dispensary	6. Telephone Exchange		7. Commercial Tax office	8. Maveli Store (Govt Departmental Store)		9. Pre-metric Hostel	10. Women ITI		11. Anganwadi-50	12. Lower Primary School-8		13. Upper Primary School 4	14. Higher Secondary School- 2		15. Continuing/non-formal Education Centre-3	16. Post office- 8		17. Krishi Bhavan (Agriculture Department)	18. Village Office 2		19. GP Office	20. Banking and financial institutions	5
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16	Website of the GP: <a href="http://lsgkerala.in/nenmenipanchayat/">http://lsgkerala.in/nenmenipanchayat/</a>																															
17	No of Water Supply Schemes: 25																															

Source: Extracted from Annual Village Development Plan 2015-16, Nenmeni GramPanchayat - items 1-15  
Key Informant Interviews

**Table 3.1 General background of the households**

Characteristics	Values
Average HH size, No of persons per HH	4.3
Range of HH size	1-10
HHs with Pucca houses (%)	24
HHs with ration card	98
HHs with land holding(%)	98

## 3.1.1 Infrastructure snapshot

The service uses water sourced from Noolpuzha river (a tributary of Kabini river). There is an intake structure at the riverbank with 6 m diameter and 10 m depth and an infiltration gallery and collection chamber. Three submersible pumps with capacity 50 HP each are used to abstract the water, the pumping is done in two shifts of 8 hours each. The distribution tank is a ground level reservoir with nearly 400m<sup>3</sup> capacity. There are household connections as well as public stand posts, numbering 2,219 and 71 respectively at present. The household connections are metered.

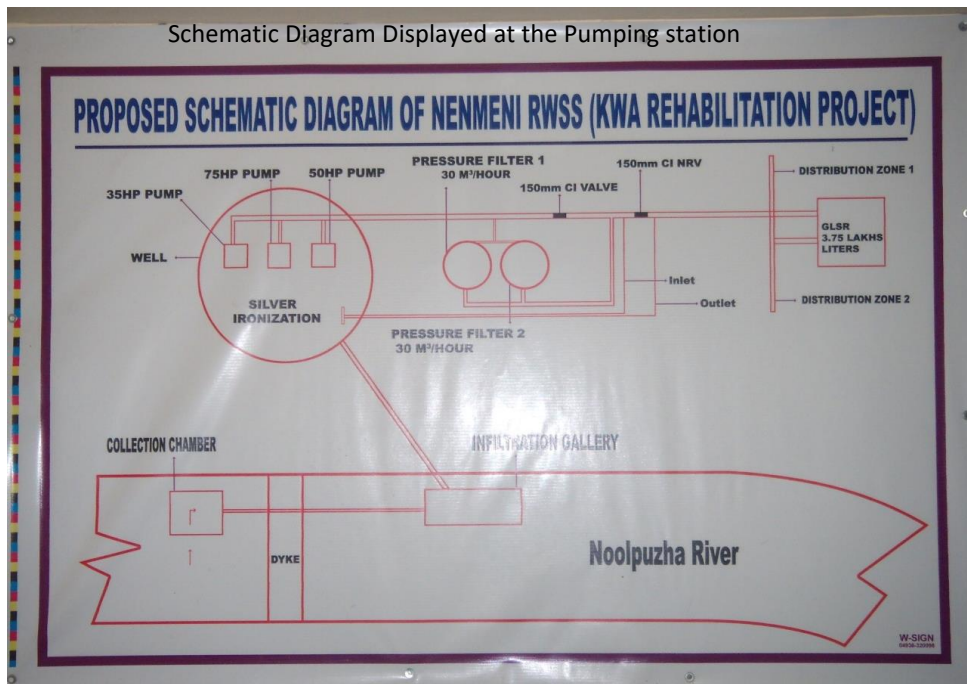


Figure 3.3 Schematic diagram of Nenmeni rehabilitation project

## 3.2 Community service provider descriptors

**Current institutional set-up:** The NSJVS is a formal body of consumers of the specific water supply scheme and it is registered under the Societies Registration Act 21 of 1860 in Kerala in the year 2006 February. The objectives of the NSJVS are to provide water supply for the residents of Nenmeni Panchayat on a long term basis, operate and maintain the water supply facilities by taking up required repairs and collecting user charges for the same and to resolve any disputes arise with regard to water supply under this facility. Any adult individual who owns or possess a house or land within the jurisdiction of the NSJVS, that is Nenmeni Gram Panchayat, can become a member and avail water supply. Those who desire to become members should formally give an application at the office of the NSJVS. A registration/entry fee of INR 35 and a monthly subscription of INR 3 are levied from the members, and these charges are non-refundable. Once the water supply connection is disconnected due to any reason or if the member sell/move out of the house, the membership also will be automatically discontinued. There are nearly 2,500 members at present. There is an Executive Committee and a General Body to which elections are held once every three years. The Executive

Secretary is a full time person serving the NSJVS. The GP President is the Ex-officio Patron for the NSJVS.

Further the members are divided in to four classes:

**A Class:** Those members with household connection, and have paid all dues including the water charges and subscription fees before 31 March of every year

**B Class:** Those members with household connection and have no overdue of water charges by 31 March

**C Class:** Those members who had household connection but due to some reason the connection is disconnected temporarily as on 31 March

**D Class:** Those members who have become members of the Society by paying INR 35 but not taken household connection as on 31 March

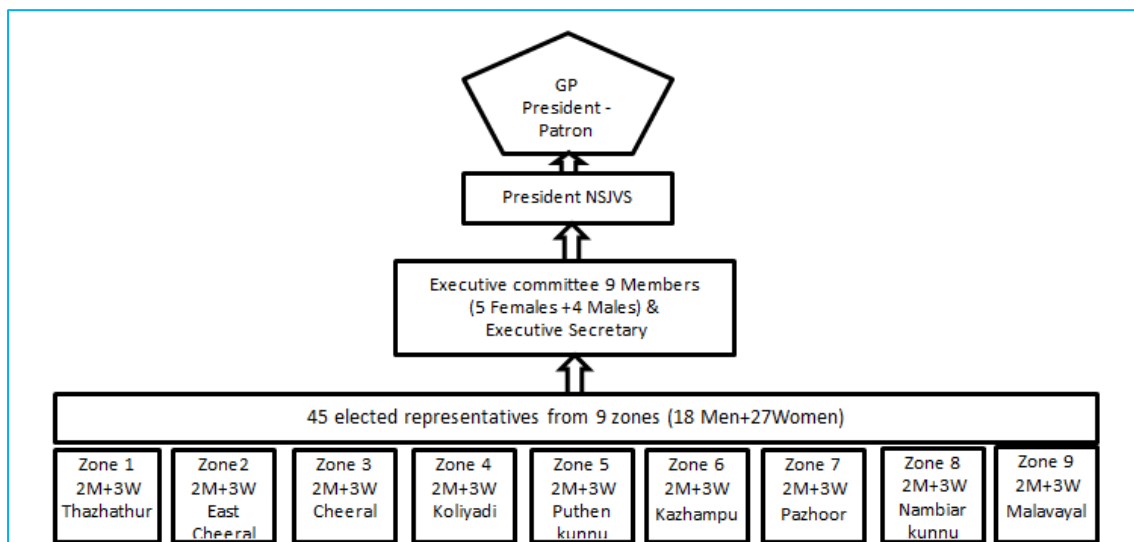
### Governance and accountability

**Zones and Zonal Committee:** For administrative and monitoring convenience, the area under the NSJVS is divided in to nine zones and each zone has a Zonal Committee of five members elected from all the A Class members in that zone. Among them two are men and three are women.

