COMMUNITY MANAGEMENT OF RURAL WATER SUPPLY

Community Water *plus*

The Administrative Staff College of India, Hyderabad

Understanding the resource implications of the 'plus' in community management of rural water supply systems in India: decentralisation for efficient service delivery, Kodur Gram Panchayat, Kerala

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Community Water *plus* 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

The 73rd and 74th Constitutional Amendments and the conformity of Panchayat Raj Act of 1994 and the amendments effected in 1999 provides the statutory frame work for creating functional, financial and administrative autonomy at the level of the third stratum of government in Kerala. Kerala has adopted a 'big bang' approach in transferring functions, functionaries and funds to local governments and the results are evident as Kerala is the frontrunner in the Devolution Index in India. Fiscal Decentralization initiatives in Kerala constitute a best practice with the State following the classical principles of devolving funds to Local Governments. Kerala was the first State in the country to set up a statutory Rural Development Board to raise funds from the market through debentures and channel them to Village Panchayats for commercially viable projects.

Village Panchayats have an average population of around 27000 which makes them viable units for public service delivery and for grass root planning. Panchayats emergence as institutes of self-government or the third stratum of governance has resulted in high democratic functioning where citizens participate directly in the process of decision making.

Rural Water supply is substantially under the PRIs with the Kerala Water Authority (KWA) concentrating on larger schemes. Kerala Water Authority is an autonomous authority established for the development and regulation of water supply and waste water collection and disposal in the state of Kerala, India.

According to the Panchayati Raj Act, a request for a new scheme is put forward in a Gram Sabha (a meeting held at a ward level in Kerala, where a representative from each household is expected to participate in the decision making process concerning their ward). The Gram Panchayat considers this request and puts forward a proposal to KWA. The KWA prepares the technical detailed project report with financial component for implementing the scheme and passes this information to the Gram Panchayat. It is the responsibility of the Gram Panchayat to mobilize the funds for the scheme. Once the resources are pooled, the Panchayat deposits the money with KWA. KWA completes the scheme and hands it over to the Beneficiary Group. The Gram Panchayat also deploys an Engineer (or Overseers) from the Local Self Government Department (LSGD) to supervise and check the work in progress to ensure the quality of construction. The engineer and the overseers are permanent staff members with the Panchayat who have been transferred from Irrigation department.

Kodur Gram Panchayat in Malappuram district has been selected as a case to carry out the research.. The Panchayat has a population of forty five thousand seven hundred and twenty three (45,723). There are about 21 wards in this panchayat. The panchayat supports around 24 drinking water schemes. 3 schemes which serve more than 100 households (each) have been selected to carry out the research study. These schemes are – Keriparambu, Peringottupalem and Cheruparambu.

The Kodur Gram panchayat has been awarded an ISO 9001-2008 certificate. Number of standard tools and instruments for support are applied in a structured manner, for example all the proposals are applied and reviewed online (LSGD of Kerala has its own website and each panchayat has its own account. The fund transfer takes place only of the panchayat complies to all the requirements as stated in the proposal). Work is done systematically and effectively. Thus, the panchayat has become an institution of quality of service delivery to citizen and is intended to bring more professionalism in service delivery and administration.

The Panchayat has a number of communication channels that are well used for contact with the service providers it supports. All the operations are held at Gram Panchayat office. The secretary, ward members, other officers and support staff are easily accessible to the communities.

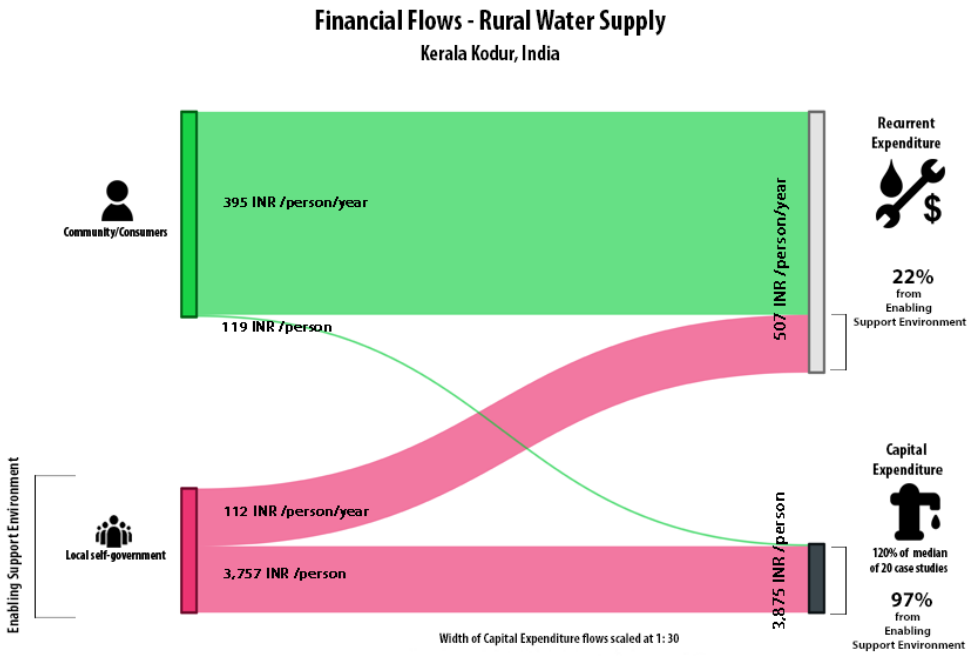
One of the key areas where are service providers are totally dependent on the Panchayat is for fund mobilization. The Panchayat has spent around INR 6, 40,239 in 2014-15 towards water service provision.

The decentralization policy in Kerala has empowered the communities to operate and maintain their own water schemes efficiently. However, in case of major emergencies and natural disasters, the Beneficiary Groups are dependent on Panchayat to mobilize financial resources.

Kerala Kodur Summary Cost Table - calculated as the average cost per person, that is averaging across the 3 'successful' villages

Source of funds	Use of funds - implementation			Use of funds - annual recurrent					
	CapEx hardware	CapEx software	CAPEX TOTAL	OpEx labour & materials	OpEx power	OpEx bulk water	OpEx enabling support	CapManEx	RECURRENT EXPENDITURE TOTAL
Community/consumers	INR 119	-	INR 119	INR 170	INR 74	-	-	INR 151	INR 395
Local self-government	INR 3,757	-	INR 3,757	-	-	-	-	INR 112	INR 112
	-	-	-	-	-	-	-	-	-
State government entity	-	-	-	-	-	-	-	-	-
State water supply agency	-	-	-	-	-	-	-	-	-
National Government	-	-	-	-	-	-	-	-	-
NGO national & international	-	-	-	-	-	-	-	-	-
International donor	-	-	-	-	-	-	-	-	-
TOTALS	INR 3,875	-	INR 3,875	INR 170	INR 74	-	-	INR 263	INR 507
Median of 20 case studies			INR 3,231						INR 207
'Plus' %age	97%	-	97%	0%	0%	-	-	43%	22%
Median of 20 case studies			95%						57%

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



Acknowledgements

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All photos in the report are taken by Shaili Jasthi and Swapna Uddaraju, unless indicated otherwise.

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. Dr Snehalatha Mekala was the national research coordinator.

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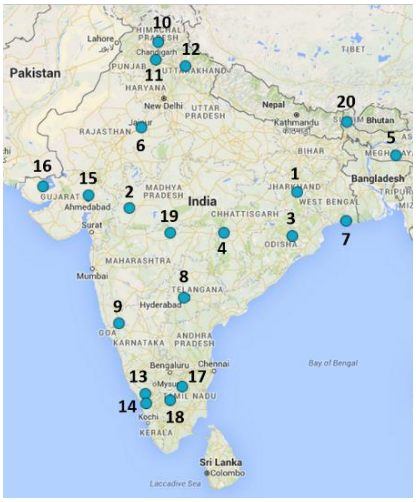


The twenty case studies

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.

Contents

1 Introduction

This report is part of the Community Water plus series of case studies on community-managed rural water supply in India. It documents the efficient service delivery by Beneficiary Groups supported by the decentralization policy in Kerala. This report describes the support arrangements for the Beneficiary Groups in detail, and assesses the effects of the support in terms of service delivery. It also provides an approximation of the costs involved in support.

1.1 Background to the case study, the topic and the community water plus project

Community management has long been recognised to be critical for rural water supply services. Indeed, community management has contributed significantly to improvements in rural water supplies. However, those supplies are only sustainable when communities receive appropriate levels of support from government and other entities in their service delivery tasks. This may consist of easy access to call-down maintenance staff from government entities, or support from civil society organisations to renew their management structures and they may need to professionalize—that is, outsourcing of certain tasks to specialised individuals or enterprises.

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

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

1.2 Overall objectives of the research and research questions

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

In order to achieve that outcome, the project focuses on the following main research question:

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

This is further broken down in the following specific questions:

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

- Can particular trajectories of professionalising and strengthening the support to rural water be identified?

This report provides the results from one of the case studies investigating the support services provided by Kodur Gram Panchayat, Mallapuram District, Kerala. Following discussions with various resource persons, this panchayat has been selected as it was understood that the decentralization process in Kerala has empowered the communities to operate and maintain their own water schemes.Four scheme areas - Keriparambu, Peringottupalem, Cheruparambu and *Kalaparambu* are selected for the purpose of this study.

