

# COMMUNITY MANAGEMENT OF RURAL WATER SUPPLY

Community Water <sup>plus</sup>



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Leadership through Learning

Administrative Staff College of India, Hyderabad

**Understanding the resource implications of the 'plus' in community management of rural water supply systems in India: users becoming managers through WASMO, Gandhinagar District, Gujarat**



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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

This report provides the results from a Community Water *plus* case study investigating the support services provided by the Water and Sanitation Management Organization (WASMO) in Gandhinagar District, Gujarat. The purpose of the study is to assess the extent, type and style of support provided by WASMO, and to validate whether this indeed leads to adequate service delivery by community-based service providers (based on data from three validation villages: Motipura Veda, Amarpura Kherna and Sardhav, and one village where WASMO has not yet offered its services: *Prantiya* (control village) of Gandhinagar District).

This assessment was done through a qualitative study of the activities carried out by WASMO and a quantitative assessment of the resources it deploys to fulfil its role. Several scoring tools were employed to characterise its performance and partnership approach. The work at village level above all served as a validation, confirming how the Pani Samitis (as service providers) perform and the service levels users receive.

In Gandhinagar, drinking water supply is facilitated through a combination of piped water supply and local water sources. The transfer of bulk water is done from Narmada River to the villages. With the help of WASMO, existing regional water supply systems have been strengthened and new water distribution and storage systems have been developed. In general, these villages face water scarcity and salinity problems.

This report provides an assessment of the degree of professionalization, institutional performance, and client satisfaction of WASMO. The organisation has a strong and formal mandate with a clearly articulated vision. WASMO's success is also attributed to the working model and use of professional tools which are used throughout the project cycle. WASMO's core competency is established by building strong relationships with the community. In the first cycle, the support extended by the WASMO to the communities is more compared to the other two cycles. This cycle witnesses a lot of field visits from the field level officers- both technical and social personnel. Village Action Plan is prepared in consultation with the communities after constitution of the Pani Samiti which is the 'Community Service Provider' in this case. Various tools and methods are employed to interact and have a two-sided interaction with the communities. In cycle 2, the Village Action Plan is implemented. The construction phase is also monitored duly. The Enabling Support Entity (WASMO) also helps the Pani Samiti to levy the water tariff. The ESE also trains the Pani Samiti in 'Operation and Maintenance' so that, the CSP can take forward the water service provision. In the third cycle, ESE extends handholding support to the CSP. During the entire project cycle, the ease with which the staff interacts with the members of Pani Samiti demonstrate the high level of trust the community has towards WASMO. WASMO has adopted a flexible and adaptive approach so that the processes can be altered to suit socio-cultural, geographic and economic locale of the project beneficiaries. Transparent systems are deployed at all levels and communities are galvanized to demand more and more openness in the system. Though the communication systems are really strong and well developed, there is still a chance of improvement in the area of addressing grievances.

There is an amicable atmosphere in the organization and the officials work in harmony. The work culture among the teams is one of the assets that boost the performance of the organization. It contributes immensely to the productivity of the employees. Information is managed systematically and communicated to various channels with the team as well as with external people. The officials of

WASMO possess the technical capabilities to efficiently plan and implement the projects in a stipulated time. The teams are trained for taking sound technical decisions and also render effective management by conducting technical studies and planning as requested and when requested by the communities. Competency development is the crucial driving force for the success of WASMO and in increasing its employee effectiveness. There is an existence of clear process for determining skill needs and the training programmes are designed on need-basis.

The programmes are always designed with an objective of community involvement in achieving the programme's success. WASMO's first initiation meeting is conducted during the Gram Sabha<sup>1</sup> of the village. The members of the Pani Samiti are elected in this meeting and the same is chaired by the Sarpanch of the Gram Panchayat. The communities in Gujarat are served by a Formal Water Committee – 'Pani Samiti' (which means Water Committee) which is the sub-standing committee under Gram Panchayat. The Sarpanch of the Gram Panchayat is also the chair of this Samiti. In all the three villages, the coverage is 100% all through household connections. However, in the control village, *Prantiya*, only 80% of population has household connectivity.

In some of the villages, the Gram Panchayat is more active and takes forward the water service provision in coordination with the Pani Samiti. In such villages, the Gram Panchayat also contributes financial resources of regular O&M.

The relationship between the WASMO and Pani Samiti is contributory during the sharing of implementation costs. Both WASMO and Pani Samiti pool financial resources to meet the costs of capital investment in hardware. WASMO contributes 90% of the costs and Pani Samiti contributes 10% of the costs collected from the community. Consultative partnership is established during various PRA meetings and before preparation of Village Action Plans. The bureaucracy type of partnership is evident when ESE provides CSP with a standardised model of hardware and software provision during implementation.

The Pani Samitis have been effectively trained to collect the tariff for annual O&M. In some villages, the Gram Panchayat collects tariff once in a year, simultaneously with other taxes (such as light, road, cleaning and maintenance, etc. Basically, the entire expenditure on O&M is borne by the Pani Samitis or Gram Panchayats in few villages. The Pani Samitis are sensitized on various operational manual and guidelines as part of trainings in the cycle III i.e., post-implementation phase. Manuals on water-testing are also available with the Pani Samitis. During the field visits, the community's satisfaction towards water service provision proves the efficiency of Pani Samiti. Over the years, the Pani Samitis have grown as strong sub-standing committees which are capable of their own decision making and taking up any developmental activities. The communication systems are evolving as they are progressing with time. The community has a strong reliability on the Pani Samitis.

In this report, the service levels for quantity, accessibility, quality, continuity and reliability in all the four villages are also established. These indicated that all the three villages served by WASMO and Pani Samitis are ranked as 'High' in terms of quantity, accessibility, reliability, quality and continuity.

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<sup>1</sup> The Gram Sabha includes all the adult citizens of the village. It is empowered to elect the Gram Panchayat. The Sabha can influence decisions taken by the Panchayat and can modify weak decisions whenever they feel.

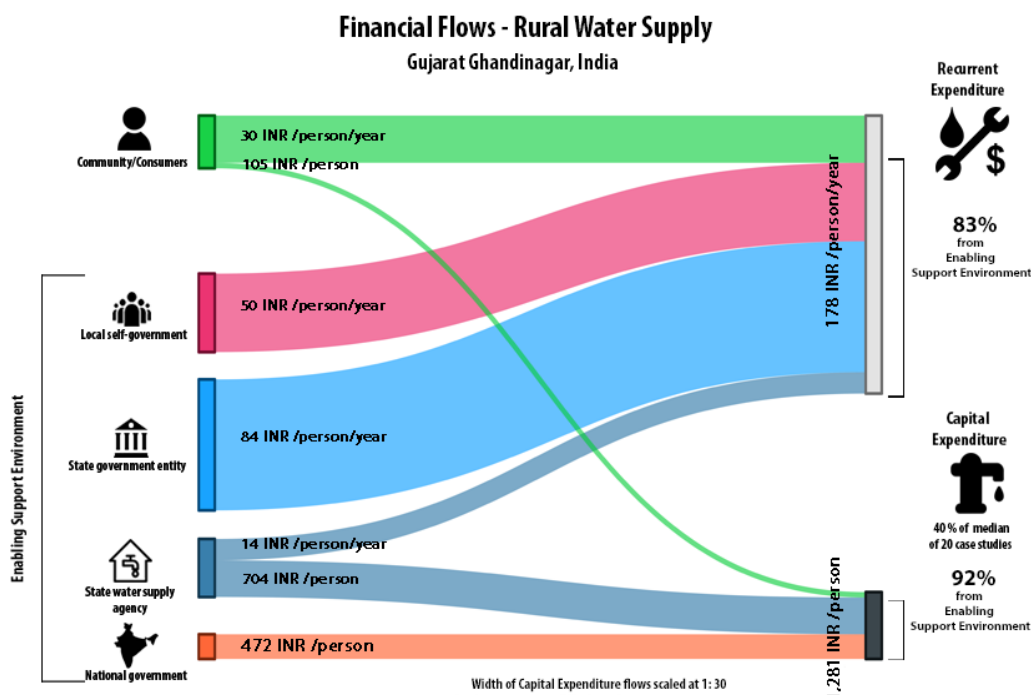
# Community Water <sup>Plus</sup>

The overall objective of this project is to identify the 'plus' component that supports the sustainable functioning of the water committees. The research team tried to understand the various cost implications of the 'plus' to arrive at a \$/person/year figure that aid in these services to be effective. From the calculations, the 'plus' component for CapEx (both the Software and the hardware costs) is approximately INR 1,176 per person out of a total CapEx of INR 1,281, that is a 'plus' of 92%. Taking into account all power charges, in addition to the more clearly recorded operating expenditure, we found a per person OpEx of 178 per year averaged across the three villages (one taking water treated from the Narmada Canal, two from local borewells). With an annual average contribution from consumers of INR 30, there is an 83% 'plus' contribution to Opex by government (through taxes and transfers).

Gujarat Ghandinagar 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					RECURRENT EXPENDITURE TOTAL
	CapEx hardware	CapEx software	CAPEX TOTAL	OpEx labour & materials	OpEx power	OpEx bulk water	OpEx enabling support	CapManEx	
Community/consumers	INR 105	-	INR 105	INR 26	-	INR 4	-	-	INR 30
Local self-government	-	-	-	-	INR 48	-	-	INR 2	INR 50
State government entity	-	-	-	INR 2	INR 51	INR 31	-	-	INR 84
State water supply agency	INR 472	INR 233	INR 704	INR 4	-	-	INR 10	-	INR 14
National Government	INR 472	-	INR 472	-	-	-	-	-	-
NGO national & international	-	-	-	-	-	-	-	-	-
International donor	-	-	-	-	-	-	-	-	-
TOTALS	INR 1,048	INR 233	INR 1,281	INR 33	INR 98	INR 35	INR 10	INR 2	INR 178
Median of 20 case studies			INR 3,231						INR 207
'Plus' %age	90%	100%	92%	20%	100%	89%	100%	100%	83%
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

We would like to express gratitude to Mr. Mahesh Singh, CEO, WASMO for creating the enabling conditions to undertake the case study. We would also like to thank Mr. K. C. Tripathi who facilitated our entire work in WASMO and in the selected villages. We extend our heartfelt thanks to all the colleagues - both at the Head Office and at the Gandhinagar District Office who cooperated during various series of interviews.

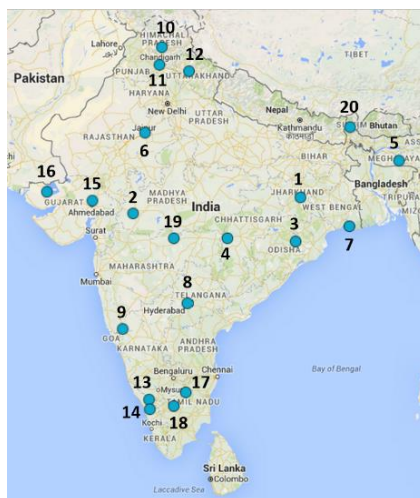


Finally, we are indebted to the Sarpanchs & Chair and Members of Pani Samithis of Motipura Veda, Amarpura Kherna, Sardhav and *Prantiya* for extending their cooperation and contributing their valuable time during interviews and Focus Group Discussions. We also would like to appreciate all the households for devoting time for household surveys.

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.

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## 1 Introduction

### 1.1 Background to the topic and the Community Water<sup>Plus</sup> 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 functioning community-managed rural water experiences across India in order to determine the extent of direct and indirect support required to sustain services with a valid level of community engagement.

The resulting analysis is used to categorize the different levels of on-going support required for different technical solutions, at a level of competence and bureaucratic involvement that is indicative of normal conditions across many low-income countries. There is a great advantage in researching in India where the range of States, and their varying socio-economic conditions, gives a good sample of technologies and approaches which are of relevance to lower-income countries, both now and in the future as they also reap the benefits in their infrastructure development of economic growth.

The expected outcome of the project is to have a better understanding among senior civil servants, policy-makers and international finance institutions, both in India and globally, on the likely resource implications of delivering the ‘plus’ of successful community management ‘plus’ and the possible trajectories for institutional development to achieve that.

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 Water and Sanitation Management Organization (WASMO) in Gandhinagar District, Gujarat. After a thorough literature review, this case study has been selected as it received acclaim both at international and national levels owing to its sustainability and replicability. The programme is locally-relevant for rural water supply by being based on a clear understanding of local strengths and sentiments. Prior to its establishment, there were intensive discussions and consultations on the approach, using academics and NGOs.

Water situation in Gujarat until 2002 seemed a bit chaotic and unreliable. Gujarat Water Supply and Sewerage Board (GWSSB) was the apex body for rural water supply in Gujarat state. The predominant source was groundwater. The earlier model of water supply projects is that the design, plan, implementation, operation and maintenance was the responsibility GWSSB, which is primarily an engineering agency oriented towards design and construction rather than the operation and maintenance of past investments. The community participation and involvement was minimal it was decided at the level of the Government of Gujarat to innovate a new form of governance that would provide an enabling environment to the community in which social process would be of paramount importance.

In a major step towards reforms in the sector, WASMO was created in 2002 with Dutch assistance to promote decentralised, demand-driven, community-owned water supply and sanitation systems. WASMO has created community-based organisations called Pani Samitis (Water Committees) to provide safe drinking water in their villages. Pani Samitis currently operate in all the 18,000-plus villages that WASMO currently works in. Community was involved at every level of planning and implementation and in decision-making, and is given full control over finances. They enjoy full financial autonomy and freedom to select contractors and vendors, participate in designing structures and implementing the schemes which, after completion, are handed over to the Pani Samitis for operation and maintenance. Intensive and regular training of Pani Samiti members and other villagers in project management, and financial and auditing processes ensures transparency in operations and water supply that meets the national quality norms. The policy-making and implementation at grassroots level would be interactive and strive for engaged governance. The main objectives of this study are:

- Collect background information of Enabling Support Environment (WASMO). To understand its working model, assess the institutional framework and performance; and map its degree of partnering approach;
- Comprehend the service delivery model, performance and degree of community engagement of Community Service Provider (CSP) in 3 successful villages and 1 control village
- Understand the households' services levels and infrastructure levels via household interviews – 30 households in each village.



While Chapter 1 introduces the project, Chapter 2 takes us through the concepts and methodology opted for writing this report. The structure of the report follows the Community Water *Plus* three-tiered conceptual model for rural water supply. The third section is focused on the Enabling Support Environment (ESE) level which is the organisation that provides support, in our case WASMO, to Community Service Providers (CSPs), or more specifically Pani Samitis as they are called in Gandhinagar districts. Following this, the fourth section focuses on Pani Samiti (CSPs) in each of four villages which is a sub-standing committee of Gram Panchayat which manages and operates the water supply systems in the village. The fifth chapter focuses on the financial data that is required to compute a figure for sustainable community management of rural water systems.