**General Body:** The General Body of the NSJVS has 45 members. They comprise the five persons, three women and two men, elected from each of the nine zones. The A and B Class of members can vote and stand for election to the General Body.

**Executive Committee:** This committee is elected from the General Body. Those members of the General Body who are A Class for three consecutive years only can contest for nine member positions in the Executive Committee.

C and D Class members are not eligible to participate or stand for election in the General Body.



**Figure 3.4 Governing structure of the NSJVS**

**The Executive Committee:** The EC has three year term and is responsible for the day-to-day administration of the NSJVS. The members are five women and four men. The President and Vice President are elected by the Executive Committee. One member of the EC is from Scheduled Caste/Scheduled Tribe. GP President is the Patron for the EC. It is mandatory to hold the meeting of EC once in every month. As reported in the interviews, of late they hold the meetings more often, once in two weeks, as there will be issues to discuss.

**Administrative Office:** There is an administrative office on a 200m<sup>2</sup> plot (5 cents), with all the facilities i.e office rooms, meeting room, computers, store room etc. This office was constructed under the Jalanidhi grant, taking in to consideration the special case of the community service provider having a major scheme to operate and maintain. Further, they have purchased another piece of land, 600m<sup>2</sup> (15 cents) area with more accessibility and visibility along a main road in Cheeral for future expansion.

### Activities - staffing levels

**Table 3.2: Staff at NSJVS**

Sl No	Position	No of persons
1	Executive Secretary	1
2	Office Staff	2
3	Meter Reader	2
4	Pump Operator	4
5	Plumber	3
6	Valve Operator	1
7	Computer Operator	1
8	Sweeper	1

The staff are employed as regular staff, working with the institution from the beginning. Besides their salary, they are also paid other allowances for travel. On an average the per month total salary component works out to be around INR 120,000.

There is a well-established office with record room, stores and very professionalised book-keeping and materials management. On the whole there are about 15 and more records they maintain at the office.

**Tariff** – They practice a progressive block tariff for the household connections; starting with INR 60 for 10KL, INR 10 for the subsequent 1KL up to 15 KL, INR 15 per KL up to 20KL, INR 25 per KL up to 25KL and INR 50 per KL after 25KL. The Gram Panchayat pay NSJVS for the water consumed at the 71 public standposts. They have made provisions for weaker sections: 14 members aged above 60 years get up to 2m<sup>3</sup> per month free of charge, up to 10m<sup>3</sup> for four TB patients, with different rates for joint families, a discounted rate for an old age home, free supply to Panchayat Office, Government hospitals, and hostel for poor children all located within their area of supply.



**Meter reading-** readings are taken monthly by the Meter Reader of the NSJVS and are recorded in the consumer card as well as in the records of the NSJVS. During the visits, if any malpractices are observed in the household connections like a damaged meter or so, the household is fined. There were only very few cases so far, and the fine varied from INR 250 to 2,500.

**The connection cost-** Those who apply to the NSJVS for new connection have to pay a fee of INR 1500, INR 750 for families below poverty line, and INR 300 for Scheduled Castes. Those who avail the concession have to produce a certification from the GP. Besides these the households have to pay for the labour charges to lay the pipeline etc and an estimate for this is given to them based on the location of the house. After receiving the application and completing the formalities, the Plumbers are directed to visit the location and give an estimate of additional expenditure that may be required to pay by the household to give a connection. This additional requirement will be informed to the applicant who can decide to do the labour by themselves under the supervision of the NSJVS staff or can pay for the labour arranged by the NSJVS. However, the work like fixing the water meter, laying the pipe for the connection in front of the house etc. is done only by the NSJVS staff.

If the household want to temporarily disconnect the line for some reason or transfer the line to another location they can do so by paying an extra fee of INR 300. During the interim period the household will be charged based on average of their monthly tariff.

**Tariff collection:** For the convenience of the consumers, the tariff is collected at different locations; at NSJVS office, at the Computer Training Centre and on the spot by the meter readers as well.

**Distribution of water:** The area is divided into two, and the supply is provided on alternate days to each area. Again within each area a zonal division is made and each zone is supplied for three to five hours on the day of supply. Ultimately, one household will be provided with water three to five hours once in two days by the NSJVS. The time of supply is intimated to each area in advance.

**Complaints and Redressal:** Complaints are accepted in person or over the phone. They are recorded at the office and remedial measures taken immediately. The NSJVS plumbers will attend the work. The Zonal Committee plays a major role in monitoring the complaints. Representatives from the Committee physically verify the case, the remedial measures taken, report the status to the NSJVS office and close the case once the work is complete. after remedial measures are taken, taking in to consideration the geographic spread of the area.

**Received support –** For service provision NSJVS is not availing any support on regular basis, except in cases like the quality problem in the water for which they sought the support of Jananidhi/WB again. One more area they are seeking support is to replace the old distribution pipe line with a new one that is beyond their capacity at present. On the other hand, the services/expertise of the NSJVS is availed by other similar agencies and the GPs who want professional help in improving their service provision.

**Towards the future –** The NSJVS has the capacity to manage the future needs except when the financial investment required is high. It is a good example of professionalised community management. They have started raising income from the training programmes they offer and from selling the products like pressure filters for household use.

**Table 3.3 Descriptors of CSP Best Practice NSJVS**

Characteristics	Explanation
Type of organisations	NGO registered under the Societies Registration Act 21 of 1860
Staffing of governing body of CSP	9 members GP President is the Patron of the Society. President and eight members elected by the general body comprising 45 members. These 45 members are elected by the 9 Zonal General Bodies.
Staffing of the CSP	15 persons Executive Secretary of the Society (who is also a staff) and 14 other staff appointed by the NSJVS
Coverage	At the time of the study, 18 wards of the 23 in the Nenmeni Panchayat are supplied by the NSJVS water system, being added on gradually over time. Note that not all of the ward is necessarily served by NSJVS.
Size of population in service area	42,636 population estimated from the data of Voters given by the GP, estimated to 7,752 HHs average hhs size 5.5.
Coverage by NSJVS in terms of population in the service area	35.47%
Households served by the CSP in the service area	2,632 Including the users of 71 public standposts
Coverage with household connections of those served	86.70%
Coverage with household connections among vulnerable groups	16.73%
Tariff structure	progressive block tariffs upto 10000 Ltr INR 60; 10001-15000 Ltr INR10/1000L; 15001-20000 Ltr INR 15 / 1000Ltr; 20001-25000 Ltr INR 25 / 1000 Ltr; 25001 &above INR 50 for each 1000Ltr 4 HHs are provided water free of cost, Panchayat Office, Government Hospital, and a hostel for poor children get free of cost water, 14 members all aged above 60 years get up to 2000 Ltrs/month free, old age home provided 10000 Ltr per month free of cost From 2007 Nov to 2012 Nov they had a tariff structure which was revised from Nov 2012.
Connection costs	General category INR 1500 Below Poverty Line families INR 750 SC/ST INR 300 BPL families to be certified by the Panchayat
Total capital expenditure	INR 1.43 crore



NSJVS – Store room of spare parts and tools



NSJVS Record Room



Pressure filter for drinking water  
- domestic model



Board room, NSJVS

*Photo courtesy: Dr Snehalatha Mekala*

## 3.2.1 Detailed focus on who is doing what

### *Community Service Provider/VWSC Focus Group*

The NSJVS is owned by its members, the consumers and this can be found from the way the families speak about it. They are very well aware about their rights and responsibilities; and they perform them without fail. The water tariff is paid in time, and they visit the NSJVS office to discuss issues in the water supply, about the quality of water or to discuss about temporary disconnection etc. The office of NSJVS also makes it a reliable place where the public can come, meet the concerned personnel and discuss the issues. The staff is known to all and they are available any time and are prepared to meet any eventualities like burst in pipes, motor failure etc. They work with a team spirit and see to that the public do not face much hardship.