1.3 Concepts and Methodology

Community Water *plus* (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 2-1 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[plus] 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

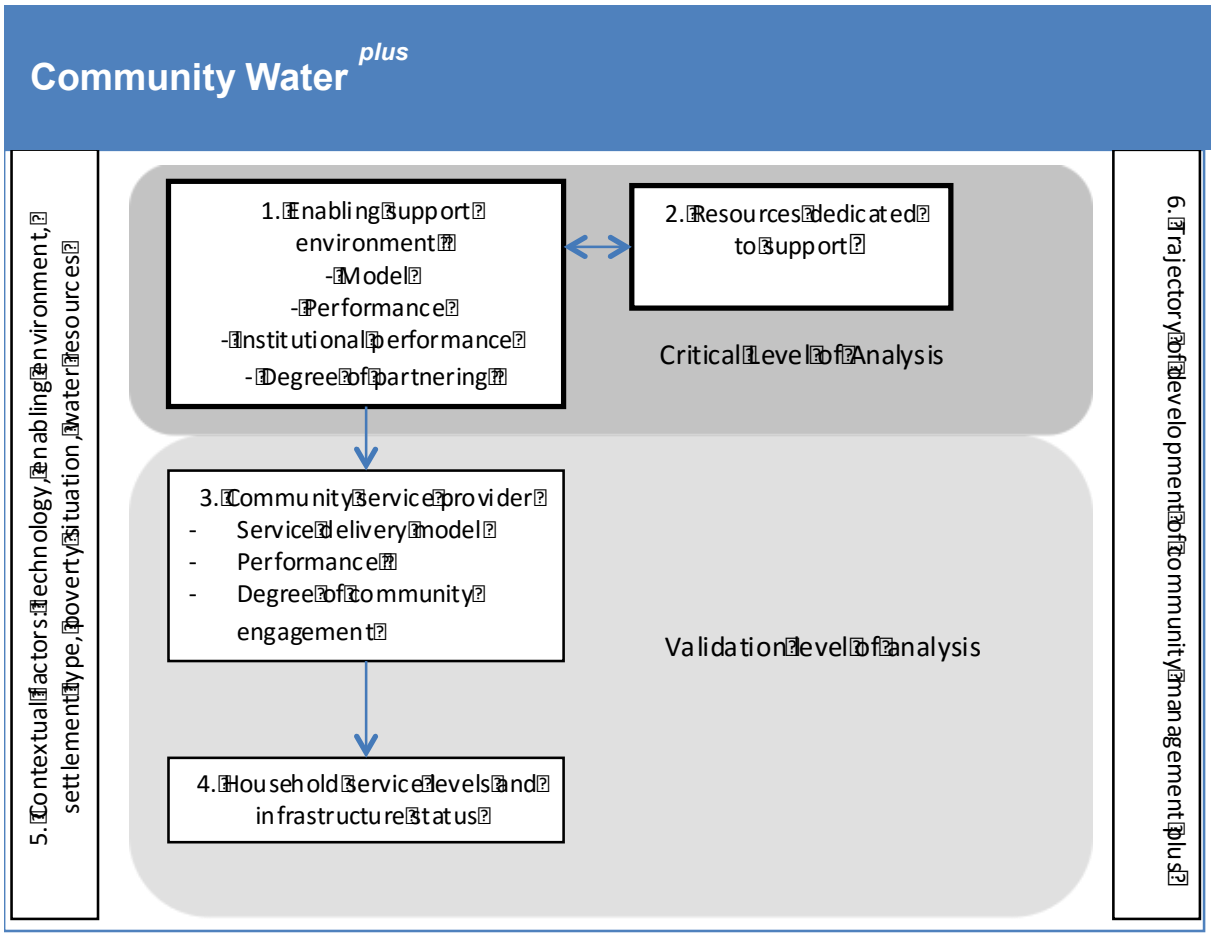


Figure 1.1 Elements of the research

1.4 Case study selection

The research team has scanned over 161 community-managed rural water supply programmes in India covering a combined population of nearly 50 million people. The team had shortlisted twenty successful case studies for this purpose of this study through a detailed process of selection using both secondary data and pilot visits.

Kerala has always set a benchmark for decentralized services in the nation. After a series of consultation meetings, the team selected Malappuram District for the purpose of the study. This district has large forest area covered with hills and the undulated topography makes it difficult for a sustainable water supply. The team has identified demand driven projects in the district which are conceptualised, planned and implemented by the users themselves as against the typical Governemnt "top-down approach". Apart from this, there are also other well-integrated components, which make this project unique in nature. The major objective of the organisation being the sustained provision of adequate quantities of safe drinking water to the rural population, sustainability of operations and adequacy of water are important and are designed into components within the project design. In Malappuram district, Kodur Gram Panchayat has been selected to carry out the research study.

Malappuram district has a literacy rate of 96.47%, higher than the national average of 59.5%: male literacy is 97.85%, and female literacy is 95.21%. The local economy is highly built upon the transfers by the migrants residing in the Middle East. The banking sector has witnessed huge deposits from the NRIs. Malappuram also holds top ninth position with highest per capita bank deposits in India. The district banks on the Kadalundi River (Kadalundipuzha). This rain-fed river is 110 kilometres long and is one of the most important rivers in the district. It is formed by the confluence of the Olipuzha

River and the Veliyar River. The Kadalundi originates from the Western Ghats at the western border of the Silent Valley and flows through the district of Malappuram.

The panchayat supports around 24 drinking water schemes. 3 schemes which serve more than 100 households (each) have been selected to carry out the research study. These schemes are – Keriparambu, Peringottupalem and Cheruparambu. In addition to these schemes, a fourth scheme is selected as a control. This scheme is facing severe water crisis. The water is supplied by KWA to this location, which was told as highly irregular. The community has now put forward a proposal to the Panchayat, requesting for an independent scheme. The new scheme is named as *Kalaparambu*. This scheme area had been selected as a control as the scheme has not yet started. For clarity, the control scheme area would be called as *Kalaparambu* hereafter.

1.5 Data collection and analysis

Data collection was conducted during the month of August of year 2015. In total, 14 key informant interviews, 9 Focus Group Discussions and 120 household surveys were conducted and materials from secondary sources (such as organisational reports) were collected.

Table 1.3.2.3: Data Sources

Unit of Analysis	Data Sources
Enabling Support Environment	• 10 Key Informant Interviews • 1 Focus Group Discussion • Secondary Information
Service Provider	• 4 Key Informant Interviews • 4 Focus Group Discussions (1 in each scheme area with the Beneficiary Groups of 3 successful schemes and 1 with the community in the control scheme area) and 1 FGD with a neighbouring Gram Panchayat • Secondary Information
Households	• 120 Household Surveys (30 in each scheme) • 4 Focus Group Discussions (1 in each scheme)

1.6 Structure of the report

Chapter 1 introduces the case study and presents the concepts and methodology used for this study. The second section focuses on the Enabling Support Environment (ESE) level which is the organisation that ensures service provision, in this case it is the Kodur Gram Panchayat. Following this, the third section details on Community Service Providers (CSPs) in each of the four villages, which are the Beneficiary Groups. Household service levels are captured in chapter four. The fifth chapter presents the financial data that computes a figure to enable the provision of services for sustainable community management of rural water systems. The conclusions are listed in the sixth chapter.

2 Enabling Support Environment

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

The 73rd and 74th Constitutional Amendments and the conformity of Panchayat Raj Act of 1994 and the amendments effected in 1999 provides the statutory frame work for creating functional, financial and administrative autonomy at the level of the third stratum of government in Kerala. (Oommen, M. A., 2004). Kerala has adopted a 'big bang' approach in transferring functions, functionaries and funds to local governments. It has now been accepted as the frontrunner in the Devolution Index in India. Fiscal Decentralization initiatives in Kerala constitute a best practice with the State following the classical principles of devolving funds to Local Governments. Kerala was the first State in the country to set up a statutory Rural Development Board to raise funds from the market through debentures and channel them to Village Panchayats for commercially viable projects. The Rural Development Board Act was brought into force in 1971. The 978 Gram Panchayats, 60 Municipalities and 5 Municipal Corporations in Kerala now handle annually around INR 8,000 crores. (Government of Kerala, 2013).

To operationalize decentralisation, Kerala chose the path of participatory local level planning as the entry point. This succeeded to a considerable extent in harnessing public action in favour of decentralisation. Village Panchayats have an average population of around 27000 which makes them viable units for public service delivery and for grass root planning. The large population and size of Village Panchayat affects public participation through village-wide Grama Sabhas. Therefore Kerala has gone in for sub-Village Panchayat Grama Sabhas at the level of the Ward which is the electoral constituency of a Village Panchayat Member. Panchayats emergence as institutes of self-government or the third stratum of governance has resulted in high democratic functioning where citizens participate directly in the process of decision making.

Rural Water supply is substantially under the PRIs with the Kerala Water Authority (KWA) concentrating on larger schemes. Kerala Water Authority is an autonomous authority established for the development and regulation of water supply and waste water collection and disposal in the state of Kerala, India. It is a government-owned organization. The authority was founded on 1 April 1984. Kerala Water Authority is governed by a board chaired by the Chairman, usually the Principal Secretary/ Secretary, Department of Water Resources, Government of Kerala. The board also includes the Secretaries of the departments of finance, local self-government, the Executive Director of KRWSA, Managing Director, Technical Member, Accounts Member of Kerala Water Authority and three members from local self-government institutions.

According to the Panchayati Raj Act, a request for a new scheme is put forward in a Gram Sabha (a meeting held at a ward level in Kerala). The Gram Panchayat considers this request and puts forward a proposal to KWA. The KWA prepares the technical detailed project report with financial component for implementing the scheme and it passes this information to the Gram Panchayat. It is the responsibility of the Gram Panchayat to mobilize the funds for the scheme. Once the resources have been arranged, the Panchayat deposits the resources to KWA. KWA completes the scheme as a deposit work and hands it over to the community.

KWA also distributes water through public taps, for which the rent is paid by the Gram Panchayat.

The Gram Panchayat also deploys an Engineer (or Overseers) from the Local Self Government Department (LSGD) to supervise and check the work in progress to ensure the quality of construction.

The engineer and the overseers are permanent staff members with the Panchayat who have been transferred from Irrigation department. They also assist in providing technical help to schemes which provide services to households which are less than hundred in number. Village Panchayats are supported by verseers two Village Panchayats share an Assistant Engineer and two Block Panchayats share an Assistant Executive Engineer. At the District Panchayat level, there are two Executive Engineers with supported by technical assistants and support staff. The salaries of the staff transferred continue to be paid for by Government. This prevents unnecessary burdening of Local Governments with the costs and efforts of salary disbursement and account keeping. The Engineering department at the village level gives handholding support to smaller project schemes (with less than 100 household connections) in the village.

The key responsibilities of LSGD are:

- Prepare estimates (roads, extended pipelines, etc)
- Site inspection
- Building permit
- Allocation of house numbers
- Repair works of Anganwadis
- Road cleaning
- Drainage works
- Maintenance of wells, etc.

The Gram Panchayat allocates funds and the LSGD prepares schemes. Once a technical document is prepared, contractors are identified through the process of tendering (the 'Standard Schedule of Rates' is followed for the tendering processes). The Beneficiary Groups also oversee the work in progress. LSGD usually undertake the works that can be completed in less than five lakhs.

Even the own staff of Local Governments i.e., Village Panchayats and Municipal bodies who are paid for by the Local Governments themselves are recruited through the Public Service Commission. Based on work-study, staff pattern has been fixed for different types of Local Governments. Only government can create new posts in Local Governments. Now a policy decision has been taken to constitute unified Ministerial and Management cadres to service all Local Governments.