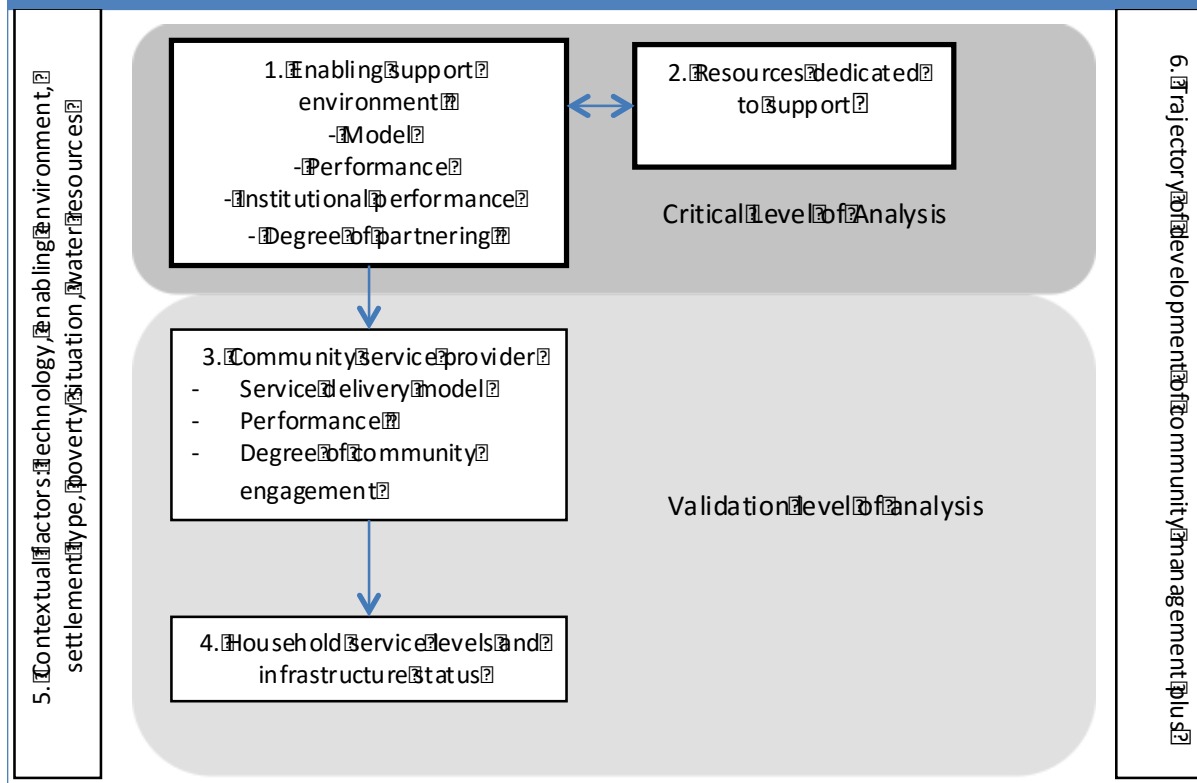
### 1.3 Concepts and Methodology

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>

# Community Water <sup>Plus</sup>



**Figure 1-1 Relationship between the research elements**

In the case of WASMO in Gandhinagar, the assessment therefore consisted of:

- A qualitative assessment of the functioning of WASMO in general, through interviews and focus group discussions
- Obtaining data on costs and finances, through working sessions with WASMO financial staff
- Validating the performance of pani samitis and services levels in three validation and one control village

The above said data was collected during July 7-23, 2014. A total of 8 structured interviews and 2 Focus Group Discussions were conducted at the ESE Level. One FGD with CSP of each village was conducted and documented. One FGD with the community for each village was also conducted and documented.

**Table 1.1 Data Sources**

Unit of Analysis	Data Sources
Enabling Support Environment	8 Key Informant Interviews 2 Focus Group Discussions Secondary Information
Service Provider	12 Key Informant Interviews (3 in each village) - Chair, Pani Samiti, Talati (Record Keeper), Valve Man 1 Focus Group Discussion in each village (with Pani Samiti/Gram Panchayat)

## Community Water <sup>Plus</sup>

	Secondary Information
Households	30 Household Surveys (in each Village) 1 Focus Group Discussion (in each Village)

For the purpose of this case study, three villages- Motipura Veda, Amarpura Kherna and Sardhav have been selected in which the communities have been able to manage their own resources fairly well. In addition, a fourth village – *Prantiya* has been selected where WASMO has not yet offered their services. In general, these villages faced water scarcity and salinity problems as well.

## 2 Enabling Support Environment

This section chapter details the working model of WASMO in Gujarat.

### 2.1 Organisational set-up of WASMO

#### 2.1.1 Background and origins

The community participation approach needed an altogether different kind of governance which would provide an enabling environment for engaging the users in planning, the development of infrastructure and owning up of Operation and Maintenance of service delivery. The traditional approach was not able to engage the citizens in the programme. The feeling of trust needed for community engagement could not be developed and the partnerships with NGOs were not working due to rigid engineering bureaucratic dominance. Due to the above scenario, it was decided at the level of the Government of Gujarat to innovate a new form of governance that would provide an enabling environment to the community in which social process would be of paramount importance. The policy-making and implementation at grassroots level would be interactive and strive for engaged governance. People would be involved at every level of planning and implementation, and in decision-making, and be given full control over finances. In line with the principle of subsidiarity—that anything that can be done at a lower level should be done at that level—functions, funds and functionaries had to be devolved to the lowest level of governance. At policy level, these '3 Fs' may have sufficed but proactive facilitation was envisaged as a conceptual innovation for the decentralised community managed water supply programme. It was also decided to develop horizontal networks with non-governmental organisations, funding agencies and other sector players.<sup>2</sup>

This major reform in community managed programme in the drinking water sector was established as 'Water and Sanitation Management Organization (WASMO)' which is a Special Purpose Vehicle (SPV) in the year 2002 to facilitate the community in development of water supply facilities in rural areas of Gujarat. WASMO is registered as a Society under the Societies Registration Act, 1860 and also as a Public Charitable Trust. Formed in 2002, WASMO is a facilitating organisation working towards drinking water security and habitat improvement by empowering communities to manage their local water sources and village drinking water supply system and services. WASMO embodies Gujarat's institutional commitment to empowering rural communities at the grassroots level for developing their own water supply systems.

In Gujarat, the body which is primarily responsible for Water Supply in state is Gujarat Water Supply and Sewerage Board (GWSSB) which was created in 1979 as an autonomous body. It's main task is sustainable water supply and sanitation services in rural areas of Gujarat. It identifies no source villages and develops water resources, implements regional water supply schemes and responds to water supply needs in times of drought. It guarantees water quality, promotes sanitation, oversees filtration, treatment, chlorination and supply of water in villages and towns.

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<sup>2</sup> James, A.J., 2011. *India: Lessons for Rural Water Supply; Assessing progress towards sustainable service delivery*. The Hague: IRC International Water and Sanitation Centre and Delhi: iMaCS.

## Community Water *Plus*

In Gujarat, a state with varying rainfall, desert and drought conditions, it was imperative to adopt a decentralised, community-owned and demand-driven approach for the sustainability of the water and sanitation systems. WASMO has given the communities a centre-stage for planning, implementing and managing their own in-village water facilities. The strategy and approach of WASMO has been in consonance with the reform principles adopted in the rural drinking water and sanitation sector, where the role of the government is that of a facilitator rather than a provider. Gandhinagar District has been selected for this study.

# Community Water <sup>Plus</sup>

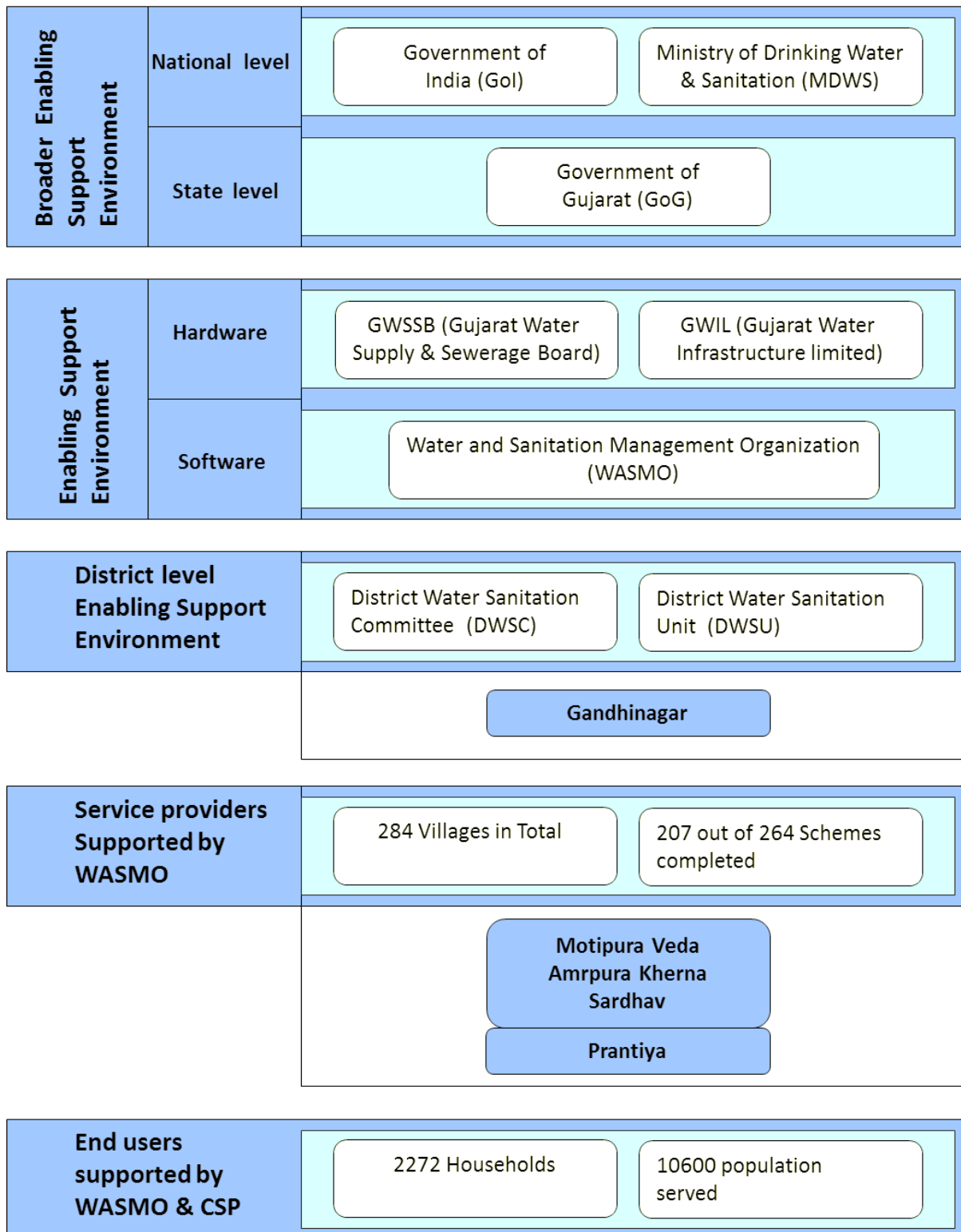


Figure 2.1 Mapping of Network of Support

## 2.2 Supporting organisations



## 2.3 Supporting organisations

“The work of Water Supply [in Gujarat is being carried out by the three organizations of the Department. The work of laying [the] main pipeline for transmission of Inter-district Narmada Canal Water in bulk, and its operation and maintenance, is being carried out by Gujarat Water Infrastructure Limited. The work of the distribution to feed potable water to underground sumps of villages getting raw water from the bulk pipeline is done by the Gujarat Water Supply and Sewerage Board. Water from the group scheme and that of local sources is stored in the underground sump of village. Water supply facility at standposts and household connections through laying of distribution pipeline is included under in specific village water supply schemes. This activity is done by WASMO by formation of Pani Samiti through people's participation.” (GWSB, Annual Administrative Report 2013-14, 2014)

“GWSSB is a statutory body set up by the State Government for Development, Regulation and Control of the Drinking water sector in the State. The jurisdiction of the GWSSB (Board) extends to the whole state. The Board largely works for putting in place rural water supply system as well as operational management of Rural Regional water supply schemes covering cluster of villages. In this area the main function of the Board is to prepare, execute, promote and finance the schemes for supply of water for drinking purposes. The Rural water supply systems include Installation of hand pumps, mini water supply system, etc. in small habitations and piped water supply system for individual villages including large water supply system covering several villages.

### DUTIES AND FUNCTIONS OF THE GWSSB

The duties and functions of the Board as identified by the GWSSB Act No.18 of 1979 are identified as under:

To prepare, execute, promote and finance the schemes for supply of water and for sewerage and sewage disposal.

To review and advise on the tariff, taxes fees, and charges of water supply and sewerage systems, in the areas comprised within the sphere of operation of the water supply and sewerage services of the Board and in the areas of the local bodies which have entered into an agreement with the Board.

To review annually the technical financial, economic and other aspects of water supply and sewerage system of every scheme of the Board or the local bodies which have entered into an agreement with the Board.

To carry out applied research for efficient discharge of the duties and functions of the Board” ([www.gwssb.gujarat.gov.in/profile](http://www.gwssb.gujarat.gov.in/profile))

In this case study we focus upon the work of WASMO who works directly with communities. An estimation of the level of support delivered by GWSSB and GWIL is included in section four.

### 2.3.1 Community enabling support organisation

WASMO, the Water and Sanitation Management Organization, formed in 2002 is a facilitating organization working towards drinking water security and habitat improvement by empowering communities to manage their local water sources and village drinking water supply system and services.

## WASMO's Vision

To enable communities to have adequate, safe and sustainable drinking water supply and improved habitat by ensuring empowerment and active community management of natural resources, leading to an improvement in their living standards.