The Executive Secretary of the NSJVS, Mr K C Biju is a person with engineering background and has been involved from the Jananidhi implementation stage. The leadership with his professional background and experience often saves this system from failures and enable speedy recovery if anything goes wrong in the system. The Executive Committee Members are real managers of the NSJVS and are also equally responsive in critical situations. President Mr P M Kuriakose, a farmer by occupation, has been with the scheme since the beginning, has very good comprehension about all the issues related to the scheme as well as to the NSJVS. The members are also aware about the technical issues in the system functioning there, though many may not venture in to directly doing anything. According to Mr Biju, his team is at the job on a 24 X7 mode, alert all the time, in order to make the service delivery satisfactory.

Though there is an efficient management, the system still has problems; they are able to provide water only once in two days to the household consumers. Complaints, damages or leakages, in the distribution pipelines happens almost every day somewhere along the line forcing them to stop the supply at least for a part of the day to that region though their technical staff attend to the problem quickly. Replacing the old pipeline is the only solution which, however, costs them highly. The quality of water is sometimes visibly poor. The tests conducted indicated presence of chemical pollutants in the water. They found that the pressure filter or silver ionization cannot solve the issue and they have sought the help of KRWSA for treatment plant. The NSJVS being a successful model, they are often visited by water professionals from other areas including other States and International agencies and such visits become exchanges of mutual benefits.

## Activity & Responsibility Matrix at community service provider level

**Table 3.4 Activity and responsibility matrix**

Type of support activity	Does the CSP receive this type of support? Comments / Explanations
Monitoring and control (incl. auditing)	No The CSP, NSVJS, is an independent NGO registered under Societies Registration Act and as per the act there are mandates to follow. Unless they comply with them the registration will be cancelled (not renewed). This is same for any non-profit Society, no matter what purpose they are formed. The NSJVS independently engage an auditor and audit. Only if they receive a support from the GP or external agency they provide a certificate of utilisation or whatever is required by the external agency.
Water quality testing	No The NSVJS do test the water periodically and the user households also give feedback. The fact that a part of the distribution pipeline is from the original KWA system and wherein the unfiltered water caused mud sedimentation which couldn't be removed is still causing the quality of water distributed at present. The water source being a river, during rains the water is muddy and that necessitates frequent cleaning of the pressure filters. The filtered water also appears in slightly different colour.
Water resources management	Yes, supply based government programmes As part of the Government programmes, they participate in environmental awareness, tree plantation etc
Technical assistance	No They are technically competent and provide support to other organisations. Only in highly technical requirements like implementing the Treatment plant, they outsource technical persons
Conflict Management	No There have been no issues of conflicts, and they are confident that with the transparency they maintain they can manage without conflicts
Support in identifying investments needs	No They do it themselves and if required get the support of experts on call basis from outside.
(Re)training of service provider	No They don't get any support now, they update themselves and NSJVS is a trainer for other similar organisations in the State
Information and communication activities	No The Society has their own system of communicating. To the consumers through bit notices, about the decisions taken at the General Body, etc and about the rate changes, admin information etc. For e.g., they had three notices in 2014 informing the consumers about the decisions taken at General Body meetings, and other such relevant information
Fund mobilization	No Besides the revenue they generate from user charges, they develop the proposal and seek support from external agencies including GP, KRWSA or World Bank. The examples are: the pumps are replaced with their own funds, extension of pipeline carried out with the grant they got from GP, the Treatment plant funded by World Bank that is about to inaugurate