2.2 Enabling support environment description

Kodur Gram Panchayat is a PRI body. The modality of support to communities is demand driven and on-request basis, wherein the communities approach the Gram Panchayat for its support. The Panchayat has a population of 45,723. There are about 21 wards in this panchayat. There are around 24 water schemes in this panchayat. There are 4 major schemes that serve above 100 HHs each and 20 minor schemes that serve below 100 HHs each. Minor schemes operate on single open well or bore well. The details of the schemes are presented in the below table.

Photograph 1: Minor scheme where the source of water is an open well.

Table 2.1 Water Schemes in Kodur Gram Panchayat

#	Name of the Scheme	Source	Number of HH Connections	Technical Support	Maintenance
1	KWA Supply	Kadalundi River	GP area	KWA	KWA
2	Peringottupulam	Kadalundi River	> 100	KWA	Community
3	Keriperambu	Kadalundi River	> 100	KWA	Community
4	Cheruperambu	Kadalundi River	> 100	KWA	Community
5	Nayarthodi	Open Well/Bore well	< 100	LSGD	Community
6	Kachadiperambu	Open Well/Bore well	< 100	LSGD	Community
7	Mangathupulam	Open Well/Bore well	< 100	LSGD	Community
8	Chettur	Open Well/Bore well	< 100	LSGD	Community
9	Nayadikunnu	Open Well/Bore well	< 100	LSGD	Community
10	Korothen Kadavu	Open Well/Bore well	< 100	LSGD	Community
11	Palur	Open Well/Bore well	< 100	LSGD	Community
12	East Kodur Manjarikundu	Open Well/Bore well	< 100	LSGD	Community
13	East Kodur Kurakankun	Open Well/Bore well	< 100	LSGD	Community
14	East Kodur Niratpaliyali	Open Well/Bore well	< 100	LSGD	Community
15	Thanikkal Palakunnu	Open Well/Bore well	< 100	LSGD	Community
16	Kotaperambu	Open Well/Bore well	< 100	LSGD	Community
17	Alpattu Kulambu	Open Well/Bore well	< 100	LSGD	Community
18	Puliyatukulam Pamparam	Open Well/Bore well	< 100	LSGD	Community
18	Kongayam	Open Well/Bore well	< 100	LSGD	Community
19	Valiyadu Arakalpadi	Open Well/Bore well	< 100	LSGD	Community
20	Ambalathara Drinking	Open Well/Bore well	< 100	LSGD	Community
21	Kuliyatupulam	Open Well/Bore well	< 100	LSGD	Community

22	Puliyatukulam Pamparam	Open Well/Bore well	< 100	LSGD	Community
23	Palayakadu	Open Well/Bore well	< 100	LSGD	Community
24	Chanal	Open Well/Bore well	< 100	LSGD	Community

The Kodur Gram Panchayat is supported by 24 officers. Out of these 24 members, 3 of them belong to the LSGD Section which is headed by an Assistant Engineer and supported by 2 Overseers. There is one village Extension Officer under the Housing Department. Agricultural Department has 3 officers and is supported by one person. The health department has 4 doctors (1 Allopathy Doctor, 1 Ayurvedic Doctor, 1 Homeopathy Doctor and 1 Veternery Doctor) and also supported by a live-stock engineer. There are 9 admin-related people who belong to the cadres of Secretary Assistant Secretary, Head Clerk, Senior Clerk and Lower Division Clerk. The Panchayat is equipped with2 support staff. This Panchayat has been awarded withIS0-9001 certification and has a dedicated person (on contractual basis) for network support.

In the last financial year (2014-15), the Panchayat has spent over INR 6,40,239 towards Water and Sanitation. All the schemes (except for one, in which the KWA provides water through its network) are demand driven. Following lists out the responsibilities of the Kodur Gram Panchayat towards provision of water services to the communities:

- **Monitoring and control (auditing)**: Once the scheme is handed over, the Beneficiary Group has full ownership on the scheme. The Panchayat does not monitor any of the activities thereafter.

- **Water quality testing**: In Kerala, people have the habit of boiling water with locally available herbs that help in the purification of water. This is the practice across all the households in most of the villages. The Panchayat neither takes any extra measures in ensuring the water quality nor does perform regular water quality tests.

- **Water resources management**: The source for major schemes is Kadalundi river. The source for smaller schemes is groundwater in form of open wells or bore wells. The ground water levels in this region are high and almost every house has its own open well. However, the Panchayat doesn't take in steps in the direction of source conservation.

- **Technical assistance**: LSGD acts as technical advisory to the Gram Panchayat. In case of major schemes, the technical part is handled by KWA as a deposit work. For minor schemes, the technical reports are prepared by LSGD and then the project is completed through tenders.

- **Conflict Management**: Usually, everyone gets good quantity of water and hence there are no issues of conflicts. But, if a situation as such arises, ward members and the Beneficiary Groups would try to negotiate between the people with help of Gram Panchayat. One of the note-worthy points about Kerala is how people from different walks of life have learned to stay in peace with each other..

- **Support in identifying investments needs:** The Beneficiary Groups approach Gram Panchayat with the request for new scheme. After the preparation of a DPR by the KWA, the Gram Panchayat identifies the investment needs. Sometimes, when the O&M is not met through tariff collection, additional amounts are sought out from the Gram Panchayat. The Panchayat mobilizes funds through various channels which also includes MLA and MP local development funds.

- **(Re)training of service provider**: All admin staff are trained at periodic intervals at Kerala Institute of Local Administration (KILA). Whenever any person gets promoted, he/she will also be trained. Training on Technical skills, Communication, Computer Proficiency, etc are given at this institute. But, the Beneficiary Groups act upon their own existing knowledge or seek help from the other trained personnel.

2.2.1 Roles and Responsibilities of all the stakeholders

All the policy related decisions are taken by the Gram Panchayats. Huge funds are disbursed to the PRI to enable decentralized planning and service delivery. The funds are deposited with Kerala Water Authority which provides technical assistance as well as constructs the infrastructure. After the completion of construction, the scheme is handed over to the Beneficiary Group. Kodur Gram Panchayat is also supported by LSGD with staff of an Engineer and two overseers.

Day to day operations of the schemes is the responsibility of the Beneficiary Groups who employ technical/experienced personnel who are directly involved in daily O&M. With respective to capital maintenance and asset renewal, the request is put forward to the Gram Panchayat by the Beneficiary Groups. The tariff is collected by the Bill collectors who are employed by the Beneficiary Groups (or the households come and pay at the office premises). The whole auditing process and performance assessment is taken care by the Beneficiary Groups.

In the whole process, an household's responsibility is to pay tariff on monthly basis and also he/she can take part in Beneficiary Group meeting to give valuable feedback for better service provision.

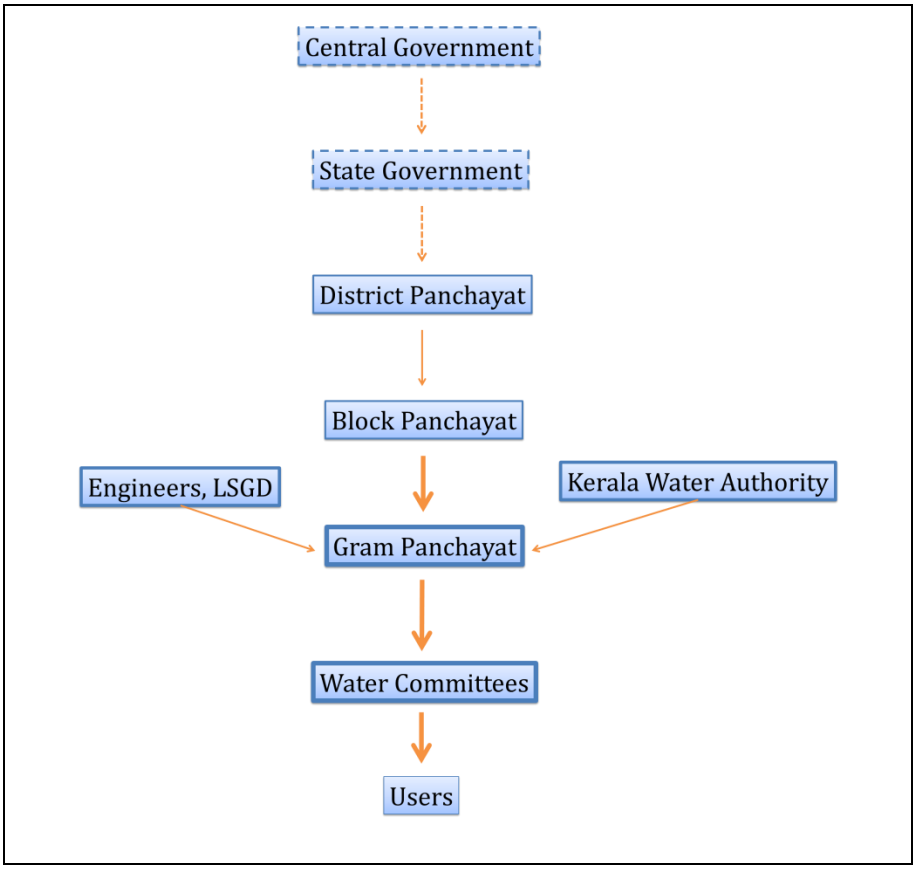


Figure 2.1 Stakeholder mapping of WSS

Photograph 2: A meeting of a Beneficiary Group held to discuss latest concerns regarding water service provision

2.2.2 Activity & Responsibility Matrix

The table below depicts the roles and responsibilities of the service providers. That is, it shows who is responsible, involved, interested and pays for things at the community level.