## Mission

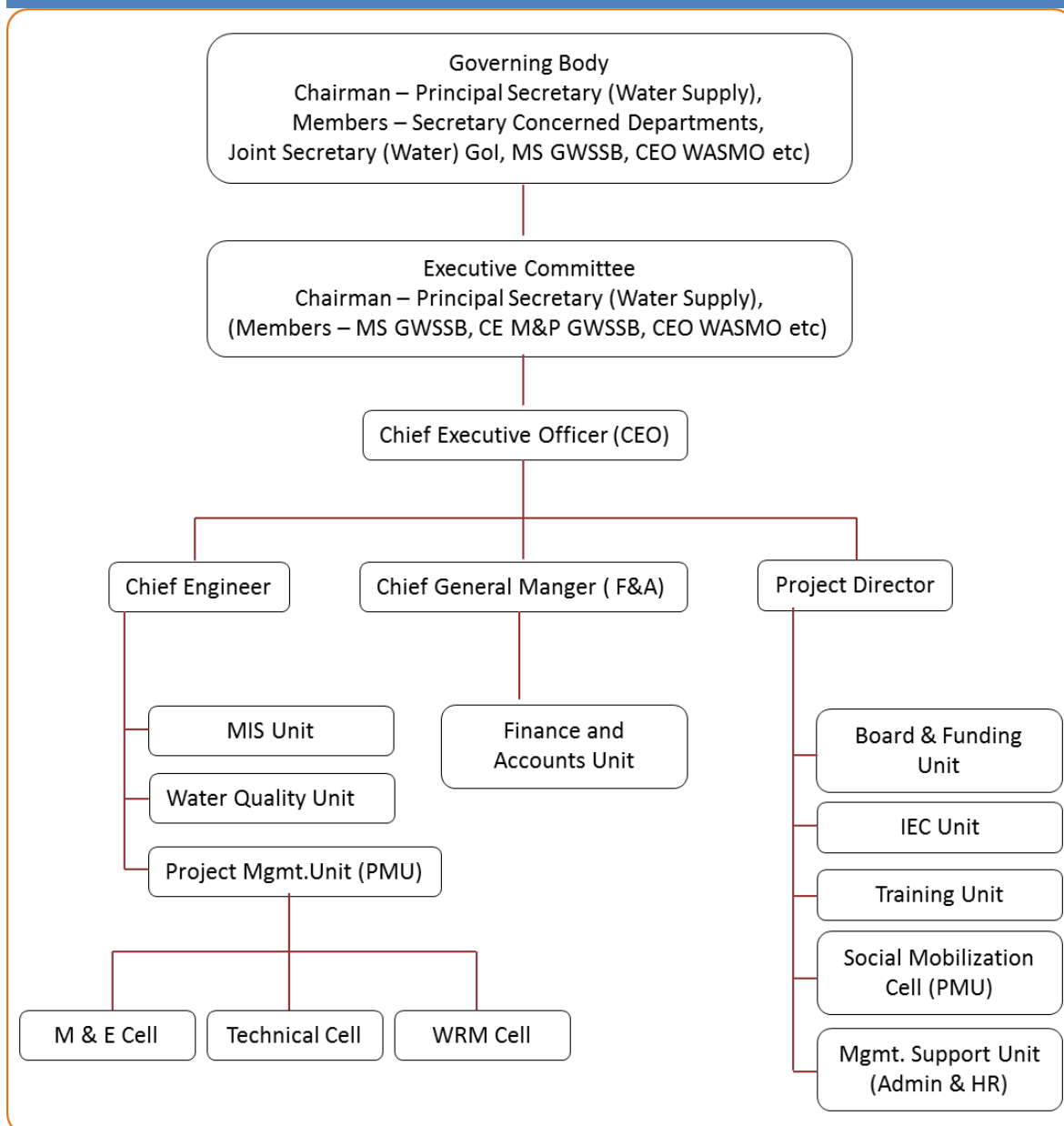
- Empowering communities to plan, manage, maintain and own their water supply and sanitation facilities;
- Ensuring participation of communities and women in managing their own water supply and services;
- Attaining drinking water security through a combination of local and bulk water supply systems and village level infrastructure;
- Encouraging communities to adopt best practices on local water resource management, including rainwater harvesting;
- Bridging the existing knowledge gap amongst communities on water resource management, water conservation, safe drinking water, hygiene and sanitation issues;
- Creating a manpower pool and strong knowledge base in the water and sanitation sector.

## Strategies

- Creating institutions at the village level and strengthening them through continuous capacity building;
- Focus on IEC and software activities before taking up development of infrastructure for water supply;
- Putting entire programme in public domain for seeking strong citizens' engagement;
- Social process based demand driven programme implementation for achieving stakeholder engagement, gaining public confidence, strong community leadership, accountability and efficient service delivery;
- Building strong partnerships based on transparency and trust with community, community institutions and NGOs.

This change in strategy entrusts the community with powers to *plan, design, own and manage* their own water supply systems as opposed to the previous programme design where the whole responsibility lies in the hands of GWSSB. WASMO has strong faith in the principle that a sense of '**Ownership and Pride**' is to be instilled among the community.

### 2.3.2 Organisational structure

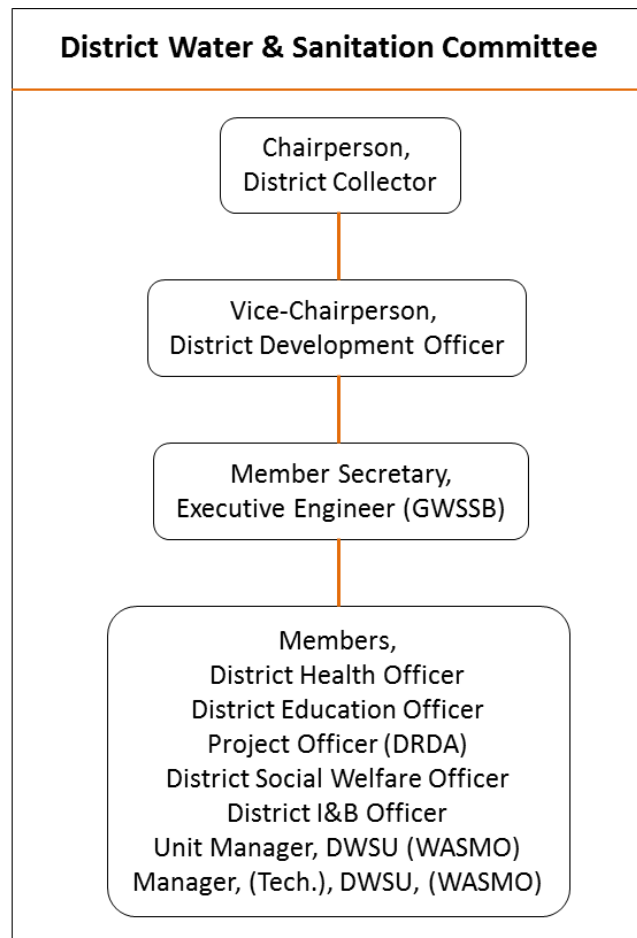


**Figure 2.2 Organogram of WASMO**

There are a total of 452 people working in WASMO – both at Head Office and Districts. Out of these, 163 are Social Mobilizers and 136 are the technical lot. The admin and finance section is resourced with 49 people. 100 people support the teams in daily activities at office and field level.

WASMO’s head office is situated in Gandhinagar, Gujarat. Every district has a designated office which is called as a District Water & Sanitation Unit (DWSU). The programme implementation is taken up by the DWSU for the respective district. DWSU works with a District Water & Sanitation Committee (DWSC). DWSC is chaired by District Collector. The other members of this committee are Vice- Chairperson, District Development Officer, Member Secretary, Executive Engineer (GWSSB), District Health Officer, District Education Officer, Project Officer (DRDA), District Social Welfare Officer, District I&B Officer, Unit Manager, DWSU and Technical Officer, DWSU. . The Village Action

Plans (VAPs) prepared during PRAs are presented and discussed in these meetings. The Collector approves the schemes.



**Figure 2.3 Organogram of DWSC**

### 2.3.3 Project Cycle

WASMO projects are implemented in two cycles, followed by continued post-implementation support. The first cycle lasts from three to six months and involves community mobilization. In this phase, WASMO introduces the programme design to the community. Introduction of the programme in a village is done through workshop/ village meetings. It is in these meetings that, the community is introduced among the about norms of the programme including community participation and partial sharing of cost by the users (normally 10% cost of the scheme; Government contributes the rest 90%). All the decentralised community-managed programmes require a ten per cent community contribution towards the capital costs, and it is in fact a pre-condition to any financial assistance made by WASMO. This contribution ensures that the communities not only own the structures, but also participate in the project from the very beginning. Village leaders with team of WASMO and NGO step in to motivate the community to accept the community-managed approach and appreciate the need to contribute towards the capital costs either in cash or kind.

One of the key features of WASMO is the establishment of '*Pani Samitis*'. The communities in Gujarat are served by a Formal Water Committee – '*Pani Samiti*' (which means Water Committee)

which is the sub-standing committee under Gram Panchayat. After the introduction of the scheme in the Gram Sabha, a Pani Samiti is democratically elected in a village meeting which is followed by a formal oath-taking ceremony. It is empowered through a Government Resolution (GR), issued by the Panchayats Department in the year 2002. Formation of Pani Samiti is done in Gram Sabha. The Samiti is normally headed by Sarpanch of Gram Panchayat or by Panchayat member of respective village (in case of Group Gram Panchayat). In case of unwillingness of Sarpanch to head Pani Samiti Deputy Sarpanch or Gram Panchayat member can be elected as Chairperson of Pani Samiti. Talati acts as Secretary of Pani Samiti. It consists of 10-12 members. Pani Samitis also provide an opportunity for women and STs/SCs to participate in the decision-making process. Pani Samiti is formed during Cycle I; by the end of Cycle II, Pani Samiti is expected to take over the responsibility of Operation and Maintenance of the water supply scheme.

The Pani Samiti opens and maintains a separate bank account in nationalised bank for funds flow. The Samiti is responsible to plan, design and implement in-village water supply schemes. It is also responsible for O&M of the village and fix and arrange collection of water tariff for sustenance of system and services. WASMO lays emphasis to discuss in Gram Sabha and form Pani Samiti, which has representation of all sections of society to deliver its roles and responsibilities in letters and spirit.

The role of women in the management of water in a village is identified as a crucial factor. Women have been provided a platform to voice their issues by making it mandatory to have at least one third women members in the Pani Samiti.

A Village Action Plan is developed and is approved by the Gram Panchayat. After the preparation of the Village Action Plan, the community contribution (10%) is determined and collected.

The second stage lasting twelve months involves physical execution and completion of the project. The Village Action Plan is implemented and a continuous technical support is provided by the District Water and sanitation Unit (DWSU). WASMO also ensures the quality of construction by regular monitoring. Levy of water tariff is fixed in this phase. After the construction, the assets are handed over to the Pani Samiti and from here on the O&M is taken care of the Pani Samiti.

Third cycle is also of 12 months for providing post-implementation support. This phase is more of a handholding support in terms of components such as training and capacity building of the members of Pani Samiti. The Pani Samitis are taken on exposure visits to the best performing villages. Continuous monitoring and auditing support is also lent by WASMO in this phase.

# Community Water <sup>Plus</sup>

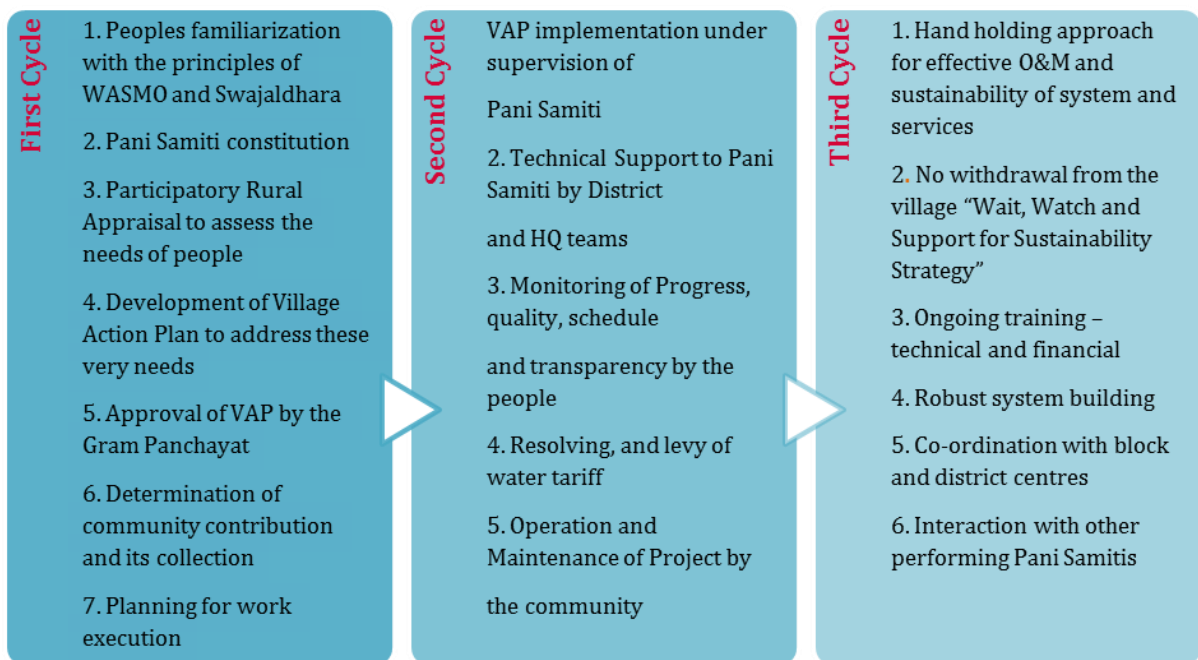


Figure 2.4 Description of Project Cycles in a Scheme

## 2.4 Enabling Environment Description

WASMO believes that community participation and capacity building need strong social process at village level. Hence, social processes to involve people in water management are taken up intensively. It is the social process that brings “Users demand - users’ participation” to plan and implement works. The community is empowered to maintain the assets for service continuity in times ahead.

The ESE has a clearly articulated vision, mission and/or objectives for its support function, which is also supported by a policy mandate.

Professionals of WASMO and Implementation Support Agency (ISA) are tuned to a system by trainings and regular guidance by senior officers to follow in practice:

**“Community is planner and implementer and WASMO is supporter to scheme work”**

While precautions are taken by the engineers of WASMO to see that the structural design of the important structures is safe and sturdy, the ongoing monitoring and supervision of the works in order to ensure quality, is the responsibility of the Pani Samitis. Holding sensitisation workshops, providing documented material in the form of manuals and lists of approved vendors are some of the means to help Pani Samitis ensure the quality of works that are taken up in the village. Construction training is a part of the capacity building initiatives and helps the community to understand the basics of construction activities and in some cases it has empowered them to prevent substandard work in the village. Also, there are structured mechanisms for tracking



information on performance of the Pani Samitis. Their performance is evaluated by the ‘Monitoring and Evaluation Cell’ of WASMO.