### 3.3 Community service provider indicators

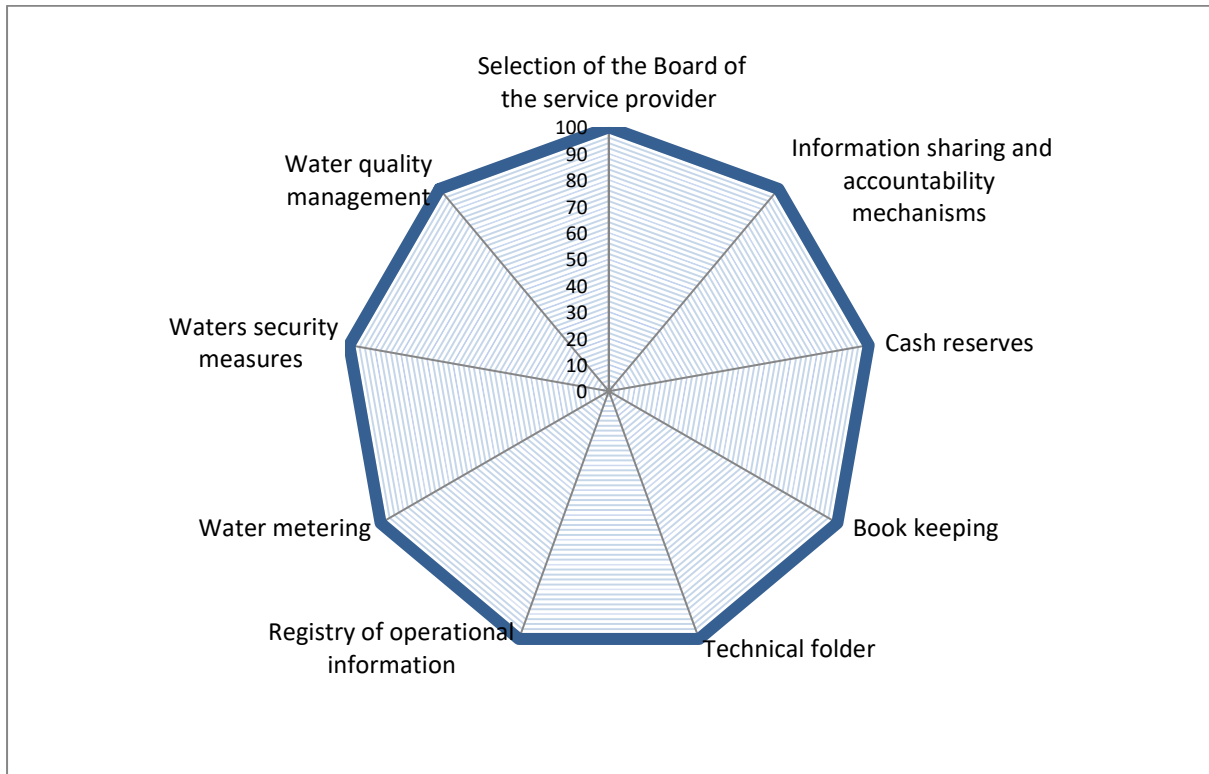


Figure 3.5 QIS Indicators of Performance for NSJVS

**Table 3.5 QIS Indicators of Performance for NSJVS**

Indicator	Score Explanation
1.3 Selection of the Board of the service provider	100 Every consumer is a member of the Society and there is a membership entry of INR 35 and a monthly subscription fee of INR 3/. They are further classified in to four classed, A,B,C and D classes based on certain criteria. Again, for the convenience of monitoring and administration the area is divided in to 9 zones, From each zone, five representatives 2 men and 3 women, of A class are elected to the General Body, and it thus comprises 45 members. Of them those who are A class for three consecutive years can context for membership to the Executive Body. The Executive Committee has four men and five women; atleast one member will have to be from SC/ST. The Executive Committee is for three years.
1.4 Information sharing and accountability mechanisms	100 The NSJVS maintain different mechanisms; Executive Committee meeting atleast once a month, periodical general body meeting, zonal meeting, notices etc
2.2 Cash reserves	100 The NSJVS manages cash reserve, petty cash and bank accounts, regularly ensure that adequate cash is maintained
2.3 Book keeping	100 Yes, they maintain bills, receipts, cash book, and vouchers, and the account is audited annually by certified Chartered Accountant. The records they have: 1. minutes book Exec Comm; General Body; and 9 Group /Zonal committees 2. Registry of Consumers; 3. Registration application 4. Consumer personal register; 5. Complaints registry 6. Receipt book, voucher book, consumer card 7. Expenditure book; 8. Receipt and Payment Ledger 9. Connection-new connection booking Registry 10.Demand notice; 11. Stock registry 12. Work book 13.Day book 14 Visitors diary 15
3.1 Technical folder	100 The CSP has all the technical details of the system design, distribution system, necessary guidelines etc
3.2 Registry of operational information	100 They maintain all operational information and relevant records, named work book, day book, complaints registry, etc
3.4 Water metering	100 All user households have meter connections, two persons employed only for meter reading who visit the hhs and record. While on his visit, checking of the connection, any pilferages and misuses are noted and reported to the office. Appropriate action will be taken by the Office. There is no meter bulk water, it is based on a single village system
3.5 Waters security measures	100. Although a perennial river is the source, measures such as rain water harvesting and tree plantation are undertaken. Besides, community level awareness programmes are held about keeping the source and catchment area free from pollutants
3.6 Water quality management	100 They had a quality management that was approved by the Jananidhi, a pressure filter with output 30000 litters per hour, and chlorinator were in use. Now the chlorinator is not functioning but a new system water treatment plant with 1.5 mld capacity has been fixed and waiting for a formal inauguration for it to start functioning. Quality testing is done periodically and whenever a change in the water colour or taste is observed or reported by the users

Overview of infrastructure being managed:

**Table 3.6 Infrastructure status snapshot tool CSP Best Practice NSJVS**

System component	Presence	Functioning	Age in years	Physical condition	Comments / Explanations
Intake structure	Yes	Yes	8	Good	Riverbank intake structure with 6 m diameter and 10 m depth Infiltration gallery and collection chamber with 10X4X2 mtrs
Borehole	No				
Hand pump	No				
Motorised pump	Yes		2		3 submersible pump with 50 HP each. There were many repair and replacement of the pumps after initial installation . The pumping is done in two shifts of 8 hours each
Diesel generator	No				
Electricity panel	Yes	Yes	8	Good	Robotic Control System based operation, by sending a SMS it works
Treatment plant	Yes	Yes	8	Good	Pressure filters 2 numbers with discharge 30000lit/hour
Main line	Yes	Yes	8	Good	5840 meters pumping main line
Reservoir	Yes	Yes	8	Good	Tank with 4 lakh litres capacity
Pressure-break tanks	No				
Chlorinator	Yes	No	8	Reasonable	Electro Chlorination unit was functioning till recently and this is being replaced with a treatment plant, yet to start functioning
Distribution network	Yes	Yes		Reasonable	One part of the distribution line is from the old and original KWA built facility and the quality of that is very bad with mud clot inside due to poor quality of water supplied those days. The network today is 150 kms long including 129.5 kms with 20mm-160mm PVC pipe, 20 kms with 150 mm-250mm Ac pipe, and 0.5 km with 50mm-150 mm GI pipe.
Tap stands	Yes	Yes		Reasonable	There are 71 PSPs and 2219 HSCs at present

The pumps were replaced twice and repaired many times due to the wear and tear from regular use.



## **Consideration of overall service provider capability**

The NSJVS has a very democratic leadership and is supported by personnel with professional background to administer the functions of the Society. Being part of the Jalanidhi project the NSJVS has very high level of community orientation. They have the required technical capability and maintain a core team of competent staff. The office of NSJVS is very professional, with well-established system of administration and the team has a high level of team spirit. They interact with external institutions as and when required. They maintain a very cordial relationship with the GP, and they also work together whenever and wherever required.

After taking over the scheme in 2007, with 727 beneficiaries now they have nearly 3,000 beneficiaries and have taken over three failing schemes run by the GP and made them all functioning.

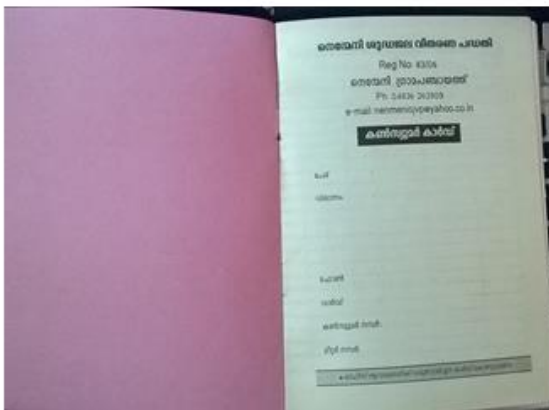
However, there are challenges for them to handle too. The major one is the poor quality of water distributed. The excessive use of chemicals in the plantation estates in the catchment area pollute the water at the source, the river. During rain, the water gets very muddy and the cleaning in the pressure filter doesn't make it clean. Add to this, the old pipeline which were part of the original KWA scheme in the distribution system frequently gets damage, forcing them to stop supply till the damages are repaired. Normally, the corrective measures are taken on the same day but delayed sometimes due to lack of personnel. These issues are reported by the members and discussed by the Executive Body, and appropriate remedial measures are stepped up. Further, this information is shared with the community of beneficiaries and this transparency add value to the trust the members repose on the NSJVJ.

According to the views of Shri V Baby Kurian, I A S formerly Executive Director of Jalanidhi on NSJVS mentioned that 'In the service delivery stage, the assets are owned and managed by the Community (BG) without any external financial support and with 100% cost recovery. Any technical backstopping is sourced by them on payment from the market, which essentially means that they have gone beyond the plus factor to double plus where it is professionalised community management as against professional support to community management'. He further attributes that the quality of enabling factors at the planning and implementation stage-the level of capacities built and degree of empowerment- along with externalities like income levels of households etc. have contributed to catapult the schemes to the orbit of double plus.