Table 2.2 Activity and Responsibility Matrix

Entities / Actors	Central Government	State Government	KWA	District Panchayat	Block Panchayat	Gram Panchayat	LSGD	Beneficiary Groups	Operator/ Mechanic	Households
Allocation of finance / Budgetary approval	PAY	PAY	INV	PAY	PAY	PAY	INT	INV		
Monitoring service levels & water quality								RES + PAY	RES	INT
Project planning			INV	INV	INV	INV		INV		INT
Infrastructure design & implementation			RES	PAY	PAY	INV + PAY		INV		INT
Social intervention design and implementation										
Operation and minor maintenance								INV + PAY	RES	INT

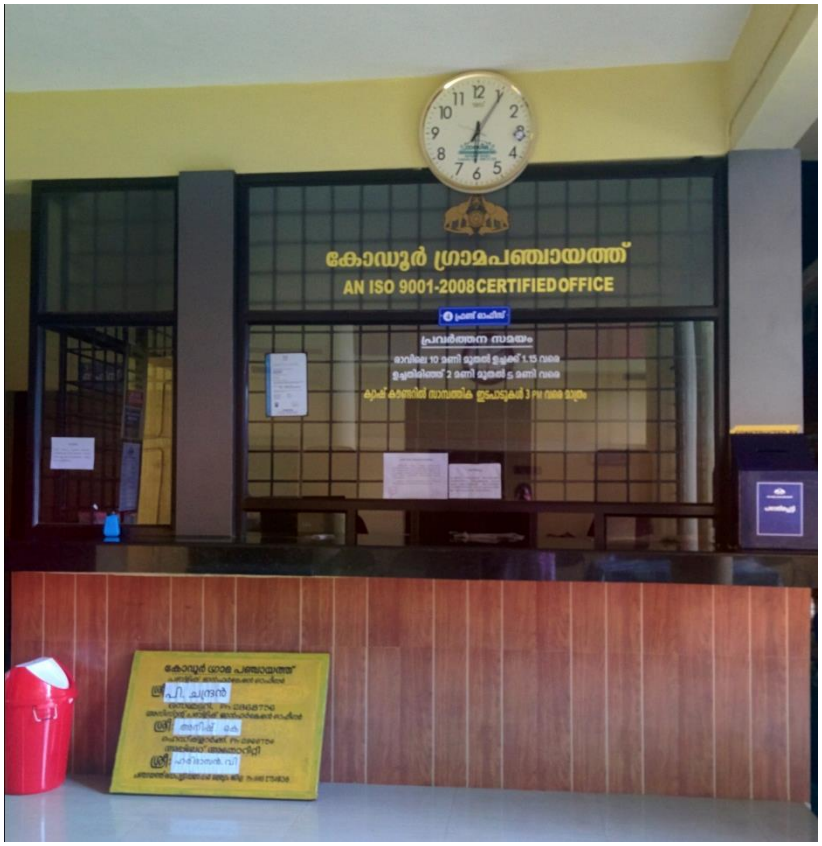
Ongoing software support to community								INV + PAY	RES	INT
Water resources management measures			RES			RES				
Capital Maintenance and renewal			INV			INV + PAY		INV + PAY	RES	INT
Major repair						INV + PAY		INV + PAY	RES	INT
Approval of user charges								RES		INV
User charge collection								RES		INV
Management of community involvement								RES	INV	INT
Community capacity development & Training										
Dispute resolution						INT		RES	INV	INT
Paying of water charges								RES	INV	RES + PAY
Institutional & human resources development										
Auditing								RES	INV	INT
Evaluation/performance assessment										

2.3 Enabling support environment performance indicators

An assessment was made of the performance of the support entities in their respective roles, against a number of predefined scores as per the research protocol.

Kodur Gram Panchayat is part of a 3-tier body with autonomous decision-making powers. There is an existence of a formal mandate for support to service providers. The 73rd and 74th Constitutional Amendments and the Panchayat Raj Act of 1994 and the amendments effected in 1999 provides the statutory frame work for creating functional, financial and administrative autonomy at the level of the third stratum of government in Kerala.

The state of Kerala is far ahead of its counterparts in implementing e-governance programmes in the local government. The panchayat is ISO 9001-2008 certified. Number of standard tools and instruments for support are applied in a structured manner. Thus, the panchayat has become an institution of quality of service delivery to citizen and the steps through ICT for paperless local government offices will soon be upgraded to international standards of organization and management.



Photograph 3: ISO 9001-2008 Certified Office of Kodur Gram Panchayat

Once a scheme is completed, it is handed over to the community and there is no involvement of the Gram Panchayat. The Gram Panchayat is aware of the service provision through informal communication with some of the members of the Beneficiary Groups or through ward members.

The Panchayat has a number of communication channels that are well used for contact with the service providers it supports. All the operations are held at Gram Panchayat office. The secretary, ward members, other officers and support staff are easily accessible to the communities.

One of the key areas where are service providers are totally dependent on the Panchayat is for fund mobilization in the capital investment stage. The Gram Panchayat takes full control in fund mobilization and in completion of the scheme. Since, the project is handed over to the communities after the completion, the Gram Panchayat is nowhere in concern with the daily O&M. However, if the service provider requests for any sort of assistance from the Panchayat, the response time would be anywhere between 24-72 hours, depending on exigency of work. In the last financial year (2014-15), the Panchayat has provided financial support to five Beneficiary Groups Hence, the effectiveness of receiving financial support from the panchayat is would be around 21% (ratio between number of Beneficiary Groups supported to total number of Beneficiary Groups (24) that are supported by the Panchayat). These 5 Beneficiary Groups received support during the last year from a staff of 4 (3 Engineers and 1 clerk), hence the efficiency would be about 80% (Ratio between the number of Beneficiary Groups to the staff devoted towards water service delivery.

The O&M expenditure for the year 2014-15 is INR 6,40,239. An average amount of INR 1,29,000 was spent on each service provider in the year 2014-15.

2.4 Enabling support environment institutional assessment

In this section, the ESE is assessed on various parameters to understand its strengths. Following is the outcome of the research undertaken to assess the strengths and weaknesses.

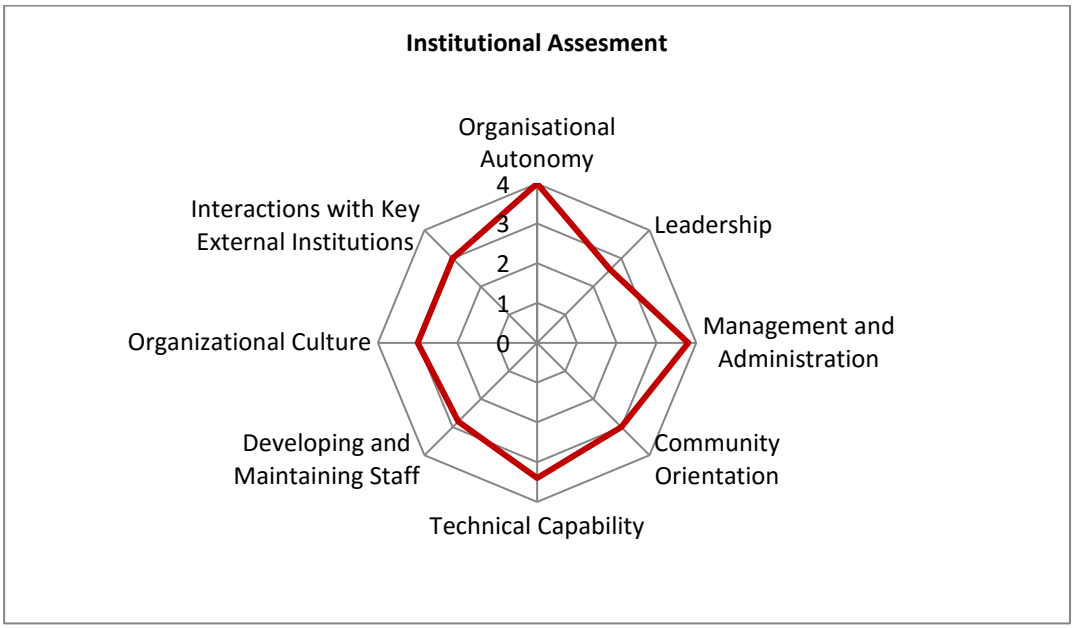


Figure 2.2 Institutional Assessment

Organizational Autonomy: The policy atmosphere in Kerala allows a panchayat to set its own policies and goals and changes them as necessary to provide guidance and direction in achieving the objectives of the institution. Action plans are prepared every year. Proposals are formulated. Every year, Gram Panchayat gets certain its share of funds; and it also tries to bring in other funds (such as MP & MLA funds) to accommodate various expenditure. The panchayat is supported by and engineering department (LSGD) to carry studies for water related works. KWA is engaged to complete the projects as deposit works for major works related to creation of infrastructure for water service delivery,. The roles and responsibilities of each and every individual is clearly chalked out. Being a government institute, the employees enjoy all the perks of being employed in a government sector.

Leadership: Leadership here depends on elected representatives. The programmes and schemes also convey that there is an existence of balance between future vision and everyday operational matters. In Kodur Gram Panchayat, the elected representatives are allocated space for them to come and work on the matters they are concerned with. During the field visits, it was observed that the ward members played a significant role in the governance of the panchayat. Also, during the key informant interview with the Sarpanch, it was established that she was visionary towards developmental initiatives and has a lot of clarity on the functioning of the system. One reason why the panchayat is flourishing well can be attributed th the abled guidance and encouragement provided by the leaders.

Management and Administration: During the filed visits and interviews, it was clearly established that the officers have clarity on their own and others' roles and responsibilities. They communicate roles and expectations clearly to others and involve them in the process of defining their roles and responsibilities. All the project related files are computerized and readily available when required.

The state of Kerala is far ahead of its counterparts in implementing e-governance programmes in the local government. The Kodur Gram Panchayat is ISO 9001: 2008 certified. Thus, the institutions of

quality of service delivery to citizen and the steps through ICT for paperless local government offices is upgraded to international standards of organization and management. It is evident that the ISO certification has brought more professionalism in service delivery and administration. Further it provides for more transparency and commitment in the system. Continuous evaluation and upgradation has kept the administration modern and effective.

Community Orientation: In general, the Gram Panchayat doesn't approach the community, but it is the communities which approach the panchayat. However, the panchayat performs its duties diligently. The panchayat banks upon its Engineering department and KWA (for larger schemes) for technical advice. The marginalized groups, however, reach out to either their Beneficiary Groups or the ward members. There is clear evidence that the panchayat responds to complaints, emergencies, and suggestions which the Beneficiary Groups or the ward members make and its services are rated as good. The policy atmosphere encourages community participation and this can be translated into an efficient management and governance.

Technical Capability: All the engineers have a background in engineering and other professional staffs have profession degrees concerning their expertise. All of them together work in achieving the desired results. The KWA (which is the technical institution) also lends its support whenever necessary. The panchayat ensures effective control of the quality of the end product and all other technical operations. The LSGD or the KWA guarantees that all the designs are locally relevant.

Developing and Maintaining Staff: The staff of the Village Panchayats (even who are paid for by the Local Governments themselves) are recruited through the Public Service Commission. Based on work-study, staff pattern has been fixed for different types of Local Governments. Only government can create new posts in Local Governments. All the officials are trained at KILA. Now, a policy decision has been taken to constitute unified Ministerial and Management cadres to service all Local Governments. To protect the legitimate professional interest of staff a Code of Conduct has been legislated and detailed rules are issued. This helps officials in discharging their functions without fear or favour. Violation of the code is justiciable before the Ombudsman.