Access to Safe Water is the main objective of WASMO. Some of steps taken up by WASMO to achieve the aim in this connection are:

- IEC activities by adopting all measures including print, audio-visual mass media etc
- Capacity building of all the members of Pani Panchayats
- Provision and monitoring of field test kits
- Water quality testing and remedial measures to bring improvement
- Identification/ registration of safe drinking water sources in all habitations
- Data compilation, updation and sharing with all concerned

### Operation & Maintenance and Sustainably of Services and System

Water supply systems created under the project are significant only if they continue to deliver the benefits over a considerable period of time. The community therefore has a role to play in aspects such as:

- Fixation and collection of water tariff including maintenance of tariff records
- Water delivery services in the villages
- Regulating the use of different local sources and reserving drinking water if required
- Arranging operation of the system
- Carrying out minor repairs (either through a person in the village or an external paid service)
- Chlorination at village and household level
- Water quality testing and mapping of different sources, potable and non-potable.
- Ensuring proper use of infrastructure, cleanliness near sources

**Table 2.1 Understanding the support received by Pani Samitis from ESE**

Type of activity	Modality of support	Explanation
<b>Monitoring and control (auditing)</b>	Both (On request and supply based)	<ul style="list-style-type: none"> <li>• A separate cell in WASMO – ‘Monitoring and Evaluation’ helps in assessing the performance of the Pani Samitis and status of service delivery.</li> <li>• Pani Samitis are also trained to monitor their own workThe first audits of Pani Samitis are done by WASMO.</li> </ul>
<b>Water quality testing</b>	Both (On request and supply based)	<ul style="list-style-type: none"> <li>• WASMO provides Water Quality Testing Kits on supply basis to Pani Samitis.</li> <li>• The records of these results are available in the office of Pani Panchayat.</li> <li>• WASMO also does testing independently twice a year</li> </ul>
<b>Water resources management</b>	Both (On request and supply based)	<ul style="list-style-type: none"> <li>• Activities such as development of infrastructure for water storage or distribution in villages, construction of sanitation and washing facilities, rain water harvesting structures, school drinking water supply</li> </ul>

## Community Water <sup>Plus</sup>

		infrastructure, soak pits, water resource management structures, etc are taken up.
<b>Technical assistance</b>	Both (On request and supply based)	<ul style="list-style-type: none"> <li>• Engineers provide understanding &amp; develop sustainable scheme on the basis of population, available water and future requirements considering the norms prescribed by the Govt.</li> <li>• Due weightage is given for the revival and use of traditional water sources.</li> <li>• Local know-how and community water wisdom is used.</li> <li>• Survey and designing of the scheme are done with technical support by WASMO.</li> <li>• VAP contains details of work structures planned with their estimates.</li> </ul>
<b>Conflict Management</b>	On request	<ul style="list-style-type: none"> <li>• Regular training, discussion and regular guidance by competent professionals of WASMO help them to achieve the capacity to implement scheme works in effective manner.</li> <li>• In case of emergency situations, such as conflicts, the improved communication channels come into aid.</li> </ul>
<b>Support in identifying investments needs</b>	Both (On request and supply based)	<ul style="list-style-type: none"> <li>• Participatory Rural Appraisal (PRA) which includes social mapping, resource mapping, transect walks, interviews, etc are taken up in the village including its hamlets.</li> <li>• WASMO's tools and methods are applied in a systematic manner &amp; aim at having the complete demography and topography of the village.</li> <li>• Water sources and existing water supply assets and service delivery are assessed. It also considers sustainability of water sources including their all-time efficiency/ drying up in summer. These activities help in identifying the investment needs.</li> </ul>
<b>(Re)training of service provider</b>	Supply based	<ul style="list-style-type: none"> <li>• Every effort is put to stimulate the necessary skills into the community and trainings are also imparted to villagers addressing a wide array of issues from project planning to post implementation operation &amp; maintenance.</li> </ul>
<b>Information and communication activities</b>	Supply based	<ul style="list-style-type: none"> <li>• WASMO gives high emphasis to IEC activities and generation of public awareness and a feeling of responsibility towards water related issues. These "Software Activities" include various activities like Gram Sabha, publications, folk media, electronic media, rallies, campaigns and workshops.</li> <li>• These activities are undertaken to generate awareness, share knowledge and create an enabling</li> </ul>

## Community Water <sup>Plus</sup>

		environment and promote a behavioural change.
<b>Fund mobilization</b>	Both (On request and supply based)	<ul style="list-style-type: none"> <li>the fund is directly transferred to the Pani Samitis, thus bringing in a bottom-up approach.</li> <li>The Pani Samitis are expected to manage the funds and maintain all sorts of records, cash books, bank accounts, receipt books, etc.</li> <li>The accountability and effectiveness of the Pani Samiti can be influenced and monitored by the presence of an effervescent Gram Sabha.</li> </ul>

## 2.5 WASMO Performance Indicators

This section provides an assessment of the degree of professionalization, institutional performance, and client satisfaction of WASMO.

**Table 2.2 Understanding the ESE performance indicators**

Indicator	Score	Explanation
<b>Formality of the mandate for support</b>	100	The ESE has a clearly articulated vision, mission and/or objectives for its support function, which is also supported by a policy mandate
<b>Working methods</b>	100	The ESE has tools and methods for all of the areas of support it provides and applies those in a systematic manner
<b>Information management</b>	75	The ESE has one or more tools to track the performance of the service providers it supports and uses that to plan its work, but not monitor its own impact
<b>Communication between service support authority and service providers</b>	100	The ESE has a number of communication channels that are well used for contact with the service providers it supports.
<b>Client satisfaction</b>	75	The ESE monitors client satisfaction, and more than 70% of the service providers attended last year, indicate satisfaction with the support received

The organisation has a strong and formal mandate with a clearly articulated vision, which is also supported by a Government of Gujarat. WASMO has also been awarded the Prime Minister's Award of Excellence in service delivery.

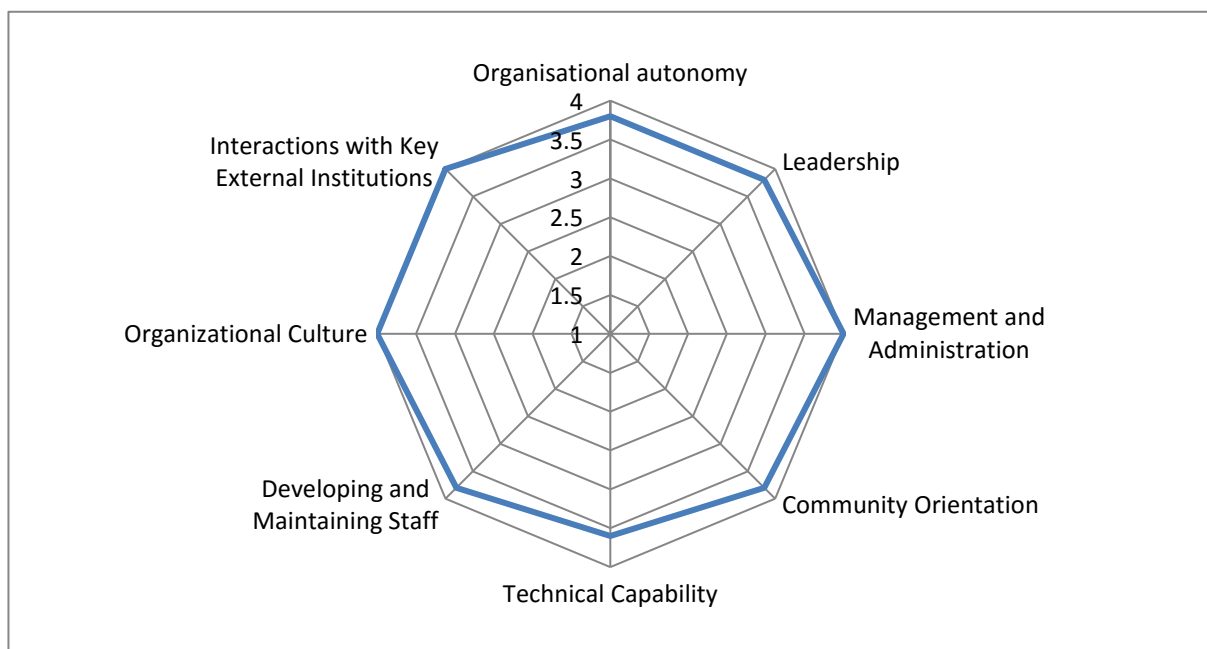
The atmosphere of WASMO is young and energetic and builds on strong sense of commitment. There is a prevalence of healthy organisational culture which was clearly captured in the team work among various cells in the office. Interviews with the CEO, WASMO and other senior officers

exhibited that he was able to provide a clear sense of mission that was shared and respected by other team members.

WASMO’s success is also attributed to the working model and use of professional tools which are used throughout the project cycle. The base of the organization is set on good organization values and is set as a good example for success in past and continues to do so even in the present. The service from staff working at the field level is praiseworthy. The ease at which the staff interacts with the members of Pani Samiti demonstrates the high level of trust the community has towards WASMO. Though the communication systems are really strong and well developed, there is still a chance of improvement in the area of addressing grievances. Multi-channel feedback mechanisms could be developed, including the opportunity for the communities to provide feedback directly to head office via established mechanisms, such as a central phone number or website.

## 2.6 Institutional assessment of WASMO

An assessment was also made of WASMO’s institutional performance, against 7 indicators (see figure 3.4) on a scale from 1 to 4



**Figure 2.5 Institutional Assessment**

A short explanation for each of the score is given (whereas the detailed scores per question can be found in annexure.

**Organizational Autonomy:** WASMO has defined organisational policies and goals. Every year the team sets internal goals and works towards achieving them. The team secures sufficient funds from appropriate sources to meet organisational goals. The action plans that are prepared aim at meeting the expected long-term demands on the institution. Every person’s role is clearly defined in WASMO. After recruitment, each individual is trained by a senior. The Human Resource Cell looks after

assuring that each official is aware of his/her roles and responsibilities. However, the employees fear job insecurity as most of them are recruited on contractual basis.

**Leadership:** There is an amicable atmosphere in the organization and the officials work in harmony. This can be attributed to an able leadership that involves people with the mission so they get a sense of ownership. There is an evidence of a disciplined leadership in a philosophical environment which enriches the rate at which the officials are able to render their services. The teams are dynamic and are service oriented. Their performance is evaluated on regular basis which paves a way for career growth and improvement. During various interviews, it is also observed that the people demonstrate personal integrity.

**Management and Administration:** Top management is responsible for framing policies, development of plans and objectives of the organization. The team-leaders/managers directly support the top level and are aware of their roles and responsibilities. They communicate the objectives to the rest of the team and the work is designed in a systematic manner with each and every person's roles and responsibilities clearly defined. People work in a team to get a task done and each one of them is accountable to complete a given task on scheduled time. All the systems that were developed to tract the administrative work have been in sync with the work done and used are used on regular basis. There is a separate section which manages all the finance related work. Documentation of various accounts and budget is done stringently. At the district level, each office is provided with a Finance Officer. The accounting and budgeting from the DWSU are all summarized at the head office. Both at the head office and at various DWSUs, personnel are recruited on need basis. Everyone's role is clearly defined and at present there is no dearth for human resources. Information is managed systematically and communicated to various channels with the team as well as with external people.

**Community Orientation:** WASMO's core competency is established by building strong relationships with the community. Various tools and methods are employed to interact and have a two-sided interaction with the communities. 'The involvement of social mobilizers allows for a positive interface between both the parties. Both the social mobilizers as well as technical experts work towards progressive success. Emphasis is laid in consideration of equity and involvement of people from all the communities. All corners of the village and all the communities including the most marginalized are considered while planning for the project. Communities are always provided with proper channels of communication to have conversation of any important matters. The DWSUs also respond to complaints, emergencies, and suggestions which community members or the Pani Samitis make. Usually, the DWSUs aim at addressing any complaints/emergencies within 24 hours. Communities are trained in all the three stages of project cycle. By doing so, the communities are empowered to manage their own services and requirements.

**Technical Capability:** The officials of WASMO possess the technical capabilities to efficiently plan and implement the projects in a stipulated time. The teams are trained for taking sound technical decisions and also render effective management by conducting technical studies and planning as requested and when requested by the communities. In the process, the teams also ensure of the quality in each and every assignment that is taken up. Various PRA exercises that are conducted during Cycle One (pre-implementation stage) help the social mobilizers and technical experts to

design the project schemes that are suitable for the specific needs of the village. All the officials are trained and their skills are groomed to a good extend whenever required. The organization has access to all the technical expertise and also sub-contracts consultancy services for important subject areas such as ground water geology, etc. One area of improvement for better provision of services is to strengthen practical research and experiments to improve existing uses of technology for local conditions and needs.



**Photograph: Field Exposure to the newly recruited technical and social mobilizers.**

**Developing and Maintaining Staff:** Competency development is the crucial driving force for the success of WASMO and in increasing its employee effectiveness. The research indicates that employees most often make use of training initiatives and, in particular, the in-field training methods and tools to develop their competencies. There is an existence of clear process for determining skill needs and the training programmes are designed on need-basis. Hence, training still forms an important part of competency development. With regard to the role of the organisation in competency development, employees indicate that their organisation supports them in their learning activities. However, incentives to sustain staff needs have to be strengthened. Lack of job security (as the jobs are contractual) enables the employees to perform better. But, this is also one of the drawbacks in retaining the trained and experienced staff.

**Organizational Culture:** The work culture among the teams is one of the assets that boost the performance of the organization. It contributes immensely to the productivity of the employees. There is clear cut existence of a team spirit among the teams. Employees have a sense of ownership and also have a pride about the work that is being done. WASMO has achieved great success in provision of water to every nook and corner in the state. In Gujarat, some of the areas are nearer to the country's border and establishment of a piped water network is extremely different. Various problems such as distance, terrain geography, and cultural differences make it difficult to achieve the water supply through piped network. But, WASMO has accomplished in supplying water by overcoming all these problems. Employees take stride in such achievements and also these successes keep them motivated to put in best efforts in future too. The organization has always



managed to have continuity in the organizational culture even within the varying levels. The staff is provided with good physical infrastructure and this is also aided with good maintenance. Overall, the office is clean and well maintained.

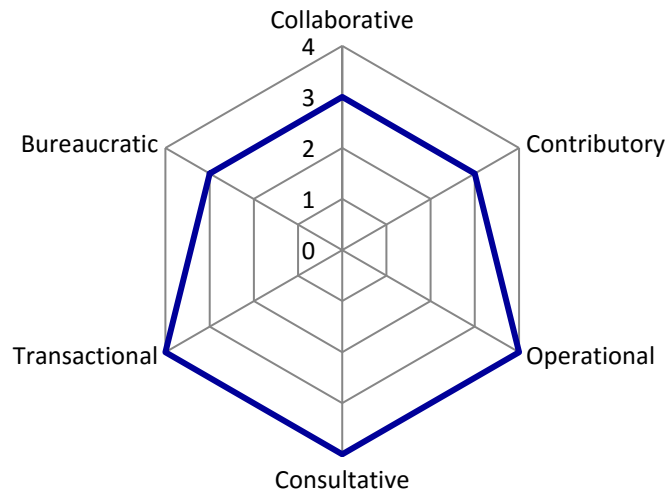
**Interactions with Key External Institutions:** To bring a significant recognition of the organization at central and state level, it is important to establish and maintain contacts with some of the national and state level agencies. By doing so, there is a two way benefit - one the organization is benefitted from the latest policies and funding; two- the organization's model can be set as an example for a successful case study that can be replicated in other states. The top level management stays well informed about external policy, financial, and regulatory issues and actions. The management also maintains good contact relations with all the key individuals related to a respective project. The project's goals are articulated with framing specific strategies that are formulated to influence policies, legislation, and other activities to obtain necessary approvals and resources. The programmes are always designed with an objective of community involvement in achieving the programme's success. The post-implementation support is given to the Pani Samitis which are always kept informed about monitoring. The various support services aid in the monitoring and in O&M of the project schemes at a village level.