Certificate of registration issued by the Registrar of Societies,  
Wayanad, Government of Kerala  
Registered on 22 February 2006



Consumer Card pages 1-3 of 7



### 3.4 Community service provider participation assessment

Table 3.7 Community Participation CSP Best Practice

Stage of delivery cycle	Capital Investment (implementation)	Service delivery	Asset Renewal	Service enhancement or expansion
<b>1. Self-mobilisation</b>	<p>NSJVS</p> <p>Under the Jalanidhi, the community contributed 15% of the scheme cost by collecting from each beneficiary besides participating in the joint analysis of the situation and project planning along with KRWSA /Jalanidhi, GP, and Support Organisation (Shreyas)</p>	<p>NSJVS</p> <p>The NSJVS takes responsibility for the Service delivery, including administration, operation and maintenance, the executive committee of NSJVS is a democratically elected body from the users</p>	<p>NSJVS</p> <p>The NSJVS take responsibility for asset renewal; when the requirement is beyond the capacity of the Society to manage, they seek external support. The pump used at the intake was replaced twice with their own resources but they are waiting for external support to re-lay a part of the distribution pipeline as it requires huge investment</p>	<p>NSJVS</p> <p>The NSJVS takes up the service enhancement expansion small requirements by themselves and major requirements with the support of external agency including the GP. The GP has allocated a fund for 2 Km pipeline but the NSJVS, with the participation of community/users by way of contributing to the labour, were able to lay the pipeline for 5 kms</p>
<b>2. Interaction participation</b>				
<b>3. Functional participation</b>				
<b>4. Participation by consultation</b>				
<b>5. Passive Participation</b>				
N/a				

### 3.5 Community Service Provider Costs

From the interviews, and further estimates based on those discussions, there is about INR 14,40,000 towards the salary and travel expenditures of the regular staff during a year. The annual expenditure of the NSJVS is about INR 29,16,334 for the year 2014-15. All of this cost can be attributed to the water supply except a small part for the Computer training centre, however the computer training centre also functions as an extension office/counter to receive the tariff from consumers. They also contribute to Karunya Nidhi, a welfare fund with which they provide some financial assistance to aged or sick people among the beneficiaries. They also raise income from providing training to others

**Table 3.8 Financial balance of recurrent revenue and expenditure**

Total Annual Revenue (user charges, government subsidy, any other income)	INR 2,800,518
Total Annual Expenditure (OpEx, CapManEx etc)	INR 2,726,174
Financial balance of recurrent revenue and expenditure	INR 74,344
Cash reserves	INR 98,820
Loan Repayment	INR 2,73,777
Labour	INR 1215277
Power	INR 743053
OP Ex Labour	INR 1,322,665
Op Ex – Minor spares	INR 103,092
Number of users who haven't paid more than three months of water fees	7
Number of users	2282
Average population per household	4.3
PSPs	71
Average population per Stand post	20
Total consumers	11,233
Non-payment rate	0.0031 (<1%)

A copy of the NSJVS annual revenue and expenditure statement is given in the annexure which details all the types of expenditures they had during the last financial year 2014-15

## 3.6 Household Service Levels

Nenmeni is not an exception to the normal residential pattern in Kerala, that is one with independent houses, household plots measuring about 40 to 50 cents (approx. 2,000m<sup>2</sup>) and with an independent water source, most often an open well. Due to the declining rainfall, water level in household's own sources are depleting and sometimes the families are facing acute water shortages during summer. This makes them think about an alternate source for water mostly to supplement their own source. Many households willingly take up household connections taking to counter the uncertainty of water availability, and are willing to pay for the service. Of the 79 schemes completed and handed over to the community, failure happened mainly due to technical reasons. There are a number of other schemes which are managed by the respective BGs, turned independent Societies, with growing numbers of consumers/household connections. In providing piped water supply, coverage becomes difficult when the houses are distantly located and in difficult terrain as in Nenmeni. The household's choice for water supply connection at home is determined by its location and closeness to the existing pipe line. In the service area of NSJVS, the 18 Wards of the GP, the number of houses opted for household connection varies, and within the same area there are other small service providers who manage their own facilities and group of beneficiaries.

### Coverage

The NSJVS water supply cover only 18 wards of 23 in the Nenmeni GP. Among the households in the 18 wards only a third are using the service of NSJVS. On the whole there are 2,282 household connections and 71 PSPs used by about 350 households.

Ward wise list of households (presented in the Annexure) with water supply connections from NSJVS was obtained from the office records of NSJVS. From the original list, a second list of Wards with 60 or more household connections was made and three from them were selected based on their location, at the head end and two tail ends. They are Ward XIV (Thazhathur and surrounding area), Ward IV (Malankara and nearby areas) and Ward XI (Nambiarkunnu and surrounding area). The sample of households, 30 each, were selected randomly for the household level service assessment. Ward XIX (Thazhur) of the same GP, where NSJVS service is not available, has been taken as the Control area and a sample of 30 households was surveyed. There was a similar BG of Jalanidhi in the Ward XIX (Thazhur SudhaJala Vitharana Society) and that is defunct at present.



Picture: water meter in household connection

**Table 3.9 Water Supply Coverage**

Coverage	18 of 23 Wards in Nenmeni GP
Size of population in service area	42,636 (estimated)
Coverage in terms of population	35.47%
Households served by the CSP	2,632 Including the users of 71 public standposts
Coverage with household connections among the service users	86.70%
Coverage with household connections among the households in the area	35%
Coverage with household connections among vulnerable groups	16.73%
HHs surveyed with NSJVS as the single source	66%

### 3.7 Quantity, Accessibility, Quality, Continuity, Reliability

Household survey results: for nearly two thirds of the households surveyed, NSJVS was the only source of water. The majority of the houses have a storage facility to collect the water when it is available. They store the water and use it directly or pump up to the overhead tank fixed at the house. Each house collected on average about 830 litres during the supply that happens once in two days. This works out to an lpcd of 96. The households reported that they get water only once in two days and for about three hours. According to them, they should be ready to collect the water as soon as the supply comes, otherwise they may not get the water. There was a widespread dissatisfaction expressed about the quality and adequacy of water supplied by the NSJVS (see Focus Group results below). As a general practice the water is consumed only after boiling and this is practiced very strictly in Nenmeni and especially so if they have to drink the water they collect from the tapped water supply. The turbidity in Noolpuzha river, the source, has found mention in other reports as well (CAG 2014).

Payment of water tariff was made by all the households surveyed, except one in the ninety. The amount they paid for one month was INR 75 which is the minimum charge as per the tariff plans

Average number of breakdowns reported per household for the last 12 months was 1.2, ranging from 1 to 4, and the response time averaged at 9 hours, with a range of 1 to 48 hours. The households were satisfied with the response time.

**Table 3.10 Household service levels**

Service Level	Quantity	Accessibility	Quality	Continuity	Reliability	Overall
	NSJVS- Best Practice					
High	0.00%	0.00%	91.11%	0.00%	98.89%	0.00%
Improved	0.00%	0.00%	0.00%	0.00%	1.11%	0.00%
Basic	0.00%	0.00%	4.44%	0.00%	0.00%	0.00%
	Thazhoor- Control					
High	0.00%	0.00%	76.67%	0.00%	100.00%	0.00%
Improved	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Basic	0.00%	0.00%	10.00%	0.00%	0.00%	0.00%

### 3.8 Equity

The NSJVS serves only a third of the population in their service area. It is the choice of the households to join or not the NSJVS for availing the water supplied by NSJVS. However, there is a cost for availing the service and that may be hindering factor for all the households to avail the benefits of the scheme. There is concession for the weaker sections for the initial costs but not for the recurring water charges. The coverage among SC/ST is only 16.7% which is much less compared to the supply coverage among the general population. Another factor that could affect everyone accessing this service is the dispersed location of households. There are 68 public standposts used by about 350 households. The users do not pay any charge for the service, however, each stand post is maintained by the respective user community. The user charge for them is paid by the GP.