Organizational Culture: There is a harmonious atmosphere in the premises of Panchayat. The ward members and other staff work in good spirits. A panchayat managing a population of more than 45000 needs support from every person. The team displayed all these positive traits and also share a sense of ownership and pride in the work they do. The office infrastructure is very good and certainly meets the demands of their jobs. The office has good facilities and is depicted as a good place to work by the employees. Even the women feel safe and comfortable to work in this office.

Interactions with Key External Institutions: In Kerala, since the literacy rate is high, there is general awareness of various schemes and programmes among communities. Here, the communities have strong political connections, as a result of which getting funding for any schemes or projects are easy. The public participation is high and the policy decisions are bestowed to the local governments.

2.5 Enabling support environment partnering assessment

This section narrates the degree of partnering between the Gram Panchayat and the Beneficiary Groups. The nature of partnership varies across different stages of project, and the scenario in this case study is presented in the below figure.

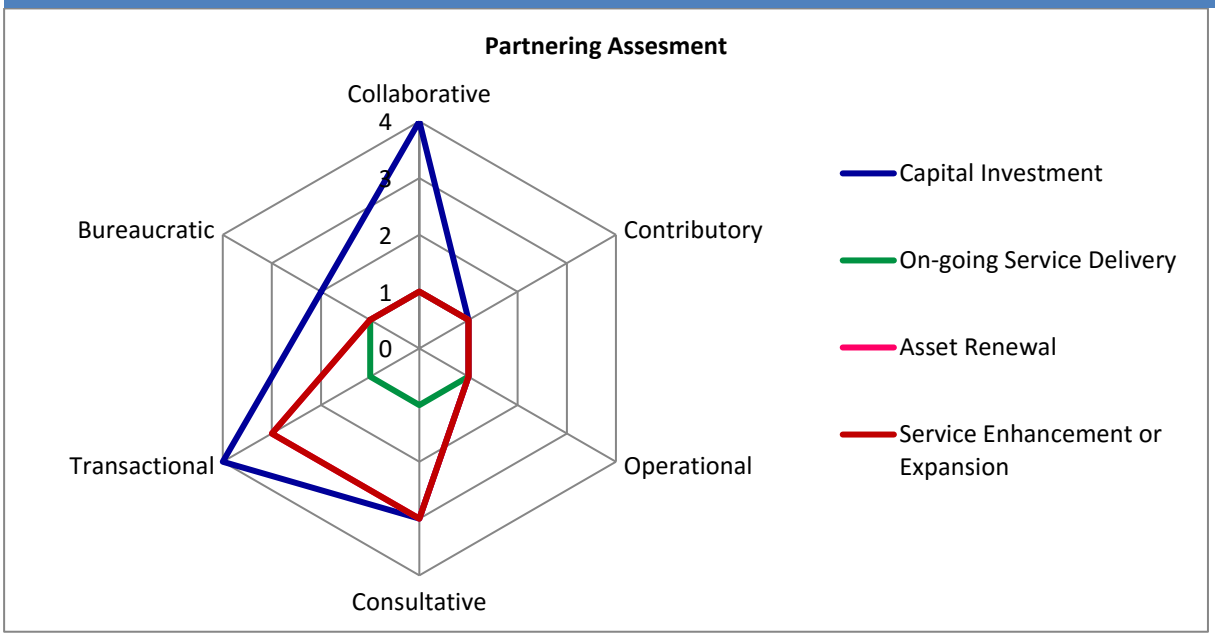


Figure 2.3 Partnering Assesment

In Kodur Gram Panchayat, the members in the community form a Benificiary Group first which then soughts out the assistance from the Panchayat. The partnerering in this stage are highly ranked for colloborative and transactional as the community puts forward a proposal to GP and both of them work together. Once the technical and finacial proposals are ready, the scheme is completed by KWA as a deposit work. There is no scope for a contributory or an operational types of partnerships as the Beneficiary Group or communties do not pool in any financial resources in the capital investment phase. Though the KWA prepares the technical plans, the Beneficiary Groups also play an important role in discussiong and implementing the plans suiting to their needs.

During the on-going service delivery phase, there is absence of any sort of partnership as the ownership lies entirely with the Beneficiary Groups which are solely responsible for making decisions regarding administration, management and operation and maintenance. The Beneficiary Groups cover costs of administration, management, and operation and maintenance through the collection of water taxes. . They outsource labour in cases of exigencies. The Beneficiary Groups are not liable to share any information with the Panchayat with respect to administration, management, and operation and maintenance. The implementation of decentralized governance has enabled the Beneficiary Groups to perform better with little or no extra support from the Panchayat.

There is a dependency on Gram Panchayat for service enhancement/expansion or asset renewal. When a need arises for service enhancement/expansion or asset renewal, the Beneficiary Groups put forward a proposal to the Gram Panchayat. The Gram Panchayat pools in financial resources for the services. The LSGD is approached for technical support for minor works (below INR 5 lakhs). If the work involves big amount, then the KWA is roped in; and here the Gram Panchayat's responsibility is to pool resources and deposit it in the KWA account. Once the technical proposal is prepared, the LSGD completes the work with the help of tendering process. Hence, only the consultative and transactional partnerships are more evident in these phases.

3 Community Service Provider

This chapter weighs on the working model and the performance of the community service providers (Beneficiary Groups). As indicated in the conceptual framework, the service provider assessment is above all a validation of whether the support that has been provided indeed leads to well-performance community service providers. To do so, this chapter first provides the context of the villages where the validation took place, describing their location and socio-economic characteristics of the population. This is followed by a reconstruction of the history of water development, based on the results of the focus group discussions with users and Beneficiary Groups. This is followed by the assessment of their respective service providers, using the descriptors and indicators and participation scores.

3.1 Context

The Kodur Gram Panchayat is selected as an Enabling Support Entity for this case study. The Panchayat supports around 24 drinking water schemes. The village thrives upon Kadalundi River which flows throughout the year. With a river in its periphery, it could easily be assumed that there wouldn't be any dearth of water resources for the community. However, the local topography (hill) and the size of population make it really difficult to serve the community equally. Plus, there is a huge distance between two consecutive households. KWA supplies water to the entire village from one overhead tank with a capacity of 50000 litres. The population size being almost around 46000, all households do not get sufficient quantities of water. Traditionally, the water source for a household was a private open-well. However, it was found out that the open-wells often go dry, especially in summer. Their quantity has vastly gone down and now these are just used for the purpose of drinking. A scheme with such problems is selected as a control for the purpose of this research study. In some parts of the Panchayat, the intensity of problems resulted in formation of Beneficiary Groups which propose water schemes for their location. Three such schemes have been selected for the purpose of the study. The four scheme locations that have been shortlisted for this case study are - Keriparambu, Peringottupalem, Cheruparambu and *Kalaparambu* (Control scheme, with limited access to regular water supply).

Table 3.1 Characteristics of the villages

Scheme	Keriparambu	Peringottupalem	Cheruparambu	*Kalaparambu*
Wards	Complete coverage of ward 19 and partial coverage of wards – 1, 16 and 18.	Complete coverage of wards 4, 5 and 6.	Coverage of Ward number 1 (Area which is not covered by Keriparambu)	Complete Coverage of Wards – 14, 15, and partial coverage of 16 and 18 (Area which is not covered by Keriparambu)
Population	2192	1800	520	5680
No. of households	548	450	130	1135
Water Source	Kadalundi River			
Enabling Support Environment	Kodur Gram Panchayat			

Community Service Providers	Beneficiary Group	Beneficiary Group	Beneficiary Group	No Beneficiary Group

Economic conditions of the four schemes are assessed based on the data collected from 30 household surveys in each village. From the below table, *Kalaparambu* area has high quality of housing (about 77%), whereas only 20% of the houses in Keriparambu fall in this category. All the respondents across all the areas are owners of land. The local economy is highly built upon the transfers by the migrants residing in the Middle East. The banking sector has witnessed huge deposits from the NRIs. Also, the NRIs prefer to own a good house in their native village. Most of the men are gulf-returned who now have their own businesses in the village or in nearby location.

Table 3.2 Economic Indicators

Economic indicators	Keriparambu	Peringottupalem	Cheruparambu	*Kalaparambu*
House type				
Low quality	0%	0%	0%	0%
Medium quality	80%	30%	33%	23%
High quality	20%	70%	67%	77%
Landownership				
Landowners	100%	100%	100%	100%
Landless	0%	0%	0%	0%
Ratio card				
Yes	97%	100%	100%	100%
No	3%	0%	0%	0%
Income (male household head)				
Up to 25,000	53%	7%	60%	33%
Up to 50,000	43%	43%	13%	33%
Up to 100,000	0%	27%	13%	20%
Up to 250,000	3%	20%	10%	13%
250,000+	0%	3%	3%	0%
Employment (male household head)				
1 - Agricultural	3%	0%	3%	13%
2 - Agricultural Wage Labour	17%	27%	20%	27%
3 - Gov/Regular/Irregular Non-Farm Employment	60%	10%	27%	7%
4 - Self-Employment Including Business	13%	40%	47%	13%
6 - Others	3%	17%	3%	40%
7 - Retried	3%	7%	0%	0%
8 - Homemaker	0%	0%	0%	0%

Social indicators were also collected as part of the household survey. Except Keriparambu, all the other villages have a majority of Muslim population. Keriparambu has an equal number of Hindus, Muslims and Christians. Half of respondents from Keriparambu hold a matriculation certificate; where as a large number of respondents from the other three schemes are either illiterate or discontinued their

education before they reached high school. The average household size in these scheme areas ranges from 4.5 to 5.7 as shown in the table below.

Table 3.3 Social indicators in the villages

Social indicators	Keriparambu	Peringottupalem	Cheruparambu	*Kalaparambu*
Religion				
Hindu	67%	7%	23%	20%
Muslim	33%	93%	77%	80%
Caste				
BC	33%	7%	23%	10%
MBC	33%	93%	77%	80%
SC	33%	0%	0%	10%
ST	0%	0%	0%	0%
Education (male household head)				
1- Illiterate	20%	7%	47%	7%
2 - 1st To 5th Class	30%	80%	23%	50%
3 - 6th To 10th Class	50%	0%	20%	30%
4 - Intermediate	0%	7%	10%	13%
5 - Degree	0%	3%	0%	0%
6 - Post Graduate	0%	3%	0%	0%
Household size				
Average (mean)	5.6	4.8	5.7	4.5

3.1.1 Infrastructure snapshot

The source for all the areas is Kadalundi River. An infiltration tank is dug in the River. Water is pumped with motors and pumped into the Overhead tank (location of overhead tank is usually at the top of the hill) with the help of a mainline. The water is distributed to every household with the help of a distribution network. In these areas, there is absence of chlorination process as people have their own, tradition method of water purification. All the household connections are metered. Table 3.1.3 presents the infrastructure snapshot of all the four villages.