WASMO is a professionally-run organisation, with strong leadership and community orientation. It also has all of its technical, financial and administrative systems in order. The outlook of WASMO towards water service delivery is sought out to be highly locally relevant and effective. Involvement of Gram Panchayats to sustain community participation is also commendable. The success of WASMO can also be attributed to the motivation levels of senior bureaucrats and involvement of politicians in the programmes. The support provided by external funding agencies has added to the positive results. Finally, the key factor for the success of this programme is the willingness of communities to take on responsibility for the full O&M of their water supply systems. Enabling Environment Partnering Assessment

Public service delivery often requires a partnership between professionals, service providers, and community residents.. Also between Pani Samitis (service providers as well as communities) and WASMO a partnership has been established, making it possible for them to accomplish much more than they can perform on their own. . In this research, it was critical to understand the relationships between various stakeholders on how well a partnership develops and moves forward.

The partnering assessment is understood to be different in various stages in a project cycle, from initial capital investment (implementation), to the service delivery, and asset renewal phases. The partnership is assessed against the criteria by Demirjan (2005), who identifies different types of partnerships. It must be noted that these types are not mutually exclusive, and many partnerships employ elements of the different types of partnerships, as defined by Demirjan.

**Capital Investment (Implementation)**



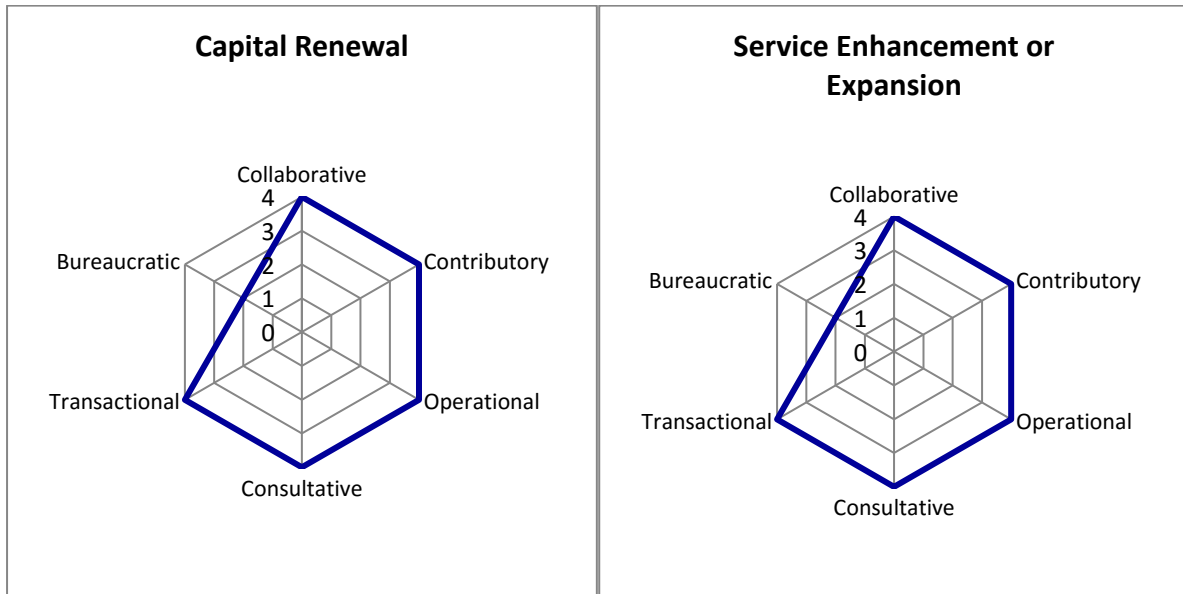
**Figure 2.6 Partnering Assessment during capital investment phase.**

In the Capital Investment (implementation) phase, the relationship is collaborative when both WASMO and Pani Samitis share responsibility for decisions regarding hardware (e.g. infrastructure) and software (e.g. capacity building) development. Both WASMO and Pani Samitis come together for preparation of a Village Action Plan (VAP). The relationship is contributory during the sharing of implementation costs. Both ESE and CSP pool financial resources to meet the costs of capital investment in hardware. WASMO and Pani Samitis work together in contributing labour and/or resources to deliver hardware and software provision during implementation. Such partnership is more 'operational' in nature. Consultative partnership is established during various Participatory Rural Appraisal meetings and before preparation of VAPs. In this type of partnering, WASMO and Pani Samiti communicate regularly during implementation with structured opportunities for feedback and dialogue. The partnership is transactional in the initial phase when WASMO and Pani Samitis initially negotiate an implementation plan (VAP) that is then delivered by the ESE. The bureaucracy type of partnership is evident when WASMO provides Pani Samitis with a standardised model of hardware and software provision during implementation.



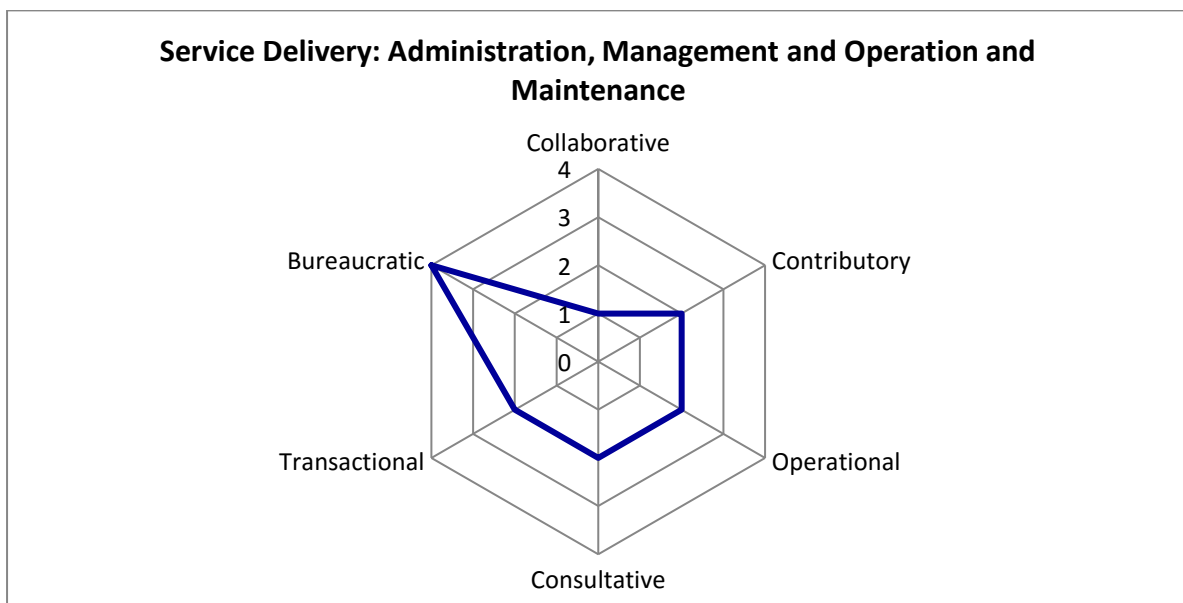
**Photograph: Infrastructure built from the 90-10% contribution**

All in all, this means that the partnership has elements of most of types of partnering in it, with bureaucratic being the least developed element. This makes the partnership rather complete.



**Figure 2.7 Partnering Assessment during capital renewal and service expansion phase**

Both the phases of Asset Renewal or Service Enhancement/Expansion mimic the Capital Investment Stage. Both WASMO and Pani Samitis work hand in hand during these stages. In short, the whole Project cycle repeats again from Cycle 1 where the social processes progress with an establishment of constant interaction with community and key stakeholders. Action plan is prepared in cycle 1. In cycle 2, infrastructure is created with efforts and monetary contribution from both WASMO and Pani Samitis. In the cycle 3, the post-implementation support is given and slowly the property is handed over to the CSPs. Hence, in these phases, all types of partnerships exhibit a strong relation. However, the bureaucratic type of relationship takes a backseat in these phases as asset replacement, expansion or renewal is (at the moment) not dependent on generic programme timelines (e.g. every X years and/or with every X% of population increase).



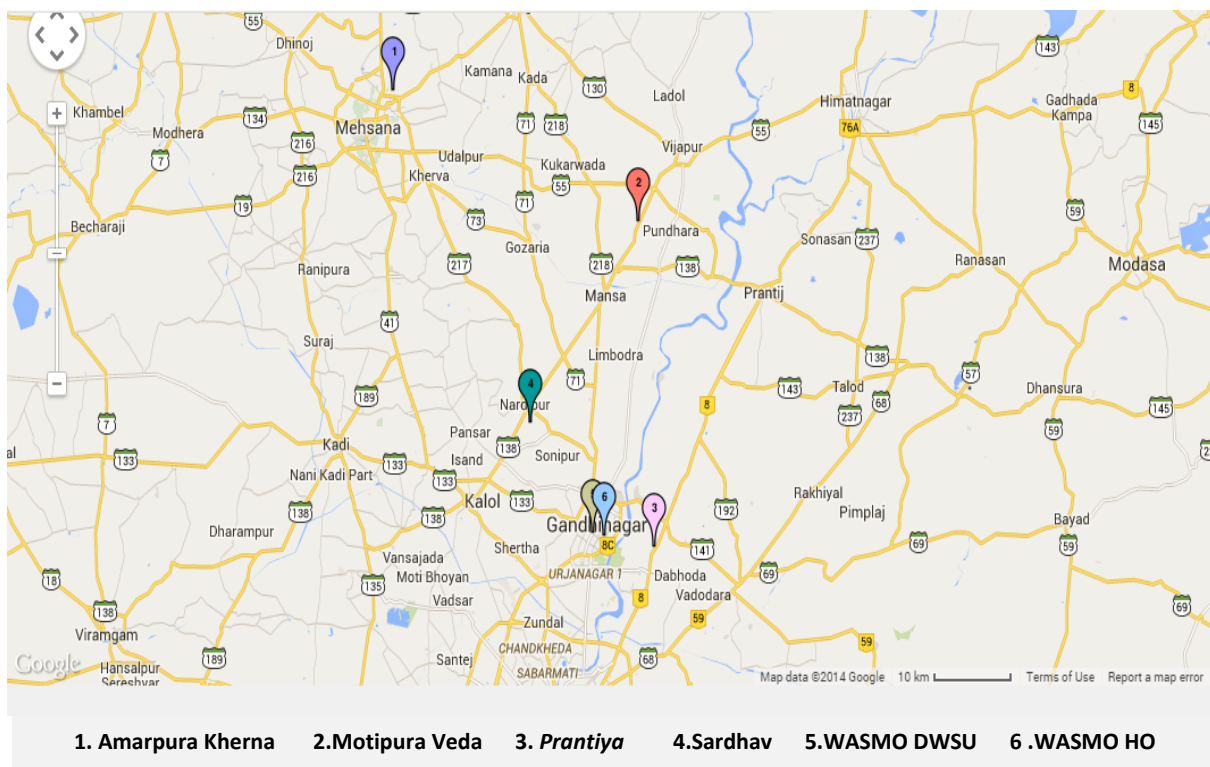
### **Figure 2.8 Partnering Assessment during service delivery phase**

After that hardware construction, the Pani Samiti takes over the responsibilities for on-going Operation and Maintenance. At this juncture, the collaborative partnership almost becomes nil since only the Pani Samitis is responsible for decisions regarding administration, management and operation and maintenance. Even the Contributory type of partnership is inactive here as the costs are mainly borne by the Pani Samitis. These costs are recovered from the monthly/yearly tariff collection from households. When it comes to the system for sharing information regarding administration, management, and operation and maintenance, it is sole responsibility of the Pani Samitis. In this, the role of ESE is minimal and hence the consultative relationship is not much strong. The operational role of contributing labour and/or resources to support administration, management, operation and maintenance is also done by the CSP in this phase. The transactional partnership is also hardly seen as the administration and management is carried out by the Pani Samitis. Pani Samitis have yearly audit and the costs for the audits are also borne by them.

### 3 Community Service Provider Level

#### 3.1 Context

Gandhinagar District is an administrative division of Gujarat,, whose headquarters are at Gandhinagar, the state capital/ It has an area of 649 km<sup>2</sup>, and a population of 1,387,478 of which 787,949 live in rural areas (2011 census). The district has 284 villages spread across four tehsils/blocks. Gandhinagar is also the seat of the head office for WASMO. Gandhinagar was chosen as the district in which the WASMO approach was validated, because some of the successful case studies in the state are from this district. Different resource persons from different background across the country visit these villages to learn lessons from the programme implementation to identify potential factors for replicability in their respective districts/states. The district also has differently performing villages where the results are high on the indicators, and then there are other villages which are performing just about average. There are also some villages where WASMO has not yet supported them. Given this sheer scale of performance, the Gandhinagar district was sought out to be a good case study to understand the nuances in the sustainability of the programme.



**Figure 3.1 Screenshot of Selected Villages and WASMO Head Office & Field Office on a Google Map**

In Gandhinagar, drinking water supply is facilitated through a combination of piped water supply and local water sources. The transfer of bulk water is done from River Narmada to the villages. With the help of WASMO, existing regional water supply systems have been strengthened and new water distribution and storage systems have been developed. Some basic information of the villages is provided below

**Table 3.1 Population covered by the Pani Samitis in respective Villages.**

## Community Water <sup>Plus</sup>

Parameter	Motipura Veda	Amarpura Kherna	Sardav	Prantiya
Number of Households	170	325	1777	1100
Total Population	1100	1500	8000	4200
% of population served by CSP	100%	100%	100%	80%

Motipuraveda is a small village located in Mansa Block of Gandhinagar district. The village has a total population of about 1100 and 170 Households. Out of these 1100 people, more than 600 stay in other places and usually visit the village during weekends or vacations. The village was categorized as a dark zone with water resources being over-exploited and a resultant trend of depleting ground water; leading to an upshot in the salt content in the water. The village also faced problems of fluoride and high turbidity.

Motipura Veda has many laurels to its credit, such as Nirmal Gram Puraskar, State Government sponsored awards; Samras Gram, Tirthgram, Gokul Gram and Swarnim Gram. The Pani Samiti of Motipura Veda was upbeat in winning Best Pani Samiti award at District level and second best Pani Samiti at State Level. The primary occupation of this village is both agriculture and dairy. This village has only one cast – the Patels.



**Photograph: Members of Pani Samiti display the cash award for the 'Best Performing Pani Samiti'.**



## Community Water <sup>Plus</sup>

Amarpura Kherna is a medium sized village in Mansa Block, Gandhinagar District. It has a population of 1500 people with 325 households. The village consists of two castes – Choudharys and Yadavs. The primary occupation of this village is both agriculture and dairy. Earlier, the village had a rainfall of 500 mm. The quality of water that was supplied to the households from the borewell deteriorated with passage of time. This problem was coupled with rising population. The main pipeline was made of cement and was more than 25 years old. At this juncture, the village approached WASMO for creation of new assets. Amarpura Kherna is the first LED village in Gujarat. The village is under the surveillance of CCTVs and is connected with Wiify. This village has also received many awards such as Nirmal Gram Puraskar (100% water and sanitation facility), Thirth Gaon (no police case recorded in the village since last 10 years), Shrest Gaon (Good Practice), Pavan Gaon (Hygiene Category), Swarnim Gaon (Good Performance), Samras Gaon (The Gram Panchayat election in this village stands unopposed with one village leader elected by concences since last 15 years ), etc. The villages' income from dairy is 18 lakhs/month and annual profit of 1.5 crore from agriculture.