#### Information regarding water supply engagement:

As per the rules of the NSJVS, primary membership to the Society is essential to avail the water supply household connection from them. And the members pay a monthly subscription of INR 3 along with the tariff they pay. However, nearly a third of the respondents only answered as they are part of the water committee. The lack of clarity to the term ‘water committee’ would have caused this response from many respondents. For the households, ‘water committee’ is the body of elected members and becoming part of the elected committee is limited to very few.

There are nine zones and the election to the Zonal committee also takes place regularly which the household representatives have to attend.

A third of them have also mentioned that they have attended the different awareness programmes organised by the NSJVS. They receive information from the NSJVS through bit notices regarding the decisions or changes in the service.

There are many ways the NSJVS engage the households in the water supply. In order to get the new household connection besides paying the required charges at the office, they have to meet out the expenditure for extending the pipeline. This can be done as payment in cash to the NSJVS or by

contributing in terms of labour. In either way, the households have to be part of the work by engaging directly in the work or by supervising the work.

The households report any misuse found in the supply service and if there is any malpractices reported, like tampering the meter or so, the NSJVS has a provision to impose fine on the consumer.

### Community and household views

Generally, community members were found to be satisfied with the service of the NSJVS except for the quality of water. They are also aware about the causes of the poor quality, river water being the

#### **Box 4: Results from Focus Group Discussion with the Households/Users**

The NSJVS is popularly known in the area as 'Cheeral Jalanidhi Office' among the public and is known to almost all the segments of the population indicating its popularity in the locality.

The discussion with the community (of users of NSJVS service) indicated that they're satisfied with the way NSJVS respond to them. The community acknowledges the improvement in water supply situation compared to a decade ago. However, the water quality was emerged as a major issue in the discussion. The community was aware about the causes as well. During monsoon they have more of quality problem in the water. The discussion revealed that they have taken steps, representing this issue to the GP along with the NSJVS officials. With the constant persuasion by the community and the NSJVJ, the GP has taken up the issue with the KRWSA and the State government as well. It is with the demand from the community, the NSJVS and the GP that the KRWSA has agreed to install the treatment plant. They are eagerly awaiting the inauguration of the treatment plant. However, there is still doubt about the water quality in one part of the area where the distribution line is the old one. The community is aware about the reason that the old pipe has inner coating of mud which affect the quality of water supplied. The only solution is to replace the pipe for which they want the NSJVJ to take steps.

*Rain is very less and unpredictable. We can never rely on our well for our water requirements especially in summer. The supply from Jalanidhi helps us a lot...*

*We keep digging more in the well but still we won't have water .. so the Jalanidhi is a sure source for us...*

*Quality is not good sometimes but we still depend on this water only for all our needs*

*We have a well, but have taken the connection only to use in adverse situation...*

*We can pay the charges but want treated water, now the water can't be used to drink*

*If we are late to turn on the tap, we may not get water..*

*I have attended the meeting last year, and told about the water quality also...*



source, particularly during rains when the water gets muddy. It appears the infiltration gallery in the river and the following pressure filters are not being maintained and used sufficiently well to prevent onward transmission of high turbidity water.

## 4 Enabling Support Environment Costing

### 4.1 Capital costs

The rehabilitation of the Nenmeni Rural Water Supply Scheme under the Jalanidhi was at a cost of INR 4,911,768 during 2005 and there were 15% community contribution, 10% contribution by the GP and 75% from the KRWSA. . This cost was mainly towards repair of the dyke, infiltration gallery and collection tank at intake point, procurement of new pumps, installation of silver ionization mechanism to purify water, and extension of distribution network by about 25,000 metres.

**Table 4.1 Capital Costs -NSJVS**

Capital costs		INR (2014 Prices)
Community contribution to capex	<b>15%</b>	INR 1,105,148
GP contribution to capex	<b>10%</b>	INR 736,765
ESE KRWSA contribution to capex	<b>75%</b>	INR 5,525,739
Total estimated CAPEX Hardware costs for implementation of the scheme	INR 4,911,768 <b>(2005)</b>	INR 7,367,652
Total estimated CAPEX Direct Support costs for implementation of scheme-Shreyas		INR 1923409
CapEx Software -KRWSA		INR3,628

The direct support cost during the capital implementation stage incurred through the support organisation Shreyas include the cost of intensive community mobilisation carried out at the pre-planning and planning stages where a team of about 29 persons worked in the community and had different interventions. Owing to the integrated approach adopted in the Jalanidhi project, the activities were multifarious including sanitation, women empowerment, and economic empowerment. The costs of such activities are not included here.

### 4.2 Recurrent costs & revenue – Opex, hardware & software

The recurrent costs of operation of the water supply scheme mainly include the running cost of the office of NSJVS besides the power tariff. There is a team of 15 people who are paid a salary, very nominal though, for their full time employment. Minor maintenance expenditures are incurred on a daily basis due to the complaints in the distribution lines. They also allocate their expenditure in a 70:20:10 ratio for operation, developmental and incidental expenditures. As part of expansion, they

have purchased a piece of land with a loan taken from nationalised bank and they repay the same from the revenue generated.

Besides the user charges paid by the beneficiary households based on the volume of water they consume, all of them have to pay member subscription fee to the NSJVS. The NSJVS offers different services for the consumers by way of providing materials required to take the household connection, procuring water meters, etc all at nominal service charge.

NSJVS is a consulting organisation for other similar agencies working in drinking water supply and they also raise income through the consultancy fees.

**Table 4.2 Recurrent costs and revenue at NSJVS**

Items	Total during 2014-15
Total Annual Revenue (user charges, government subsidy, any other income)	INR 2,800,518
Total Annual Expenditure (OpEx, CapManEx etc)	INR 2,726,174
Financial balance of recurrent revenue and expenditure	INR 74,344
Cash reserves	INR 98,820
Loan Repayment	INR 2,73,777
OP Ex Labour	INR 1,322,665
Op Ex – Minor spares	INR 103,092

### 4.3 Capital maintenance costs – hardware and software

The NSJVS mobilise the capital maintenance costs mostly as grant from GP, KRWSA or any other such organisations. They are mainly for hardware maintenance. Recently reported cost for capital maintenance was in the form of a water treatment plant. This is implemented (and yet to commence functioning) by the KRWSA directly. The cost of the plant is about INR 20,000,000. Once started functioning, the contractor will be responsible for the operation and maintenance for one year and after which it would be handed over to the NSJVS.

### 4.4 Summary costs

The summary costs indicate that the NSJVS incurred a capital expenditure of INR 3,228 per person and that include the expenditure towards the community mobilisation (software) INR 615 per person. The annual recurring expenditure data shows that the cost of providing service to the community is INR 605 per head which include the running cost of the office INR 139 and a commercial power tariff subsidy (paying only at domestic rate) of INR 132. The State Government subsidise the power tariff indirectly by almost two thirds, enabling the service to be more affordable for the community. Besides, the service provider NSJVS enjoys the patronage of many professionals including that of KRWSA who are available to them for any kind of support. Costing this kind of support was found to be difficult and hence not included in this exercise. More details in the table below.