Table 3.4 Infrastructure Snapshot

System component	Keriparambu	Peringottupalem	Cheruparambu	*Kalaparambu*
Intake structure	14 years old Infiltration (Sand) Tank	4 years old Infiltration (Sand) Tank	10 years old Infiltration (Sand) Tank	Assumed to be more than 25 years old
Motorized Pump	3 motors with 25 HP which are used alternatively. One is 14 years old. The other two are 10 and 2 years old	2 motors with 40 HP which are used alternatively. One is 4 years old and the other is a year old	2 motors with 8 HP which are used alternatively. One is 9 years old and the other is 5 years old	Assumed to be more than 25 years old

Electricity Panel	There are 3 electricity panels corresponding to the motorized pumps. These are procured in the same year that of motorized pumps	There are 2 electricity panels corresponding to the motorized pumps. These are procured in the same year that of motorized pumps	There is 1 electricity panel corresponding to the motorized pumps which was repaired in the year 2009	Assumed to be more than 25 years old
Reservoir	135,000 Litres capacity reservoir which is 14 years old	110,000 Litres capacity reservoir constructed in 1998, but became operational only since 2010.	50,000 Litres capacity reservoir which is 10 years old	100,000 Litres capacity reservoir for entire Gram Panchayat.
Main Line	Cast Iron and GI Pipelines; 14 years old	Cast Iron and GI Pipelines; 4 years old	GI Pipelines were laid in 2004 and PVC pipelines were laid in 2012	Assumed to be more than 25 years old
Distribution Network	PVC Material; 14 years old	PVC Material; 4 years old	PVC Material; 10 years old	Assumed to be more than 25 years old

Photographs 4&5: Pump house of the Keriparambu scheme

3.2 Community service provider descriptors

In general, there is a harmonious atmosphere in the Panchayat. Different members who have time and passion for service come forward and form Beneficiary Groups to serve people. Beneficiary Groups may be many in number in a panchayat which may be restricted to one or two-four wards at the maximum. These Beneficiary Groups are registered under the Society Act. They comply with all the legal statutes and have their own mandate.

Photograph 6: accountant of Peringottupalem Scheme

All the houses are constructed on a hill. It is commendable that the Beneficiary Groups tried to provide each and every house with a metered piped water supply. The coverage is 100 per cent.

A slab system is followed for collecting water tax. The details of this system are given in the table below. A user has to pay a minimum of INR 1000 towards security deposit. Cost for procurement of meters, materials and labour charges are extra.

Table 3.5 CSP Descriptors

Scheme	Keriparambu	Peringottupalem	Cheruparambu	*Kalaparambu*
Entity	Beneficiary Group is a Formal Water Committee registered under Society Act			No Beneficiary Group
Population covered	2192	1800	520	5680
Members of governing body	12	15	10	Data not available
Staff	3 (1 Valve Operator,1 Pump Operator and 1 Meter Reader and 1 Accountant who is also the member of governing body)	6 (2 Meter Readers, 2 Valve Operators, 1 Pump Operator and 1 Accountant)	2 (1 Meter Reader + 1 Valve Operator)	Data not available
Coverage	100%	100%	100%	100%
Household connection coverage	100%	100%	100%	100%
Meters	Household metered connections			
Tariff (per month)	Rate/1000 Litres: Upto 15,000 Litres - INR 80/Month >15000 Litres - INR 4/1000 Litres > 25,000 Litres - INR 8/1000 Litres	Rate/1000 Litres: Upto 10,000 Litres, a flat rate of INR 70/Month, Above 10,000 Litres, INR 10/1000 Litres	Rate/1000 Litres: Upto 12,000 – INR 70/Month Above 12,000 Litres - INR 5/1000 Litres	Water is delivered at 2paise/10 Litres. Apparently, KWA is in losses as power charges are huge and it is difficult to meet this cost with tariff collection
Connection costs	INR 1000 (Security Deposit, Materials cost and Labour charges extra)	INR 4000: INR 1000, Security Deposit INR 3000 Includes material and labour cost	INR 1500 (Security Deposit, Materials cost and Labour charges extra)	Connection Cost - INR 1000 Meter Cost- INR 500, Materials cost and Labour charges extra)

3.2.1 Detailed focus on who is doing what

Building on the previous section, we now focus on who is doing what at the village level. First, a summary of the focus group findings with the community service providers is presented. Second, the roles of different entities are clarified through an Activity and Responsibility Matrix that focuses on a bottom-up view of activities as seen from the village level.

3.2.1.1 Community Service Provider/Beneficiary Group FGDs

Focus group discussions were held in each scheme area, one with the Beneficiary Group and the other with the communities. The Beneficiary Groups constituted President, Secretary, Vice-President, Joint Secretary, Treasurer and other members. These focus group discussions aimed at understanding the general roles and responsibilities of the Beneficiary Group, and their role in water service provision. After the Cochin declaration, there was a paradigm shift in water governance. All the schemes have become demand driven which were originally supply driven. This change has brought in a valid level of community participation.

During the discussions, it was understood that these groups are highly informed about the latest programmes and schemes that are available for the community. The members perceive that they do not need any additional training, as they themselves are able to tackle any sort of problem. In case of any technical assistance (minor repairs or for any technical advice), they would seek the help of an engineer/retired employees who belongs to the same village. Every Beneficiary Groups also constitute mechanics or plumbers. Such engagement turned out to be profitable as only the costs were towards the materials and a decline on labour charges was identified.

The selection of the committee members is also done in a systematic manner. Any member can join the committee. A person who wishes to become a member has to pay INR 100 towards a membership. The selection would take place every year in an annual meeting. There is a good rapport between the members. This can be a key attribute for the Beneficiary Groups to function so effectively. The members stay in touch with each other through various communication channels, mainly through the use of WhatsApp, a messaging service. The members also receive feedback from the consumers with the help of telephonic medium.

The members have unified opinion about the support received from the Panchayat. The Panchayat was successful in providing the right enabling environment for the Beneficiary Groups to perform better. The communities also opined the decentralization policy has led to saving a lot on recurrent costs the government had to endure.

The communities also echoed that the Beneficiary Groups were always available when required. The time they spend on collecting water every day has drastically reduced once the decentralised schemes have mushroomed up. There is so much room for every person to discuss and express their views and concerns. All the policy decisions are entrusted to Panchayat. The Beneficiary Groups have to take the concurrence of the Panchayat before undertaking any works. This practice ensures transparency.

Photograph 7: Beneficiary Group members in front of Infiltration Tank of Cheruparambu Scheme

3.3 Community service provider indicators

The performance of the CSPs was assessed using a series of Qualitative-Information System (QIS) indicators. Though there is no legislation for the formation of the Beneficiary Groups, the members are selected unanimously who represent different sectors and categories. However, the Beneficiary Groups are registered under the Societies Act. The Beneficiary Groups have framed a set of compliances to register them as a legal entity.

The contents of the compliance document prepared by the Beneficiary Groups to register under the Society Act are:

1. Name of the Society
2. Address
3. Office Address
4. Area of Operation
5. Objectives of the Society
6. Membership
7. Managing Committee Election/ Frequency of Meeting/ No. of Members Required
8. General Body Meeting/ Notice
9. Rights and Powers of the General Body
10. Executive Committee Rights and Responsibilities
11. Office Bearers - President, Vice - President, General Secretary and Treasurer
12. Sources of Finance
13. Audit
14. Annual General Body Meeting
15. No Conference Motion against Committee
16. Amendment of Bye-Laws
17. Quorum of the Meeting
18. Records to be maintained

The non-payment rate in Keriparambu is 3.65. Whereas, in Peringottupalem and Cheruparambu, there is 100% tariff collection. In all the scheme areas, the response time is usually 24 hours and the Beneficiary Groups take around 48 hours in case of major repairs. The other indicators are listed in the table below.

Photograph 8 :Household Metered Water Connections

Table 3.6 CSP Indicators

Scheme	Keriparambu Peringottupalem Cheruparambu
Selection of the Board	**QIS Score: 50** There is no formal document describing how elections should take place, but users and CSP have a general understanding of how it would work. This informal procedure was followed during the last elections.
Accountability mechanisms	**QIS Score: 100** The CSP has several mechanisms to inform and provide accountability to users. These are all used regularly. The most common communication channels are phone and by word.
Cash Reserves	**QIS Score: 100** The CSP actively manages a cash reserve both through petty tax box and bank account and regularly replenishes it from a dedicated part of its revenues.
Book Keeping	**QIS Score: 75** There is a good accounting system in place. All the records are thoroughly maintained. The CSP tracks its income and expenditure systematically and produces an annual account. The CSP banks upon retired/ experienced personnel for such services. However, this is internal and there is no formal auditing.
Technical folders	**QIS Score: 50** The CSP has the technical map, flow diagram, etc. However, they do not have operation manual that they bank upon. The CSP relies on experienced people on various technical aspects.
Registry of operational information	**QIS Score: 100** The CSP has more than five types of records and all are up to date. These include income and expenditure book, petty cash registrar, new connections registrar, cash receipts records, user fee collection registrar, monthly expenditure details, etc.
Water meters	**QIS Score: 75**

	All the users have meters and they are billed based on the meter reading. However, advanced form of tracking non-revenue water isn't in place.
Water Security	**QIS Score: 0** No water security measures are taken, neither is any plan in place
Water Quality Management	**QIS Score: 25** Even though a water quality management plan is in place, it is not followed. In Kerala, traditionally, people boil water with herbs for purifying the water. Hence, the CSP doesn't follow any procedures for assuring the quality. Also, the CSP assumes that the quality of water is good.

3.4 Community service provider participation assessment

Participation is understood functionally as: "*an active process whereby beneficiaries influence the direction and execution of development projects rather than merely receive a share of project benefits*" (Paul, 1987). Building on the idea of a participation ladder (Arnstein, 1968; Pretty, 1994; Adnan et al., 1992), the degree of community participation in Community Service Provision is assessed at each stage of the service delivery cycle:

- Capital Investment (Implementation)
- Service Delivery – administration, management and operation and maintenance
- Asset Renewal
- Service Enhancement or Expansion

It identifies the following types of participation:

1. Self-mobilisation
2. Interaction participation
3. Functional participation
4. Participation by consultation
5. Passive participation

Capital Investment: The community identifies the need for a new source, forms a Beneficiary Group and makes its own implementation plan with support from Panchayat.