**Photograph: PRA Exercise with the all women Pani Samiti of Amarpura Kherna**

The third village, Sardhav, situated in Gandhinagar Block, is a large one with a population of 8000 across 1777 Households. There are around 18 castes – in this village. This village is also the recipient of Swarnim Gaon and Gokul Gaon Awards. WASMO has lent its services starting from 2002 to this village, mainly to cater to the growing needs of the village. The old RCC pipelines have been replaced with PVC and an additional infrastructure has been created. The village has leased its land to HP bottling company, through which the Panchayat earns Rs. 28 Lakhs/annum. Apart from this income, the Panchayat also earns a rent of Rs. 30000/year from commercial shops and Rs. 110000 from RO Plant.



**Photograph: Aerial view of a part of Sardhav**



*Prantiya* is home for 4200 people across 1100 Households. The village is also a mix of more than 15 castes, consisting of. This village is not yet supported by WASMO and the water supply is managed by Gram Panchayat. *Prantiya* is the control village for this study.

**Photograph: 12 year old OHT in *Prantiya***

## 3.2 Community Service Provider Descriptors

**Table 3.2 Community service provider descriptors**

1. Characteristics	Motipura Veda	Amarapura Kherna	Sardav	<i>Prantiya</i>
Type of organisations	Formal water committee	Formal water committee	Formal water committee	Local Government (Gram Panchayat)
<b>Organizational capacity</b>				
Staffing of governing body of CSP	11	11	11	11

# Community Water <sup>Plus</sup>

<b>Staffing of the CSP</b>	12	12	14	15
<b>Scale of operation of the CSP</b>				
<b>Coverage</b>				
<b>Population supplied with water by the CSP</b>	1100	1500	8000	4200
<b>Size of population in service area</b>	1100	1500	8000	4200
<b>Coverage</b>	100%	100%	100%	80%
<b>Coverage with household connections</b>				
<b>Number of households with household connections</b>	170	325	1777	1100
<b>Households served by the CSP</b>	170	325	1777	880
<b>Coverage with household connections</b>	100%	100%	100%	80%
<b>Coverage with household connections among vulnerable groups</b>				
<b>Number of SC/ST [and other vulnerable group] households with household connections</b>	0	40	250	75
<b>SC/St [and other vulnerable group] households served by the CSP</b>	0	40	250	75
<b>Coverage with household connections among vulnerable groups</b>	Not applicable	100%	100%	100%
<b>Financial descriptor</b>				
<b>Tariff structure</b>	325	175	60	50
<b>Connection costs</b>	500	500	275	100
<b>Total capital expenditure in previous year</b>	0	0	0	0

## Community Water <sup>Plus</sup>

In Motipura Veda, The Pani Samiti consists of 11 women team. Both Amarpura Kherna and Sardhav also consist of 11 member team with 1/3<sup>rd</sup> constitution of women. In *Prantiya*, there is no formal water committee and Gram Panchayat takes care of its daily water services.

In all the three villages, the coverage is 100% and the number of household connections is also 100%. However, in the control village- *Prantiya*, only 80% of population has household connectivity. In our research, we also tried to capture the coverage of water supply in the BPL /Vulnerable Groups Households. Motipura Veda is constituted by a single caste and there were no BPL Households in this village. Amarpura Kherna has 40 such HHs, Sardhav has 250 HHS and around 75 HHs are recorded under this category in *Prantiya*. It is interesting to note that the coverage in these households is 100% in both Amarpura Kherna and Sardhav. Our data was inefficient to calculate whether the 20% of HHs which do not have the HH connection belong to the BPL /Vulnerable Groups, though the Gram Panchayat assured that they provide 100% coverage in the village.

પત્રક - ૨  
ગામમાં પાણી ગુણવત્તા ચકાસણી (પરિણામો) ની વિગતો

WASMO Testing Result.

ક્રમ	તારીખ	ટેસ્ટીયુરનલ કલોરીન ડેટર		ગુણવત્તા પરિણામ H <sub>2</sub> S Vials થી કાનુ પડે છે ? હા/ના (માસિક)	કલોરાય યુનિટ (એન.ટી.યુ.)	રાસાયણિક પૂચકરણ કિટ (એલ.ટી.કે.)ની મદદથી મળતા પરિણામો (બી.આઇ.એસ. સ્ટાન્ડર્ડના સંદર્ભમાં)			WASMO Testing Result.		
		સપ્તમાંથી લીધેલ નમુના માટે કલોરીન પી.પી.એમ	ગામમાંથી (વિતરણ વ્યવસ્થા) લીધેલ નમુનાનું સ્થળ તથા કલોરિન પી.પી.એમ.			pH Value યુનિટ (૬.૫ થી ૮.૫)	કુલ ઢાલ્ય શારે (TDS)મીલી ગ્રામ /લીટર (૫૦૦-૨૦૦૦)	હાર્ડનેશ (કઠોનતા) મીલી ગ્રામ/ લીટર (૩૦૦-૬૦૦)	કલોરાઇડ (Cl) મીલી ગ્રામ / લીટર (૨૫૦-૧૦૦૦)	નિમ્નરેટ NO <sub>3</sub> મીલી ગ્રામ/ લીટર ૪૫	કલોરાઇડ F (૧.૦૦ થી ૧.૫૦ મીલી ગ્રામ/ લીટર)
૧	૨	૩	૪	૫	૬	૭	૮	૯	૧૦	૧૧	૧૨
૧	૨૦૦૭	૦.૧	૦.૧	૦	૦	૭	૫૫૦	૨૪૫	૩૮૦	૦	૦
૨	૨૦૧૦	૦.૫	૦.૫	૦	૦	૭	૧૧૦૦	૩૬૦	૪૫૦	૪૫-૧૦૦	૧.૫
૩	૨૦૧૦	૦.૫	૦.૫	૦	૦	૭	૧૨૫૦	૨૬૦	૩૬૦	૧૦૦	૦.૧૦

**Photograph: Water Testing Results recorded by Pani Samiti**

One such training is the 'Tariff Collection'. In Gandhinagar District, Pani Samitis collect tariff once in a year. This tariff is collected simultaneously with other taxes (such as light, road, cleaning and maintenance, etc. Motipura Veda collects Rs 325/HH, Amarpura Kherna collects Rs. 175/HH and Sardhav charges Rs. 60 as the user fee. Users in *Prantiya* pay Rs. 50 to the Gram Panchyat. In addition to the regular tariff collection, the Pani Samitis also collect a one-time payment for a new connection. While both Motipura Veda and Amarpura Kherna collect Rs. 500 for a new connection, Sardhav and *Prantiya* charges Rs. 275 and Rs. 100 respectively.

### 3.3 Community Service Provider Indicators

The performance of the CSP in its functions of governance, financial administration and operation and maintenance are assessed using indicators that were developed by the research team.



**Table 3.3 Community service provider indicators**

Indicator	Motipura Veda	Amarapura Kherna	Sardav	Prantiya
<b>Governance</b>				
<b>Selection of the Board of the service provider</b>	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 with minor deviations.			
<b>1.4 Information sharing and accountability mechanisms</b>	The CSP has several mechanisms to inform and provide accountability to users. These are all used regularly.			The CSP has at least one mechanism through which users are informed and accountability is provided. This is used regularly.
<b>1.5 Gender balance in the governing body of the CSP</b>				
<b>1.5.1 Number of women in the governing body of CSP</b>	11	10	4	Not applicable
<b>1.5.1 Total number of members of the governing body</b>	11	11	11	Not applicable
<b>1.5 Gender balance in the governing body of the CSP</b>	100%	91%	36%	Not applicable
<b>1.6 Capacity of the personnel and board of the provider</b>				
<b>1.6.1 Number of members of the personnel and governing body of the CSP that have received formal training for their function</b>	12	13	4	Not applicable
<b>1.6.2 Number of personnel and governing body members</b>	12	13	11	Not applicable
<b>1.6 Capacity of the personnel and board of the provider</b>	100%	100%	36%	Not applicable
<b>Finance</b>				

<b>2.1 Financial balance of recurrent revenue and expenditure</b>				
<b>2.1.1 Total Annual Revenue (user charges, government subsidy, any other income)</b>	INR 55,250	INR 56,875	INR 1,06,620	INR 55,000
<b>2.1.2 Total Annual Expenditure (OpEx, CapManEx etc)</b>	INR 41,150	INR 26,500	INR 1,46,000	INR 1,17,200
<b>2.1 Financial balance of recurrent revenue and expenditure</b>	INR 14,100	INR 30,375	-INR 39,380	-INR 62,200
<b>2.2 Cash reserves</b>	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.		The CSP actively manages a cash reserve both through petty tax box and bank account but replenishes it on an irregular basis.	The CSP actively manages a cash reserve both through petty tax box and bank account but replenishes it on an irregular basis.
<b>2.3 Book keeping</b>	The CSP tracks its income and expenditure systematically and produces an annual account. The annual accounts have been audited and approved.		The CSP regularly tracks its income and expenditure sheet and produces an annual account.	
<b>2.4 Non-payment rate</b>				
<b>2.4.1 Number of users who more than three months of water fees</b>	0	0	525	110
<b>2.4.2 Number of users</b>	170	325	1,777	1,100
<b>2.4 Non-payment rate</b>	0	0	29%	10%
<b>Technical performance</b>				
<b>3.1 Technical folder</b>	The CSP has a folder with at least the map or design of the system or the operational manual and guidelines		The CSP has no map, design or operational manual and	

				guideline of the system but can access those from relevant government bodies, when it needs to
<b>3.2 Registry of operational information</b>	The CSP has more than two of the five types of records and all are up to date		The CSP has at least two of the five types of records mentioned above, and these seems all up to date	The CSP has only one of the five types of records
<b>3.3 Response time</b>	24	48	48	48
<b>3.4 Water metering</b>	No water meters at all have been installed at users with household connections.			
<b>3.5 Waters security measures</b>	At least one water security measure is being taken, though not as part of a comprehensive water security plan	No water security measures are taken, neither is any plan in place		
<b>3.6 Water quality management</b>	A comprehensive water quality management plan is in place, that has been provided or approved by a competent ESE. This plan is being executed.		The CSP executes a comprehensive water quality management plan that it has developed itself. But it hasn't been reviewed by a competent ESE.	A water quality management plan has been developed and is followed most of the time but not always.

## Governance

Pani Samiti is a sub-standing committee of the Gram Panchayat and the members are elected in the Gram Sabha. Gram Panchayat is a legal entity. Government of Gujarat issues a certificate on 'Formation of Pani Samiti'. This document also clearly mentions the roles and responsibilities of Pani Samiti. In general, the selection of new board takes place once in every two years. There is no formal



## Community Water <sup>Plus</sup>

document describing how elections should take place, but the community has a general understanding of how it would work. In all the three villages, this informal procedure was followed during the previous elections. In the control village, there is no separate committee for water as such, but the responsibilities are with the Gram Panchayat.

In all the three villages, there is evidence of several mechanisms to inform and provide accountability to users and these are all used regularly. During the household interviews, users of both Motipura Veda and Amarpura Kherna were aware of each and every activity taken up by the Pani Samiti. In Sardhav, some of them were not aware of the various activities. This could be due to two facts – Sardhav is a big village; and the fact that most of them are migrant workers and live in rented housing in the village makes them less involved in the developmental activities of the village. In *Prantiya*, there were no clear channels of communications and information sharing mechanisms and users are not updated on constant basis.

WASMO, from the beginning has stressed the importance of women in water management. In this line, the organization has laid down a mandate of having at least 33% of women in the Pani Samiti. In Motipura Veda, Pani Samiti consists of all-women brigade. In Amarpura Kherna, except the chair (who is the Sarpanch), rest of them are women. Sardhav has achieved the condition of 33% seats for women category and in *Prantiya*, there are no women members.



**Photograph: All women brigade of Pani Samiti, Motipura Veda**

**Table 3.4 Members in the Pani Samiti**

Village	Total number of members of the governing body	Number of women in the governing body of CSP	Number of support staff
Motipura Veda	11	11	1
Amarapura Kherna	11	10	2
Sardhav	11	4	3
<i>Prantiya</i>	11	0	1

## Finance

In the WASMO Model, the initial infrastructure costs are shared in the ration of 90-10%, where community's contribution is the 10%. Post the construction phase, WASMO handovers the responsibilities of O&M to the Pani Samitis. Pani Samitis are also trained on tariff collection and setting of tariff structure which enables them to collect enough money for regular O&M and for major repairs. Based on number of households, the water tariff is fixed. It is a pre-requisite for Pani Samitis to open a separate bank account in a nationalized bank. All the cash flows are usually maintained in their respective bank accounts.

The following table outlines the financial status of each of the four villages surveyed.

**Table 3.5 Financial Status of the Villages**

Village	Water Tariff per Household per year (In INR)	Annual Income in last year (in INR)	Annual Expenditure in last year	Annual Savings in last year
Motipura Veda	325	55,250	41,150	14,100
Amarapura Kherna	175	56,875	26,500	30,375
Sardhav	60	106,620	146,000	-39,380
<i>Prantiya</i>	50	55,000	117,200	- 62,200

Though the annual savings of Motipura Veda is of a less scale, it has a fixed deposit in its bank account, which can be used in case of major repairs or renewals. This fixed deposit is a result of a cash award won by the Pani Samiti for the 'Best Pani Samiti Award'. It can be observed that both Sardav and *Prantiya* fall under the deficit category. However, their model of operation is quite different from the regular model. The water tax is collected as a part of the other taxes such as light tax, maintenance tax, etc. In both these villages, it is just not the water tax that is used for providing water services, but all the taxes together are used for maintenance of various services in the village. Hence, the deficit amount is compensated from the other taxes, thus constituting a de facto subsidy from the GP to the water operations.

The Pani Samitis of both Motipura Veda and Amarpura Kherna actively manage cash reserve both through petty tax box and bank account and regularly replenishes it from a dedicated part of its revenues. Sardav and *Prantiya* also manage cash reserves both through petty tax box and bank account, but, this is part of the entire accounting system of the Gram Panchayat.