**Table 4.3 Summary Cost Table (INR)**

Kerala Nenmeni Summary Cost Table - calculated as the average cost per person, that is averaging across the three 'successful' village

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 554	-	INR 554	INR 171	INR 66	-	-	INR 17	INR 254
Local self-government	INR 291	-	INR 291	INR 21	-	-	-	-	INR 21
State government entity	-	-	-	-	INR 132	-	-	-	INR 132
State water supply agency	-	-	-	-	-	-	-	INR 198	INR 198
National Government	-	-	-	-	-	-	-	-	-
NGO national & international	-	-	-	-	-	-	-	-	-
International donor	INR 1,768	INR 615	INR 2,383	-	-	-	-	-	-
TOTALS	INR 2,613	INR 615	INR 3,228	INR 192	INR 198	-	-	INR 215	INR 605
Median of 20 case studies			INR 3,231						INR 207
'Plus' %age	79%	100%	83%	11%	67%	-	-	92%	58%
Median of 20 case studies			95%						57%

**Table 4.4 Summary Cost Table (PPP USD\$)**

Kerala Nenmeni Summary Cost Table - calculated as the average cost per person, that is averaging across the three 'successful' village

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	\$ 31.57	-	\$ 31.57	\$ 9.75	\$ 3.74	-	-	\$ 0.96	\$ 14.46
Local self-government	\$ 16.59	-	\$ 16.59	\$ 1.21	-	-	-	-	\$ 1.21
State government entity	-	-	-	-	\$ 7.52	-	-	-	\$ 7.52
State water supply agency	-	-	-	-	-	-	-	\$ 11.30	\$ 11.30
National Government	-	-	-	-	-	-	-	-	-
NGO national & international	-	-	-	-	-	-	-	-	-
International donor	\$ 100.75	\$ 35.07	\$ 135.82	-	-	-	-	-	-
TOTALS	\$ 148.92	\$ 35.07	\$ 183.99	\$ 10.96	\$ 11.27	-	-	\$ 12.26	\$ 34.49
Median of 20 case studies			\$ 184.16						\$ 11.78
'Plus' %age	79%	100%	83%	11%	67%	-	-	92%	58%
Median of 20 case studies			95%						57%

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>).

## 5 Conclusions

- The Nenmeni Sudha Jala Vitharana Society (NSJVS), is the metamorphosis of a beneficiary group in to a non-profit organisation to manage the rural water supply scheme in Nenmeni Gam Panchayat. This is a successful outcome of a new service delivery model with the end user participation that the World Bank and Government of Kerala wanted to demonstrate through their joint project Jalanidhi I.
- The well-defined project cycle with intensive emphasis on pre-planning and planning before implementation of the project was the key to sustain the result of the 27 month project
- The software expenditures at capital investment stage is worked out to INR 615 per capita which indicates the commitment to community management in this project.
- Community contracting at the implementation phase added dynamism to the community capacity building that is essential for successful operation and maintenance of the schemes.
- Efficient support organisation played a vital role through the community capacity building phase and that enabled in creating a Team with necessary skill for sustained management of the facility by adhering all its core values such as end user participation and cost recovery.
- The governing body, as well as the administrators, maintains transparency within the organisation and stays united with an effective leadership
- The governing body, with true democratic participation of the end users of the facility, is a major contributing factor for the success of the NSJVS and its sustained services.
- The transparency they maintain with the end-users and the efficiency by which the service is delivered has helped the NSJVS increase the consumer base, from 727 in 2007 to nearly 3,000 in 2015, and in expanding their area coverage.
- Efficient leadership and a supportive governing body, together with an awakened user community, are able to confront the challenges such as the poor water quality.
- The direct operational expenditure for the 2014-15 was met by the user tariff (excluding the full power costs).
- This success should be seen in the light of socio-environment-economic background of Kerala and the decentralised governance with active women participation in practice there.
- Above all, the project did not see water in isolation but it was integrated with other socio-economic and environmental aspects.

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Smits, S., Franceys, R., Mekala, S. and Hutchings P., 2015 “Understanding the resource implications of the ‘plus’ in community management of rural water supply systems in India: concepts and research methodology”,. Community Water Plus working paper. Cranfield University and IRC: The Netherlands

WSP&MDWS (2015): *‘Reinventing Community Water Management: From State Ownership to Professional Community Management Nenmeni Rural Water Supply Scheme, Wayanad District, Kerala’* In Water and Sanitation Program & Ministry of Drinking Water and Sanitation, Gol published *‘Taking on New Challenges: A Compendium of Good Practices in Rural Water Supply Schemes’*

World Bank(2000): India - Kerala Rural Water Supply and Environmental Sanitation Project. Washington, DC: World Bank. (<http://documents.worldbank.org/curated/en/2000/10/692952/india-kerala-rural-water-supply-environmental-sanitation-project>)

## Suggested readings

WSP(1999): ‘Villagers Treat Water as an Economic Good, Olavanna, Kerala, India’. Field note published under ‘Small Private Initiatives (SPI) In The Water And Sanitation Sector In India ‘Water and Sanitation Program - South Asia 55 Lodi Estate, New Delhi 110 003

Kurian, Baby V ; Kurian P K ( ) Unstructured Post Construction Support under Structured Local Governance: Evidences from Rural Drinking Water Service Delivery (Draft paper...)

Kurian, P.K.; Kurian, Baby V ; & Thomas, Terry ( 2013 ): Decentralized Governance and Sustainable Service Delivery: A case of Nenmeni Rural Water Supply Scheme, Kerala, India in Sustainable Water and Sanitation Services: The Life-Cycle Cost Approach to Planning and Management Published by Livelihoods & Natural Resource Management Institute, IRC International Water & Sanitation Centre, Centre for Economic and Social Studies and Watershed Support Services and Activities Network

Jeyavelu; Gopinath (2008): 'Jalanidhi: success through participation' in Developing Infrastructure through management innovations; Smart Manager Vol 7 No 2 Indian Institute of Management, Kozhikode

## Appendices

<b>Table 29 - ESE1 GP Overall Partnering Assessment</b>					
	<b>Stages of Service Delivery Cycle</b>				
<b>Type of partnering</b>	<b>Capital investment (implementation)</b>	<b>Service delivery: administration, management and operation and maintenance</b>	<b>Capital renewal score</b>	<b>Service enhancement or expansion</b>	<b>Mean average Score</b>
A. Collaborative	Agree (3)	Disagree (2)	Agree (3)	Agree (3)	2.75
B. Contributor	Agree (3)	Strongly Disagree (1)	Agree (3)	Strongly Disagree (1)	2
C. Operational	Agree (3)	1	Disagree (2)	Agree (3)	2.25
D. Consultative	Strongly Agree (4)	Agree (3)	Agree (3)	Disagree (2)	3
E. Transactional	Strongly Disagree (1)	Strongly Disagree (1)	Strongly Disagree (1)	Strongly Disagree (1)	1
F. Bureaucratic	Strongly Disagree (1)	Disagree (2)	Agree (3)	Disagree (2)	2