Service Delivery: The Beneficiary Group is responsible for daily O&M. Mostly; it relies on retired/experienced personnel for technical advisory. It has its own in-house mechanics and plumbers who are available during the crisis time.

Asset Renewal: Any plan/idea is first taken to the Beneficiary Group, which discusses the options in a general body meeting. The minutes and outcomes are shared with the Panchayat and then a proposal is put forward. The Panchayat decides the action with the help of Beneficiary Group.

Service Enhancement or Expansion: This phase is also similar to that of the Asset Renewal Phase where the initial proposal is chalked out in an annual general body meeting of the Beneficiary Group. The Panchayat sanctions the proposal with technical inputs from LSGD (minor schemes) or KWA (major schemes).

However, in the control scheme area (*Kalaparambu*), community participation is passive in all the phases. All the responsibilities are vested with KWA and the communities do not have any say in daily

O&M. Asset Renewal and Service Enhancement or Expansion usually follow generic timelines and independent of the need from the communities.

Figure 3.4 briefs the Participation typology in the three scheme area. Since all the three schemes have same type of participation, the typology is reproduced in a single diagram.

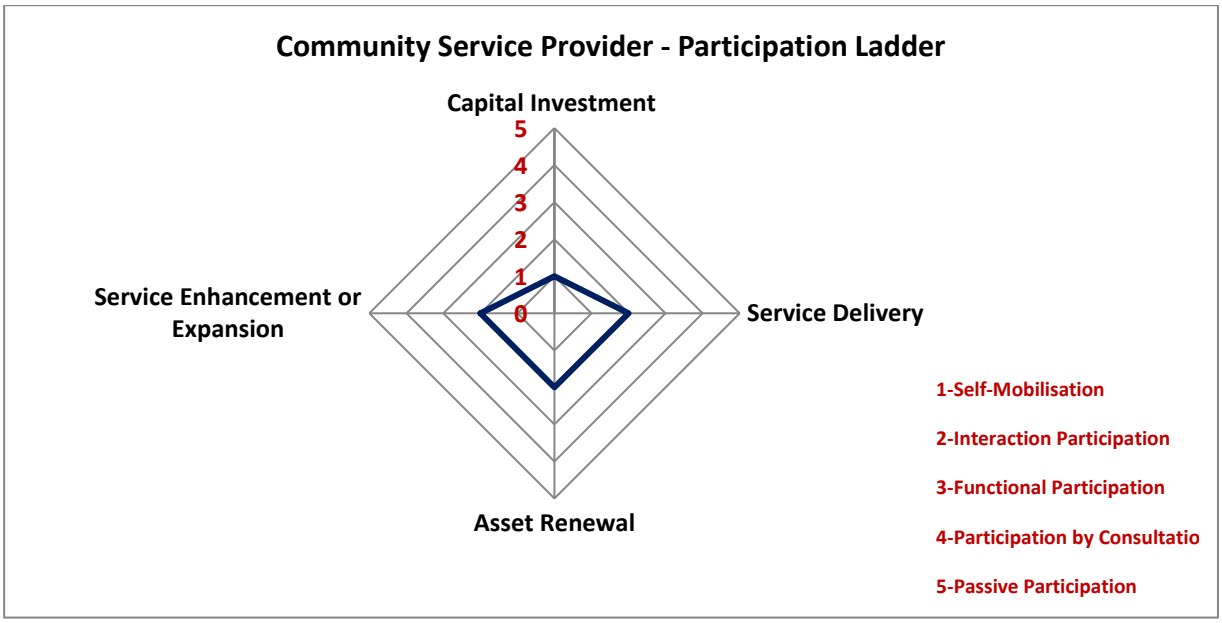


Figure 3.1 Participation Ladder

3.5 Household Service Levels

For the level of service provision to be assessed, various parameters such as quantity, quality, accessibility, continuity and reliability have been established with the help of thirty household surveys undertaken in each village. This section starts by providing an overview of the coverage in the villages that is followed by a detailed overview of service levels. The final sections discussed the equity of supply as well as the community view of the water service, as articulated in the focus group discussions and surveys in each village.

Coverage

The Beneficiary Groups are usually formed for a single ward or for a maximum of 3 or 4 wards. Keriparambu covers 2192 households with a complete coverage of ward 19 and partial coverage of wards – 1, 16 and 18. Peringottupalem covers 1800 households with a complete coverage of wards 4, 5 and 6. Cheruparambu covers ward number 1 (area which is not covered by Keriparambu). A new Ward numbers 14, 15, and partial coverage of 16 and 18 (area which is not covered by Keriparambu) is selected as the control scheme area.

Quantity, Accessibility, Quality, Continuity, Reliability

Water is provided to the community via individual household metered connections. Every scheme has a pump operator and a meter reader who look after the service provision. Kadalundi River is the water source for all the four schemes. Absence of subsidiary source implies the dependability on this only source of water. This water is used for drinking and also fulfils the need of all other activities of the day.

Quantity: All the three schemes have reported high quantity, i.e >80 lpcd of water. In the control village, only 3% of the respondents said that they have access to 60-80 lpcd. Table 4.2.1 depicts the quantity levels in all the four villages.

Table 3.10 Quantity %- Household service levels in all the four schemes. (n=30)

Scheme	Keriparambu	Peringottupalem	Cheruparambu	*Kalaparambu*
High	100%	100%	100%	97%
Improved	0%	0%	0%	3%
Basic	0%	0%	0%	0%
sub-standard	0%	0%	0%	0%
no service	0%	0%	0%	0%

Accessibility is the cumulative time spent by a household on collecting water. Since all the households have a household connection, accessibility is classified as high in all the four schemes. Table 4.2.2 depicts the accessibility levels in all the four villages.

Table 3.11 Accessibility % - Household service levels in all the four schemes. (n=30)

Scheme	Keriparambu	Peringottupalem	Cheruparambu	*Kalaparambu*
High	100%	100%	100%	100%
Improved	0%	0%	0%	0%
Basic	0%	0%	0%	0%
sub-standard	0%	0%	0%	0%
no service	0%	0%	0%	0%

Water Quality is assessed through users' perception through the household surveys. All thirty households in the three schemes perceive the water quality to be high. The quality of water in the control scheme is perceived to be basic. Table 4.2.3 depicts the quality levels in all the four villages.

Table 3.12 Quality % - Household service levels in all the four schemes. (n=30)

Scheme	Keriparambu	Peringottupalem	Cheruparambu	*Kalaparambu*
High	100%	100%	100%	0%
Improved	0%	0%	0%	0%
Basic	0%	0%	0%	100%
sub-standard	0%	0%	0%	0%
no service	0%	0%	0%	0%

Continuity of supply is defined by the average number of hours that water is available at the tap. All the three schemes have reported that the water supply meets high standards whereas the control scheme has a basic standard of continuity. Table 4.2.4 depicts the continuity levels in all the four villages.

Table 3.13 Continuity % - Household service levels in all the four schemes. (n=30)

Scheme	Keriparambu	Peringottupalem	Cheruparambu	*Kalaparambu*
High	100%	100%	100%	0%
Improved	0%	0%	0%	0%

Basic	0%	0%	0%	100%
sub-standard	0%	0%	0%	0%
no service	0%	0%	0%	0%

Reliability is understood through a combination of two factors - the predictability with which supplies are provided and this the response time to break-downs. From the survey, the reliability of the water services in all the three successful villages is high. Due to severe intermittent water supply, people expressed the absence of reliability of the services. Table 4.2.5 depicts the continuity levels in all the four villages.

Table 3.14 Reliability % - Household service levels in all the four schemes. (n=30)

Scheme	Keriparambu	Peringottupalem	Cheruparambu	*Kalaparambu*
High	90%	100%	100%	0%
Improved	10%	0%	0%	0%
Basic	0%	0%	0%	0%
sub-standard	0%	0%	0%	0%
no service	0%	0%	0%	100%

Equity

From the above tables, it can be clearly portrayed that the services levels are high in all the three schemes. All the households have metered piped water connections and hence equitable water service provision is evident. All of the residents pay the same amount for a new connection and also pay the same tariff with respect to the quantity of water that is consumed. Similarly, the services from Beneficiary Groups are same towards every individual. Every individual can take part in the meetings and express their views and concerns.

In Keriparambu, there is a non-payment rate of 3.65%. The defaulters are from the Scheduled Caste. Initially, a scheme has been designed in 2001 catering to the SC community. The funds have been procured from the SC Welfare Funds. However, the community members in the scheme area has envisioned that the same scheme can be expanded further into other wards so that other houses too would have access to water (as there was severe shortage of water during that period). This led to service expansion from a part of a ward to 4 wards. But, however, the SC committee still perceive that the scheme was originally theirs and hence do not pay the water tariff. But, the Beneficiary Group still caters to them equally like they do to other households.

3.6 Community and household views

Kodur Gram Panchayat is served by Kadulundi River. Though the river is perennial, the households always had a shortage of water especially in summers. There were two key hindrances for effective service provision – large population size in a Panchayat area and the distance between two consecutive houses is very high. The policy of implementing decentralized schemes is perceived to be a blessing in disguise by the communities. This led to several minor and major schemes catering to less than 100 households to a maximum of 1500 households. Each scheme is supported by a Beneficiary Group. Hence, the water service provision is now, more efficient.

The communities also feel that their concerns are well addressed by the service provider. They expressed their satisfaction levels on the quantity, quality, continuity and reliability levels of water service provision.

Photograph 9: Beneficiary Group Members at the location of Infiltration tank of Peringottupalem scheme

3.7 Community Service Provider Costs

Once the scheme is constructed, the ownership is transferred to the Beneficiary Groups. It is the responsibility of the Beneficiary Group to look after the Operation and maintenance of the scheme. Following are the costs borne by the Beneficiary Group in the financial year of 2014-15.

3.7.1 Recurrent costs & revenue – Opex, hardware & software

Recurrent costs are usually met from the tariff collection from the households. Tariff is collected based on the amount of water that is consumed. Table 3.5.1 lists the recurrent costs borne by the government.

Table 3.7 Recurrent costs

Scheme	Keriparambu	Peringottupalem	Cheruparambu
Valve Men	INR 30,000	INR 60,000	INR 0
Pump Operator	INR 30,000	INR 0	INR 30,000
Bill Collectors/Meter Readers	INR 60,000	INR 53,400	INR 18,000
Administrators/Accountant	INR 0	INR 60,000	INR 0
Other Contractual Costs	INR 4,100	INR 11,665	INR 0

3.7.2 Materials and supplies costs

These costs involve electricity charges and material costs for maintenance of the scheme and the same is presented in the table below.