SWM / DISTRICT PANCHAYAT / VILLAGE WATER AND SANITATION MISSION / MOTIPURA (VEDA) / Balance Sheet as at 31/12/2008	
CAPITAL FUND AND LIABILITIES	Previous Year
1 Accumulated Funds	16548
2 Current Liabilities	
i Out standing exp	
ii Any other liability	
<b>Total</b>	<b>16548</b>
<b>ASSETS</b>	
1 Fixed Assets	
2 Current Assets & Advances	
Closing Balance	
a) Cash in Hand	0
b) Cash at Bank	16548
<b>Total</b>	<b>16548</b>

\* Subject to our report of even date attached here with.  
 Date: 30/07/2012  
 Place: Gandhinagar  
 Signature: [Member Secretary]  
 Signature: [Chartered Accountants]  
 S.R.P.  
 ग्राम पंचायत सदस्य  
 ग्राम पंचायत, मोटिपुरा वेदा, अहमदाबाद

All the Gram Panchayats have the support of a Talati (Record Keeper, appointed by the government). All the financial records are verified by him. The Pani Samiti tracks its income and expenditure systematically and produces an annual account. In addition, the Pani Samitis also appoint a Chartered Accountant who audits the financial accounts and produces an audit statement. These statements are kept in the Pani Samitis/Gram Panchayat offices. WASMO also does a third party audit evaluation. The results are used to determine the best performing village for the awards that are given every year at district and state level.

**Photograph: Audited Statement of a Pani Samiti**

In order to provide the best services, it is essential for the Pani Samitis to have a regular supply of funds. Water tax in all the four villages is collected once in a year. This money is deposited in the bank. Pani Samitis ensure that everyone pays the water tax. If any household is having more than three months of due, the water connection is cut and the household has to again take a new connection for water. Hence, to avoid paying a huge amount for a new connection, households usually pay their taxes on time to avoid the penalty. In both Motipura Veda and Amarpura Kherna, non-payment rate is nil and in *Prantiya*, non-payment rate is 10%. Sardhav is able to collect taxes from 70% of households.

**Technical Performance** In cycle 1, WASMO organizes a series of Participatory Rural Appraisal activities as part of social work before the implementation phase. In this phase, a Village Action Plan (VAP) is prepared. This VAP is finalized by the community and is put in front of the District Water and Sanitation Committee (DWSC) for its approval. These maps are available in all the three villages. In the control village, there is no technical map for water supply in the village. The Pani Samitis are sensitized on various operational manual and guidelines as part of trainings in the cycle III i.e., post-implementation phase. Manuals on water-testing are also available with the Pani Samitis.

WASMO has also built the capacities of Pani Samitis in terms of book keeping and record maintenance. In both Motipura Veda and Amarpura Kherna, more than five records such as – Water Tax Collection, Water Quality Reports, Audited Statements, Expenditure and Income Records, Petty Cash Book, Minutes of Meeting, Register for comments/ suggestions by the visitors, etc are available. In Sardhav, a clerk is appointed on behalf of Gram Panchayat. The same person is responsible for record keeping of both the Gram Panchayat activities as well as information on the

water services. Around 3 such records are available with the management. However, in the control village, the gram panchayat records such information in the common registers and there is no separate accounting for the water services.

The response from the Pani Panchayat towards a breakdown needs to be understood to determine their performance. All the four villages see to it that the repairs are addressed within 48 hours.

At the moment, WASMO's models do not have a metering system. The metering system is still a new concept and some of the villages have come forward and put forward proposals to the DWSUs for metering in their respective villages. Motipura Veda is one such village, which is always wants to do something new and achieve more. It aims to set a benchmark for the rest of the villages.

Water conservation is a village's interest. The water conservation is not a part of a VAP. However, if the village requests a technical help in this context, the DWSUs are ready to provide assistance in terms of both technical as well as financial. Motipura Veda is the only village to have a water security plan in place. A rainwater structure is constructed and this water is diverted to the fields at present.

Provision of water is just not about quantity but also quality. WASMO has trained one person from each of the Pani Samiti to carry out a water test every month. They also provide the Pani Samitis with the water testing kits. Both Motipura Veda and Amarpura Kherna follow this ritual on regular basis. Apart from this, chlorination is also done at periodic intervals. The chlorine powder is obtained from a Primary Health Care (PHC). In *Prantiya*, this procedure is taken care of the health officers of the PHC which is located in the village.

For developing the capacities of those involved in the programme, particularly the village communities, Pani Samiti members and the field workers, regular workshops, training sessions, exposure visits and seminars are organised. Training by national, state and district level resource persons and institutions are held on themes such as pre-construction; operation and maintenance; water quality surveillance; finance and accounts; environmental sanitation and personal hygiene; and water resource management. As a result, areas such as quality control, maintenance of records and technical aspects are now not alien for village. Through building capacity of the community to own and operate systems, WASMO ensures that the community will be able to manage the water supply system efficiently.

The critical success acclaimed to WASMO is majorly due to the involvement of communities to take over the operation and management of water supply systems. The evolution of Pani Samitis as a sub-standing committee helps in better service provision as a separate committee serves to its fullest in one type of the service as opposed to Gram Panchayat which takes care of all the services in a village. Existence of clear channels of communications and information sharing mechanisms keep the communities updated on constant basis. Also, the transparency factor, in terms auditing and maintaining clear records of income and expenditure has built trust among the communities towards the Pani Samiti as well as WASMO. This trust factor is questionable in *Prantiya*, the control village. The best performing Pani Panchayat awards given by WASMO keeps them on toes and always helps them to perform better. These professionally evolved community providers proved to be efficient so far in managing all the administration work. The existence of clear records indicates the training efficiency of WASMO and also proves the calibre and commitment of Pani Samitis to

their work. In the control village, since there is no separate committee for water, and people do not know whom to complain to in case of any repair or break downs. Interaction between the people and the Gram Panchayat is very minimal and their involvement in planning and execution of schemes is almost negligible.

### 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

Figure 4.1 briefs the Participation typology in the four villages.

**Capital Investment:** In both Motipura Veda and Amarpura Kherna, the community is empowered in such a way that it practices self-supply and always seeks to improve its supply systems. They have their own implementation plan and seek the support of WASMO for additional requirements. In Sardhav, more of interaction participation is observed where the community in partnership with the Pani Samiti and/or support entities engage in a joint-analysis of implementation options before developing a plan. In *Prantiya*, communities involvement is very passive and are only informed when the project implementation is going ahead as per an externally designed plan.



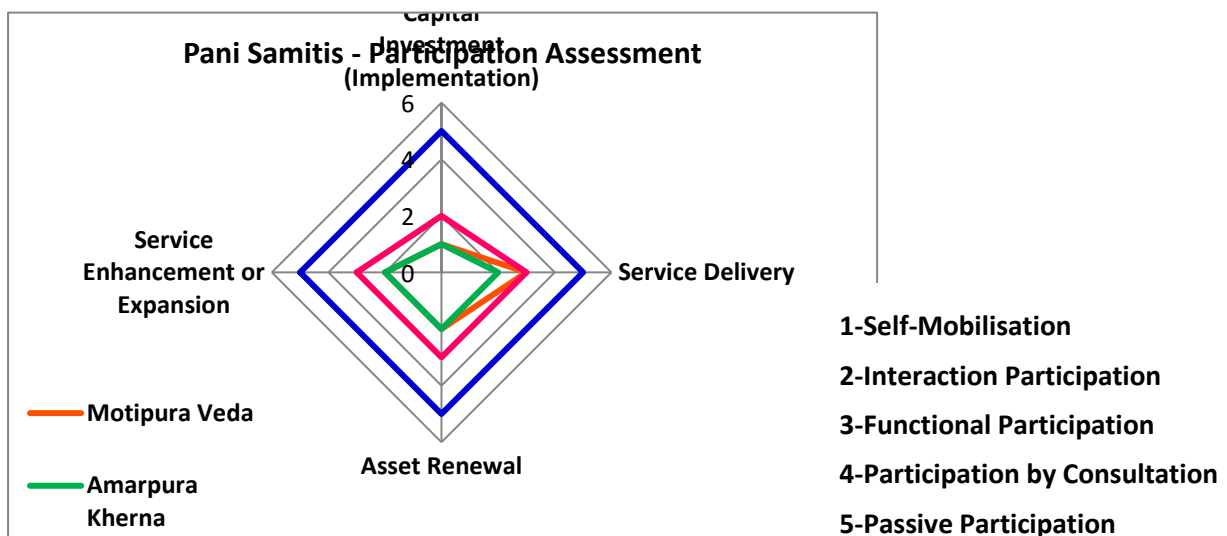


Figure 3.2 Participation Assessment of Pani Samitis

**Service Delivery:** Both Motipura and Sardhav has functional participation where the community is provided with administration, management and operation and maintenance arrangements that they discuss and they have a chance to amend limited elements. In Amarpura Kherna, the community in partnership with the Pani Samiti and/or support entities engage in joint-decision making regarding appropriate arrangements for administration, management and operation and maintenance which is more of interaction participation. However, in *Prantiya*, community members are informed how administration, management and operation and maintenance will operate without opportunity for changes.

**Asset Renewal:** Both Motipura Veda and Amarpura Kherna show a developed interaction participation where the communities in partnership with the Pani Samiti and/or support engage in joint-decision making regarding asset renewal. In Sardhav, functional participation is observed where the community is provided with an asset renewal plan that they discuss and they have a chance to amend limited elements. *Prantiya* is a case of passive interaction where the Gram Panchayat informs community members about asset renewal as per an externally designed plan.

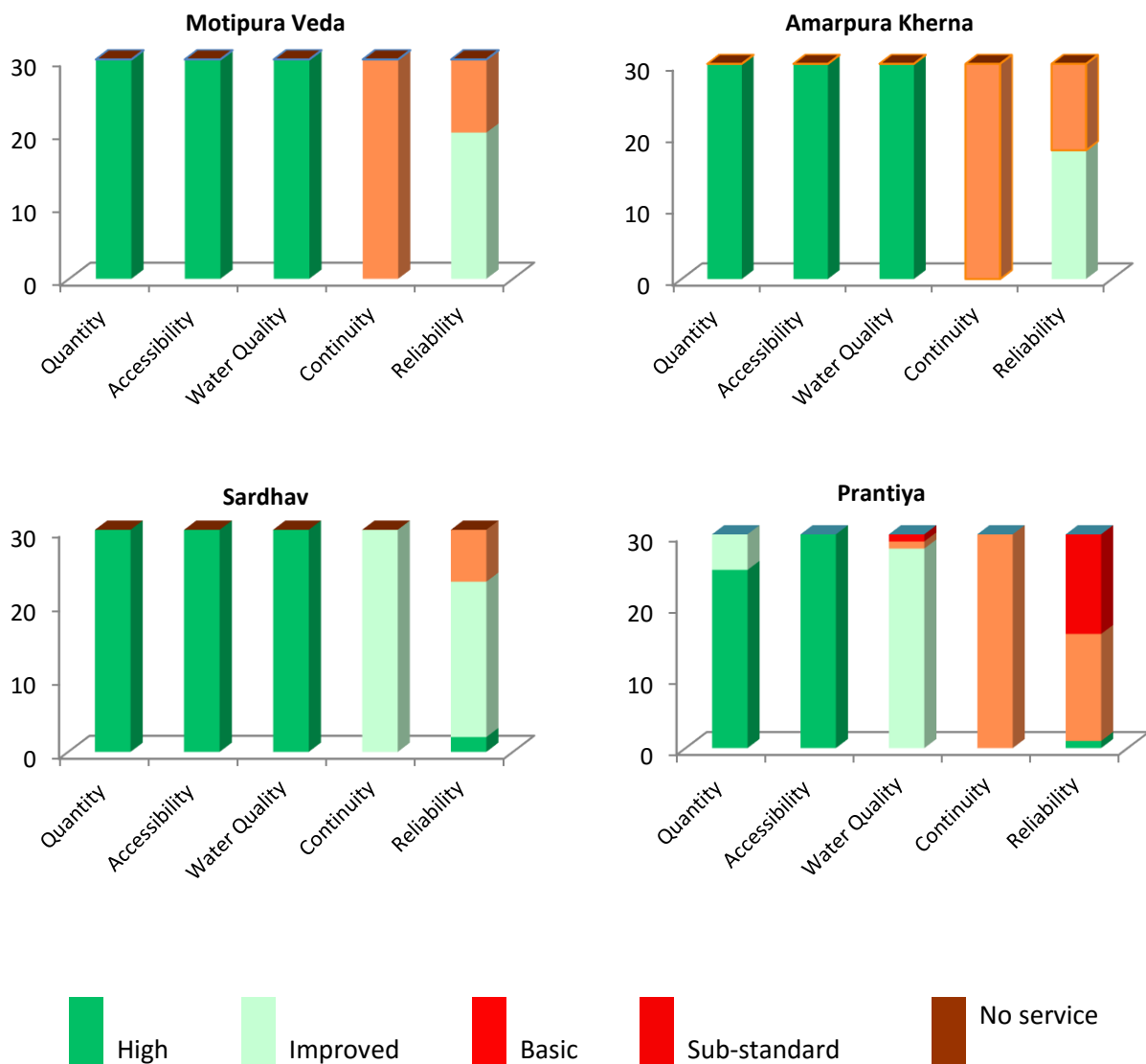
**Service Enhancement or Expansion:** Interaction Participation is captured in Motipura Veda and Amarpura Kherna where the community in partnership with the Pani Samiti and/or support engage in joint-decision making regarding service enhancement or expansion. Like Asset Renewal, same sort of function participation is observed in Sardhav, where, the community is provided with an service enhancement or expansion plan that they discuss and they have a chance to amend limited elements. In *Prantiya*, community members are informed about service enhancement or expansion as per an externally designed plan which is more of a passive participation.

In all the three villages where WASMO has extended its support, there is a valid degree of community involvement in planning, designing, execution and O&M of water service delivery programmes. The communities play a key role in joint-decision making and together take part in arriving at a solution after series of discussions. Like what WASMO, has described, it has aptly played the role of a facilitator and communities proved to be the best managers of their water service delivery. However, the communities in *Prantiya* are devoid of all the privileges of gaining better

# Community Water <sup>Plus</sup>

service delivery due to absence of their involvement in all the cycles of programme implementation. Service Levels

The establishment of the service levels is done using a combination of data obtained from the household surveys and data obtained from Pani Samitis. These data is used to arrive at a score for each of the service levels parameters (quantity, accessibility, quality, continuity and reliability), and the results are presented below.



**Figure 3.3 Household service levels**

**Quantity** All the thirty households in the three successful villages have access to high quantity of water which is >80 lpcd. In *Prantiya*, five people responded that they have an access to improved service which is 60-80 lpcd.

**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 villages.



## Community Water <sup>Plus</sup>

**Water Quality** is assessed in two ways – through users’ perception through the household survey and through assessment of water quality parameters through water quality tests at system level. The entire thirty households in the three successful villages perceive the water quality to be high. The tests that were conducted by the research team also second their perception. However, in *Prantiya*, people complained of water with odour and colour. This was captured in the survey and out of 30 households surveyed, 28 households pointed that the quality is improved and one household each added that it was of basic and sub-standard respectively.

**Continuity** of supply is defined by the average number of hours that water is available at the tap. Except for Sardhav, rest of the villages ensure a basic supply of an hour every day. Sardhav is able to supply water daily for two hours and hence falls under the improved category.

**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, all the three successful show a mix of both improved and basic reliability. Around 46% of people in *Prantiya* reported a sub-standard reliability and 50% of them felt that there is a basic reliability.