<b>Table 33 - ESE3 KRWSA Overall Partnering Assessment</b>					
	<b>Stages of Service Delivery Cycle</b>				
<b>Type of partnering</b>	<b>Capital investment (implementation)</b>	<b>Service delivery: administration, management and operation and maintenance</b>	<b>Capital renewal score</b>	<b>Service enhancement or expansion</b>	<b>Mean average Score</b>
A. Collaborative	Strongly Agree (4)	Disagree (2)	Disagree (2)	Strongly Agree (4)	3
B. Contributor	Strongly Agree (4)	Disagree (2)	Strongly Disagree (1)	Strongly Agree (4)	2.75
C. Operational	Strongly Agree (4)	Disagree (2)	Agree (3)	Strongly Agree (4)	3.25
D. Consultative	Strongly Agree (4)	Disagree (2)	Disagree (2)	Agree (3)	2.75
E. Transactional	Strongly Disagree (1)	Strongly Disagree (1)	Strongly Disagree (1)	Strongly Disagree (1)	1
F. Bureaucratic	Strongly Disagree (1)	Disagree (2)	Strongly Disagree (1)	Agree (3)	1.75



<b>Table 33 - ESE3 KRWSA Overall Partnering Assessment</b>					
	<b>Stages of Service Delivery Cycle</b>				
<b>Type of partnering</b>	<b>Capital investment (implementation)</b>	<b>Service delivery: administration, management and operation and maintenance</b>	<b>Capital renewal score</b>	<b>Service enhancement or expansion</b>	<b>Mean average Score</b>
A. Collaborative	Strongly Agree (4)	Disagree (2)	Disagree (2)	Strongly Agree (4)	3
B. Contributor	Strongly Agree (4)	Disagree (2)	Strongly Disagree (1)	Strongly Agree (4)	2.75
C. Operational	Strongly Agree (4)	Disagree (2)	Agree (3)	Strongly Agree (4)	3.25
D. Consultative	Strongly Agree (4)	Disagree (2)	Disagree (2)	Agree (3)	2.75
E. Transactional	Strongly Disagree (1)	Strongly Disagree (1)	Strongly Disagree (1)	Strongly Disagree (1)	1
F. Bureaucratic	Strongly Disagree (1)	Disagree (2)	Strongly Disagree (1)	Agree (3)	1.75

NENMENI SUDHAJALA VITHARANA SOCIETY, CHEERAL, WAYANAD  
INCOME AND EXPENDITURE ACCOUNT  
FOR THE YEAR ENDED 31ST MARCH 2015

EXPENDITURE	SCH	AMOUNT	INCOME	SCH	AMOUNT
Honorarium		936,035.00	By Monthly Subscription		6,480.00
DTP Center Payments	IV	47,114.00	By Application Form		138.00
Wages		232,128.75	By Consumer Card	II	340.00
Travelling and Daily Allowance		93,888.25	By Water Charge	III	2,557,607.00
Printing & Stationery		14,894.00	By Fine Received		80,910.00
Electricity Charge for Office		5,145.00	By Service Charge Due		8,000.00
Electricity Charge for Pump House		737,908.00	By Bank Interest		490.00
Telephone Charge for Office		20,503.00	By Cutting & Reconnection Charge		7,800.00
Telephone Charge for Pump House		4,979.00	By Connection Labour charge received		28,110.00
Office Building Maintenance		238,295.00	By Contribution From Study Group's		6,000.00
Karunya Nidhi		5,000.00	By Meter Complaints Security		2,350.00
Bonus		13,500.00	By Training Fund	I	45,000.00
Food & Refreshment		17,529.00	By DTP Center Receipts		57,292.50
Function Expenses		60,468.00			
Bank Charge		901.00	By Excess of Expenditure		
DTP Center Alteration		34,120.00	Over Income		115,816.85
Transporting charge		12,120.00			
Audit Fee		5,000.00			
Materials for Repair		103,092.00			
Akshaya Center		1,014.00			
Computer Repairing charges		18,020.00			
Loan Interest		66,352.00			
Estimate preparation Expenses		28,554.00			
Study tour expense		16,234.00			
Publicity Expenses		7,500.00			
Rain Coat Expenses		5,880.00			
Depreciation	E	190,160.35			
		<u>2,916,334.35</u>			<u>2,916,334.35</u>

Sulthan Bathery  
27/05/2015

As per our report of even date

For V. SURESH & ASSOCIATES  
Chartered Accountants

V. SURESH, FCA (Proprietor)  
M. No. 210890, FRN: 013056 B



Nenmeni Income and Expenditure Account 2014-15	
<b>Opex Labour</b>	
Honorarium	INR 936,035
DTP Centre Payments	INR 47,114
Wages	INR 232,128
Travelling and Daily Allowance	INR 93,888
Bonus	INR 13,500
<b>Opex Power</b>	
Electricity charge for pump house	INR 737,908
<b>Opex Minor Spares</b>	
Materials for repair	INR 103,092
<b>Opex Office</b>	
Printing & Stationery	INR 14,894
Electricity Charge for Office	INR 5,145
Telephone charge for office	INR 20,503
Telephone charge for pump house	INR 4,979
Office building maintenance	INR 238,296
Karunya nidhi	INR 5,000
Food and refreshment	INR 17,529
Function expenses	INR 60,468
Bank charge	INR 901
DTP Centre alteration	INR 34,120
Transporting charge	INR 12,120
Audit fee	INR 5,000
Akshaya centre	INR 1,014
Computer repairing charges	INR 18,020
Estimate preparation expenses	INR 28,554
Study tour expenses	INR 16,234
Publicity expenses	INR 7,500
Rain coat expenses	INR 5,880
Loan interest	INR 66,352
Depreciation	INR 190,160
	INR 2,916,334

**NENMENI SUDHAJALA VITHARANA SOCIETY, CHEERAL, WAYANAD**  
**SCHEDULE FORMING PART OF ACCOUNTS FOR THE**  
**YEAR ENDED 31ST MARCH 2015**

SCHEDULE -E FIXED ASSETS PARTICULARS	Balance as on 01/04/2014	Addition up to 30/09/2014	Addition after 30/09/2014	Deduction	Total	Depreciation		WDV
						Rate	Amount	As on 31/03/2015
					1,404,091.00	0%	-	1,404,091.00
Land	1,404,091.00	-	-	-	346,983.55	5%	17,349.18	329,634.37
Building	346,983.55	-	-	-	151,795.30	10%	15,179.53	136,615.77
Furniture & Fittings	151,795.30	-	16,750.00	-	130,032.70	60%	72,994.62	57,038.08
Computer and Accessories	113,282.70	-	-	-	6,398.38	15%	959.76	5,438.62
Water Meter	6,398.38	-	-	-	17,140.66	15%	2,571.10	14,569.56
Tools and Equipments	16,790.66	350.00	-	-	6,509.13	15%	976.37	5,532.76
Office Equipments	6,509.13	-	-	-	3,251.25	15%	487.69	2,763.56
Induction Cooker	3,251.25	-	-	-	432,745.63	15%	64,911.84	367,833.79
Motor	432,745.63	-	-	-	20,531.19	10%	1,973.12	18,558.07
Electrical & Electronic Equipments	17,836.19	1,095.00	1,600.00	-	3,891.94	15%	583.79	3,308.15
Camera	3,891.94	-	-	-	668.31	15%	100.25	568.06
Battery	668.31	-	-	-	943.50	15%	141.53	801.98
Water Tank	943.50	-	-	-	527.43	15%	79.11	448.32
Paper Cutter	527.43	-	-	-	250.00	100%	250.00	-
Library Books	250.00	-	-	-	77,350.00	15%	11,602.50	65,747.50
Chlorine unit	77,350.00	-	-	-	2,603,109.97		190,160.35	2,412,949.59
	<b>2,583,314.97</b>	<b>1,445.00</b>	<b>18,350.00</b>	<b>-</b>				