Table 3.8 Materials and supplies costs

Scheme	Keriparambu	Peringottupalem	Cheruparambu
Electricity charges	INR 1,49,988	INR 1,37,859	INR 39,600
Materials	INR 1,92,490	INR 2,85,294	INR 6,084
Connection Charges	INR 0	INR 2,13,651	INR 0

3.7.3 Capital Maintenance Costs

In 2012, there were major floods which resulted in damage of existing pipelines. Hence the Beneficiary Groups collected some amount from the communities for repair work. Table 3.5.3 presents the details of the same.

Table 3.9 Capital Maintenance Costs

Scheme	Keriparambu	Peringottupalem	Cheruparambu
Community Contribution towards Repairs	INR 54,800	INR 45,000	INR 1,95,000
Inflation (2014)	INR 58,581	INR 48,105	INR 2,08,455

4 Enabling Support Environment Costing

4.1 Capital costs

CapEx hardware: The Beneficiary Group identifies the need for a scheme. It then approaches the Panchayat, which in turn takes the help of the Engineering department of the Local Self Government

Table 4.1 CapEx Hardware Costs of the scheme

Scheme	Keriparambu	Peringottupalem	Cheruparambu
Number of households	548	450	130
Population supported	2,192	1,800	520
CAPEX Hardware costs	INR 71,00,000	INR 79,00,000	INR 5,00,000
After Inflation (2014)	INR 91,39,600	INR 1,01,84,000	INR 7,50,000

Keriparambu has received funds of INR 3,30,000 until the schemes was commissioned in 2001, INR 38,00,000 in 2nd phase expansion in the year 2013-14.

Peringothupalem received INR 14,00,000 for construction of Overhead Tank in 1998. Out of INR 14,00,000, Gram Panchayat and Block Panchayat contribution is INR 2,00,000 each and Zilla Parishad Contribution is INR 10,00,000. In 2010, an amount of INR 65,00,000 is mobilized for infiltration well, 1 motor of 40 HP, electricity panel, pumping and distribution lines.

Cheriparambu has received INR 2,00,000 from MLA Fund which was used for the construction of infiltration well and INR 3,00,000 from MP Fund for the construction of an Overhead Tank.

In these schemes, there is no allocation of funds towards the software costs. Also, the funds for these schemes are mobilized by the government. Hence, the community did not make any financial contributions towards the capital costs, beyond the connection charge of INR 3,000.
However, all the recurrent costs and material costs for O&M are entirely borne by the Beneficiary Groups. The Panchayat doesn't mobilize any funds for the same.

Table 4.2: Capital Maintenance

Scheme	548	450	130
Number of households	548	450	130
Population supported	2192	1800	520
Capital Maintenance	INR 7,20,300	INR 14,785	-

During the year Keriperambu has received INR 37,500 and INR 57,674 in 2005-06 and 2006-07 respectively for pipeline extension. In 2011-12, a fund of INR 5,00,000 is mobilized for the construction of a new infiltration well. In 2013-14, Peringottupulam received a fund of INR 14,682 for pipeline extension. Cheruparambu, which was constructed recently, has not yet received any funds for capital maintenance.

Table 4.8 Summary Cost Table (INR)

Kerala Kodur Summary Cost Table - calculated as the average cost per person, that is averaging across the 3 'successful' villages

Source of funds	Use of funds - implementation			Use of funds - annual recurrent					
	CapEx hardware	CapEx software	CAPEX TOTAL	OpEx labour & materials	OpEx power	OpEx bulk water	OpEx enabling support	CapManEx	RECURRENT EXPENDITURE TOTAL
Community/consumers	INR 119	-	INR 119	INR 170	INR 74	-	-	INR 151	INR 395
Local self-government	INR 3,757	-	INR 3,757	-	-	-	-	INR 112	INR 112
	-	-	-	-	-	-	-	-	-
State government entity	-	-	-	-	-	-	-	-	-
State water supply agency	-	-	-	-	-	-	-	-	-
National Government	-	-	-	-	-	-	-	-	-
NGO national & international	-	-	-	-	-	-	-	-	-
International donor	-	-	-	-	-	-	-	-	-
TOTALS	INR 3,875	-	INR 3,875	INR 170	INR 74	-	-	INR 263	INR 507
Median of 20 case studies			INR 3,231						INR 207
'Plus' %age	97%	-	97%	0%	0%	-	-	43%	22%
Median of 20 case studies			95%						57%

Table 4.9 Summary Cost Table (PPP USD$)

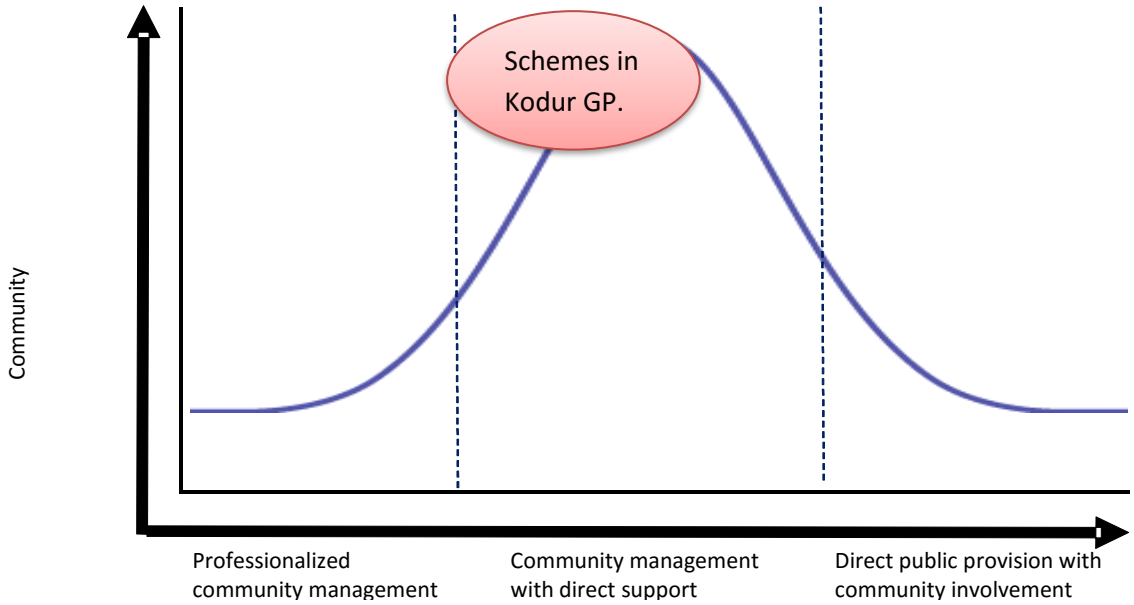
Kerala Kodur Summary Cost Table - calculated as the average cost per person, that is averaging across the three 'successful' villages

Source of funds	Use of funds - implementation			Use of funds - annual recurrent					
	CapEx hardware	CapEx software	CAPEX TOTAL	OpEx labour & materials	OpEx power	OpEx bulk water	OpEx enabling support	CapManEx	RECURRENT EXPENDITURE TOTAL
Community/consumers	$ 6.77	-	$ 6.77	$ 9.69	$ 4.20	-	-	$ 8.61	$ 22.50
Local self-government	$ 214.13	-	$ 214.13	-	-	-	-	$ 6.40	$ 6.40
	-	-	-	-	-	-	-	-	-
State government entity	-	-	-	-	-	-	-	-	-
State water supply agency	-	-	-	-	-	-	-	-	-
National Government	-	-	-	-	-	-	-	-	-
NGO national & international	-	-	-	-	-	-	-	-	-
International donor	-	-	-	-	-	-	-	-	-
TOTALS	$ 220.90	-	$ 220.90	$ 9.69	$ 4.20	-	-	$ 15.01	$ 28.90
Median of 20 case studies			$ 184.16						$ 11.78
'Plus' %age	97%	-	97%	0%	0%	-	-	43%	22%
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

- Institutionalisation of democratic decentralisation in the form of statutory PRIs following the 73rd and 74th Constitutional Amendments has resulted in participatory local democracy with high and efficient levels of service provision.
- Panchayats are institutions of self-governance having autonomy and the power to govern in an exclusive area of jurisdiction. Three tier system: village, block and district level have full powers to frame a policy for any developmental activity. Gram Panchayat plays a key role in identification of investments.
- Deepening of democracy happens when people participate in the decision making process. In the local governments, every citizen gets opportunity to participate directly in the process of decision making.



- With high literacy rate, general awareness among people and their active participation in politics, the costs that go into software aspects is nil.
- Availability of technically qualified officials under engineering section in the Local Self Government Department has proved to be key success factor in decentralization of services.
- Infrastructure design and construction is done by a technical autonomous organization - Kerala Water Authority as Deposit Work.
- Communities form Beneficiaries Groups who are registered under the Society Act. They are governed by bye-laws and have full responsibility of O&M. The Beneficiaries Groups meet whenever necessary, and hence this way of governance reduces the response time in case of any emergencies.
- All the schemes are demand-driven Schemes. All the households in the scheme locations have 100% Metered Connections.

- Ownership and accountability is high. Retired employees with professional knowledge are absorbed into the committees. This reduces dependability on the government organizations for technical advisory.
- The use of ICT has resulted in faster and transparent work in the Panchayat. Implementation of ISO 9001-2008 has resulted in a more systematic way of working in the Panchayat.
- Fiscal Decentralization initiatives in Kerala constitute a best practice with the State following the classical principles of devolving funds to Local Governments.
- Allocation of funds to the schemes is through statutory and formula based transfer. Participatory and rational planning process ensures appropriate and equitable utilization of funds.
- In the past, people knew the meaning of water scarcity, and hence one of the successes of this scheme is attributed to the fact that scarcity leads to efficient conservation of the present water resources.
- However, dependability of one source makes the scheme vulnerable. Neither the Panchayat nor the Beneficiary Groups take any measures for source sustainability.

References

Lockwood H. and S. Smits. 2011. *Supporting Rural Water Supply: Moving towards a Service Delivery Approach*. Rugby, UK: Practical Action Publishing

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

Figure 6.1: Identifying the level of community involvement in the scheme.

www.kilaonline.org/site_docu/2009/pub200904a.pdf

www.kilaonline.org/site_docu/2013/Journal%20Vol%201.pdf