**Photograph: Valve System in Sardhav**

### Infrastructure Status

The infrastructure snapshot tool is used to assess the sustainability problems for the future. e.g. a pump that is 10 years old has a high chance of breaking down. Each of the components in the table below is visited and observed by the research team. Following table gives the infrastructure snapshot of the four villages.

**Table: 3.6 Infrastructure Snapshot of the four villages**

System component	Actual Life Span	Age in relation to theoretical life-span			
		Motipura Veda	Amarapura Kherna	Sardhav	Prantiya
Intake structure	50	10	4	11	12
Borehole	30		4	11	12

## Community Water <sup>Plus</sup>

<b>Motorised pump</b>	15	10	4	11	12
<b>Electricity panel</b>	15	10	4	11	11
<b>Main line</b>	30	10	5	11	24
<b>Reservoir</b>	30	10	6	11	12
<b>Distribution network</b>	30	9			24
<b>Tap stands</b>	30	-	5	-	-

In the three villages where WASMO has extended its support, all components that are present are in good physical condition. However, in *Prantiya*, few components have reached the age of the design life span and the effectiveness over the years has decreased.

### 3.5 Equity

Equity in water supply is one of the major problems faced in intermittent water distribution systems. WASMO's commitment to a decentralised, demand-driven approach is manifested in the flexibility in its interventions. Its focus on equity has won the trust and support of communities.

Using the aggregate results from the service analysis, the equity of service across the community is assessed. From the table above, and from various PRAs and discussions both with the communities as well as the Pani Samitis, it was clear that equity in water supply in all the three successful villages is assured. In *Prantiya*, the results indicate that equity in water supply is significantly affected by the location of the tank and layout of the network. The equity in water supply can be improved in an existing network by staggered supply.

WASMO has taken into account the sensitivities of women and vulnerable groups and was successful in achieving fully the intended purpose of changing the lives of the poor and vulnerable in society. It has also accomplished a sense of ownership among the Pani Samitis and users that drives the pursuit of sustainable services.



**Photograph: Women in the SC/ST Colony of Sardhav echo for the best services provided by the Pani Samiti.**

## 4 Costing

Community-based management is built upon the principle that user tariffs would cover the operation and maintenance costs of rural water supplies. In Motipura Veda and Amarpura Kherna, the O&M costs are met through the water tax collection. In the other two villages, the expenditure is covered through general taxes.

The overall objective of this project is to identify the ‘plus’ component that supports the sustainable functioning of the water committees. The research team tried to understand the various cost implications of the ‘plus’ to arrive at a \$/person/year figure that aid in these services to be effective.

### 4.1 Costs of CapEx

For the capital investments – construction of fixed assets such as concrete structures, pumps and pipes are taken into account. In the WASMO model, CapEx costs may be categorized into two – hardware and software components. The general information of the village demographics is given in the table below.

#### CapEx Hardware

Investments in fixed assets, initial construction and system extension, enhancement and augmentation come under the CapEx Hardware category. Here, the 90% of the costs are borne by the government (45% Central government funds and 45% State Government funds) and the rest 10% is from community contribution.

**Table 4.1 CapEx Hardware**

Particulars of Costs	Motipura Veda	Amarpura Kherna	Sardhav	Prantiya
Total CAPEX Hardware costs (INR) (Initial Infrastructure Costs)	INR 6,34,000	INR 20,63,000	INR 24,09,000	0

#### CapEx Software

Social mobilizers are involved in a lot of PRA activities and in preparation of a VAP in the Cycle 1. The costs involved in this phase are grouped into CapEx Software. The following costs are captured for the software component during the implementation of the scheme.

**Table 4.2 CapEx Software**

Particulars of Costs	Motipura Veda	Amarpura Kherna	Sardhav	Prantiya
Total estimated direct staff cost (INR)	2,18,010	2,18,010	2,18,010	0
Travel and subsistence costs (INR)	22,414	22,414	22,414	0

## Community Water <sup>Plus</sup>

Any information materials and supplies costs (INR)	24,542	24,542	24,542	0
Total estimated CAPEX Direct Support costs (INR)	2,64,966	2,64,966	2,64,966	0

**Table 4.3 Hardware – Software costs**

Particulars of Costs	Motipura Veda	Amarpura Kherna	Sardhav	Prantiya
<b>% of Software Costs to the Total CapEx</b>	30%	12%	11%	-

As can be seen, the software is a fixed cost per village. This is to be expected, as setting up a Pani Samiti, training it, providing it assistance will not depend on village size. This also means that the relative costs of software vary a lot, from 10-30% of total project costs.

## 4.2 Recurrent costs

### OPEX

Recurrent costs include expenditure on labour, fuel, chemicals and regular purchases of any other materials. Minor maintenance is routine maintenance needed to keep systems running at peak performance, but does not include major repairs. Such costs are calculated in the OPEX category.

For calculating OPEX costs, salaries of pump/bore operators, value men, support staff, etc. are calculated. Costs of IEC activities in the post-implementation phase are also included. In short, these are the expenses that the Pani Samiti incurs on OpEx.

Pani Samiti also incurs certain amount on annual materials and supplies and for contractual help such as pump mechanics. This value is arrived at by taking an average value of cost over the last three years. In Gandhinagar, few villages have dual water supply; but most of them are dependent on ground water. Only Motipura Veda and Amarpura Kherna buy bulk water (Narmada Project) from the government and the same is reflected in the table below.

**Table 4.4 Annual Costs involved in OPEX incurred by the Pani Samiti.**

Particulars of Costs	Motipura Veda	Amarpura Kherna	Sardhav	Prantiya
<b>Staff salaries (such as pump operators, helpers, etc) of those involved (annual)</b>	3,200	2,000	12,000	9,600
<b>Number of annual staff days</b>	1,095	365	1,095	1,460
<b>Average salaries for this level of staff (daily rate)</b>	35	65	131	79
<b>Total estimated direct staff cost (annual)</b>	38,400	24,000	1,44,000	1,15,200
<b>Travel and subsistence costs (annual)</b>	0	0	0	0

## Community Water <sup>Plus</sup>

<b>Pump mechanics</b>	2,000	2,500	2,500	2,000
<b>Purchase of bulk water</b>	9,125	5,000	0	0
<b>Estimated power costs</b>	See Summary Cost Table below			

### Monitoring Function Annual Costs

The annual monitoring costs of WASMO are taken into consideration for calculating the costs in this category. The final costs are arrived at by dividing by the number of Pani Samitis that undergo this process in a year at the level of Gandhinagar.

**Table 4.5 Service Monitoring Function Annual Costs**

Particulars of Costs	Motipura Veda	Amarpura Kherna	Sardhav	Prantiya
Total annual costs of the monitoring function	12,17,464	12,17,464	12,17,464	0
Number of service providers monitored annually in the state	400	400	400	0
Annual cost of monitoring function per service provider	3,044	3,044	3,044	0

### Total ESE Cost and Indirect Staff Costing

In this category, The ESE overheads are determined.

**Table 4.6 Total ESE Cost and Indirect Staff Costing (ESE Overheads)**

Particulars of Costs	Motipura Veda	Amarpura Kherna	Sardhav	Prantiya
Total annual costs of the ESE	17,99,13,106	17,99,13,106	17,99,13,106	0
Number of service providers supported	13,058	13,058	13,058	0
Total estimated ESE support costs per service provider	13,778	13,778	13,778	0
Overhead Costs per Service Provider	153	778	478	0

The total recurrent costs are summed up in the below table.

## Community Water <sup>Plus</sup>

About 17% of the combined recurrent costs (opex and direct support) are incurred by the Pani Samiti, recovered from the community through tariffs. The remaining 83% is contribution from WASMO, the Gujarat Water Supply and Sewerage Board and through subsidised power costs from the State Government, estimated in this study based on pumping heads and published energy tariffs. It can be concluded that, whatever the success of 'community management', the tariffs are indeed ok to recover only that part of OpEx that Pani Samitis are supposed to cover, but which is only a fraction of the real cost of supply.

**Table 4.7 Summary Cost Table (INR)**

Gujarat Ghandinagar 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					RECURRENT EXPENDITURE TOTAL
	CapEx hardware	CapEx software	CAPEX TOTAL	OpEx labour & materials	OpEx power	OpEx bulk water	OpEx enabling support	CapManEx	
Community/consumers	INR 105	-	INR 105	INR 26	-	INR 4	-	-	INR 30
Local self-government	-	-	-	-	INR 48	-	-	INR 2	INR 50
State government entity	-	-	-	INR 2	INR 51	INR 31	-	-	INR 84
State water supply agency	INR 472	INR 233	INR 704	INR 4	-	-	INR 10	-	INR 14
National Government	INR 472	-	INR 472	-	-	-	-	-	-
NGO national & international	-	-	-	-	-	-	-	-	-
International donor	-	-	-	-	-	-	-	-	-
TOTALS	INR 1,048	INR 233	INR 1,281	INR 33	INR 98	INR 35	INR 10	INR 2	INR 178
Median of 20 case studies			INR 3,231						INR 207
'Plus' %age	90%	100%	92%	20%	100%	89%	100%	100%	83%
Median of 20 case studies			95%						57%

**Table 4.8 Summary Cost Table (PPP USD\$)**

Gujarat Ghandinagar 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					RECURRENT EXPENDITURE TOTAL
	CapEx hardware	CapEx software	CAPEX TOTAL	OpEx labour & materials	OpEx power	OpEx bulk water	OpEx enabling support	CapManEx	
Community/consumers	\$ 5.97	-	\$ 5.97	\$ 1.50	-	\$ 0.22	-	-	\$ 1.72
Local self-government	-	-	-	-	\$ 2.72	-	-	\$ 0.14	\$ 2.86
State government entity	-	-	-	\$ 0.13	\$ 2.89	\$ 1.77	-	-	\$ 4.78
State water supply agency	\$ 26.88	\$ 13.27	\$ 40.15	\$ 0.24	-	-	\$ 0.54	-	\$ 0.78
National Government	\$ 26.88	-	\$ 26.88	-	-	-	-	-	-
NGO national & international	-	-	-	-	-	-	-	-	-
International donor	-	-	-	-	-	-	-	-	-
TOTALS	\$ 59.72	\$ 13.27	\$ 73.00	\$ 1.87	\$ 5.61	\$ 1.99	\$ 0.54	\$ 0.14	\$ 10.15
Median of 20 case studies			\$ 184.16						\$ 11.78
'Plus' %age	90%	100%	92%	20%	100%	89%	100%	100%	83%
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

From the research undertaken, few conclusions have been deliberated in this section.

### Enabling Support Environment

The ESE can be characterized as a formal and professionalised support model, with reasonably clear division of roles and responsibilities that provides comprehensive and structured support, in a demand-responsive manner. It is performing its role in an effective manner, but can improve in several aspects, including monitoring client satisfaction, addressing. However, it is focused mainly on its support role in cycle 1 and 2, essentially support during the implementation of new infrastructure, or asset renewal and enhancement. Support to cycle 3, which is the direct support to service provision, is done only on-request basis, and not in a structured manner. As almost all villages in Gujarat have now access to recently improved infrastructure, support to cycle 3 will become more important in near future.

- WASMO is able to fulfil its role so effectively, because of 1) its institutional culture and 2) a strong organisational structure and procedures and 3) adequate human resources.
- In terms of the institutional culture, the clear articulation of vision, mission and objectives, help the staff to perform well, creating an institution that is perceived to be supportive, professional and integer.
- WASMO has well-organised and structured procedures for staffing, training, monitoring, auditing, financial procedures, and communication within WASMO and with its stakeholders.
- There are adequate human resources, in number and quality.
- During capital investments (cycle 1 and 2), partnering is consultative in the sense that ESE and CSP jointly decide on what to develop but follow standard procedures for how to develop it, in terms of financing, procurement rules, training, technical designs, amongst others.
- For service delivery (cycle 3), partnering in decision-making is limited, in the sense that CSP have large autonomy within the broad frameworks set. WASMO is contributing though by resources in cash and in kind. Moreover, the ESE is accessible on request.

### Community Service Provider

- The villages visited can be classified as having a model of community management with direct support from WASMO, and administratively and financially supported by Gram Panchayat. In one of the cases (Sardhav), however, the role of the Pani Samiti was negligible and the model became de facto one of direct provision of the Gram Panchayat, with some community involvement.
- The level of professionalization at community level is low, as the model is based on volunteerism, and employs few dedicated staff (only the borehole operator).
- Internal governance roles are not determined by a policy document but the members work in unity.
- CSP performs well in information sharing and accountability.
- Financial Administration: CSPs perform well in record keeping and tariff collection. But the blurred lines between the administration of the Pani Samiti and the general Gram Panchayat administration brings about transparency risks, particularly where there are no separate bank accounts or unclear handling of financial reserves between the two.



## Community Water <sup>Plus</sup>

- Technical Operation And Maintenance: Basic O&M tasks are done well, but more advanced activities like undertaking water security measures or metering are absent.
- The degree of community engagement in service provision differs between the capital intensive phases (capital investment, renewal and enhancement), in which the community participates in an interactive manner, and the service provision phase, where there is more functional participation, because then CSPs have to work within the frameworks for community management, set by WASMO.

### Costing

- The costs of CapEx hardware are shared at a 90-10% basis, but communities can earn back the 10% if they have good performance indicators within a year after completion. CapEx software is 100% funded by WASMO.
- OpEx costs are shared between Pani Samiti, Gram Panchayat and other government bodies, but the rules on who pays for what line item are not very clear and lacking in transparency by having the costs shared by so many institutions.
- The rules for sharing the costs of CapManEx are the same as for CapEx. However, there is lack of clarity how the financial reserve of Pani Samitis is expected to contribute to this, nor how this reserve is managed.
- All in all, this model is heavily dependent on public finance, with almost 100% of investments and 80% of the recurrent costs, coming from government.
- The ESE has adequate human (and logistical) resources for support. The Pani Samiti makes optimal use of the existing resources of the Gram Panchayat (e.g. support by clerks and talati), and there is a perception among users that Pani Samiti members are fit for the job.

### Service Levels

- The status of the assessed infrastructure was good.
- WASMO has taken into account the sensitivities of women and vulnerable groups and was successful in achieving fully the intended purpose of changing the lives of the poor and vulnerable in society.

### Contextual factors

- The low level of water security (quantity and quality), when WASMO originally started means that people know how it is not to have water, and see the benefits of having well-organised supplies.
- The socio-economic status of the area is relatively good.
- There is closeness to urban setting and leads to an easy provision of services in a good response time.
- Literacy rate also plays an important role in understanding the need for water conservation and in seeking the citizens' rights from the government.

All in all, this means that the 'plus' in 'community plus' consists first of a strong support during the capital intensive phase of developing the community organisation, where communities participate in decision making on their water systems. But the plus also consists for a large extent of the financial support to OpEx and direct support. The tariffs are only to a small percentage reflective of the real costs of supply. Communities can thus operate the system and take decisions on minor operational issues. But the major expenses and hence decision making on them, is largely in the hands of WASMO and the GPs.

## References

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