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Unstructured Post Construction Support under Structured Local Governance: Evidences from Rural Drinking Water Service Delivery

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Abstract

The evolution of the rural water and sanitation sector (RWSS) sector is marked by a paradigm shift from supply driven approaches to decentralized community management to improve ownership, service level and sustainability. Though the approach has gained dominance as a rural service delivery model in progressively enhancing rural coverage globally, recent evidences suggest critical second generation sustainability concerns. There is also widespread scepticism about decentralization as a means to attain sustainable service delivery. The paper is an analytical revisit to one of the rural Grama Panchayaths served by community managed drinking water supply as a dominant model for more than a decade, in a progressively decentralized State of Kerala, India. The objective is to test the evidences, document learning and to identify critical post construction (PCS) gaps in achieving sustainable service delivery, everyone for forever. The findings would be of global relevance, specifically for India which is on the threshold of launching its ambitious 12th Five Year Plan of covering at least 55% of the rural households with piped water supply with decentralized community based management as the dominant delivery model. It would also facilitate developing countries in designing PCS both for service providers and service authorities to enable CBM to perform.

Introduction

In many countries including India, community management of water resources was a way of life from time immemorial. However, across the globe, community ownership and management of rural water supply systems and assets attracted substantial investments only since 1980s. The International Decade for Drinking Water and Sanitation (IDDWS 1981-90) adopted community participation and management as key strategies[1]. Since then, the U-turn from supply driven to decentralized community centric demand driven models triggered by donors and multi-laterals have been embraced at an accelerated pace by national governments resulting in community based management (CBM) emerging as a single dominant model of RWSS service delivery. The trajectory of water sector reforms in India has also been aligned broadly with the global trends.

Background - Emerging Evidence

Global monitoring of Rural Water Supply and Sanitation (RWSS) trends (JMP[2]) tell us that progress is being made and most countries are moving ahead at a pace sufficient to meet the Millennium Development Goals (MDGs). Sector investments however are highly skewed towards hardware leaving very little for O&M leading to high rate of scheme mortality and sub-optimal performance[3]. Recent studies[4] across different countries and technologies confirm a repeated pattern of failure and breakdown rates somewhere between 30- 40%[5]. The Life Cycle Cost Approach (LCCA) study in India has

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also validated the pattern of poor asset management, high rate of capital decay and consequent dis-functionality.

Yet another multi-country study[6] covering India, under Triple –S (Sustainable Services at Scale) found that though rural drinking water sector is dominated by community management, there are emerging critical second generation sustainability concerns.

There is also widespread skepticism about decentralization as a means to attain sustainable service delivery and poverty reduction[7]. According to the World Development Report[8&9] (WDR 2004), many challenges remain in scaling up the community management model, viz., communities require technical support in the medium to long run to manage water systems; communities pay for current operating costs, but replenishing capital investments and meeting rising O&M costs are not easily managed and there are problems of increasing complexities in managing water supply.

The emerging RWSS scenario in India is one of high aspirations and increasing demand for improved service level. In tune with the demand pattern, GoI has come out with ambitious strategy[10] to achieve 80% rural piped water supply coverage by 2022. Considering also the fact that decentralized governance of wash service delivery under the Panchayath Raj Institutions (PRIs) is a constitutional mandate, it would be of high import to explore and analyse evidences as to the capacity of CBM to deliver sustainable service delivery.

Decentralization and Drinking Water Service Delivery - A Review

Globally, decentralised community based management has emerged as a dominant model for rural drinking water service delivery. In a recent 13 country study[11] of the status of rural water reinforced the results as can be seen from the table below:

Table 1: Service Delivery Options in Selected Countries; 2012

Service delivery model options	**Ethiopia**	**Mozambque**	**Burkina Faso**	**Uganda**	**Ghana**	**Benin**	**India**	**Honduras**	**Sri Lanka**	**Thailand**	**Colombia**	**South Africa**	**USA**
Rural coverage (%); JMP, 210[12]	**29**	**26**	**72**	**64**	**74**	**69**	**84**	**77**	**88**	**98**	**73**	**78**	**94**
Community-based management	√	√	√	√	√	√	√	√	√	√	√	√	√
Private contracting (includes to NGOs or CBOs)			√	√	√	√			√		√	√	√

Local govt. /municipal Provider	√										√	√	√
Self supply	√			√	√		√	√		√	√		√
Association of community or user associations			√					√					
Urban utility (public, private or mixed)			√		√			√					√

Source: Lockwood, H. & Smits, S., 2011

However, the institutional modalities have ranged from delegation- de-concentration - democratic devolution where community based user groups are embedded formally or informally as service providers. The distinction between service provider and regulatory functions are in general not well defined and in many cases the local government themselves act as providers. These variations in the form and content of decentralisation have an important bearing on service delivery outcomes, and on processes of participation, accountability and responsiveness. Local government is often weak, ill-equipped and poorly resourced to carry out the mandate of ensuring water services. Structured support for local government and communities is seldom in place and not adequately budgeted for. Lack of meaningful fiscal decentralisation remains a core barrier, often slowed down by political influence and other disincentives.

As noted by Dillinger[13] (1994: 8-9), '[T]he objectives of decentralization … appear only tangentially related to administrative performance … the decentralization now occurring is not a carefully designed sequence of reforms aimed at improving the efficiency of public sector performance. It more often takes the form of a reluctant and disorderly series of concessions series of concessions by central governments attempting to maintain political stability.'

As a result, decentralised community based management is showing signs of unsustainability questioning the very arguments of widely differing criteria, ranging from expected improvements in allocative efficiency, welfare, and equity, through to increased participation, accountability, responsiveness on the part of local authorities and the basic tenet of subsidiarity.

There is no systematic or comparative evidence[14] on whether increased participation in decentralised local governance generates better outcomes in terms of improved service delivery to the poor and marginalised, though there are anecdotal, temporally specific and highly localised results indicating comparative advantages in terms of cost efficiency customer satisfaction.

In India however, historically, rural drinking water supply was outside the sphere of influence of Government in India. Governmental role started on a significant way with the commencement of the Accelerated Rural Water Supply Programme (ARWSP) in 1072-73. During 1972-1986, the major thrust of

the ARWSP was to provide adequate drinking water supply to the rural communities through the Public Health Engineering System. The second generation programme started with the launching of Technology Mission in 1986-87, renamed in 1991-92 as Rajiv Gandhi National Drinking Water Mission, with focal attention on drinking water quality and appropriate technology. The turn to community participation started systematically in the year 1999-2000 with the third generation programme under Sector Reform Projects evolving community in planning, implementation and management of drinking water schemes. The programme was later scaled up as Swajaldhara in 2002. The Rural Water Supply (RWS) sector has now entered the fourth phase with major emphasis on ensuring sustainability in terms of potability, adequacy, convenience, affordability and equity while also adopting decentralized approach involving PRIs and community organizations. The ARWSP has been now modified as National Rural Drinking Water Programme (NRDWP) with the implementation modality in alignment with the constitution 73rd and 74th amendments (April 1993) placing drinking water and sanitation as mandatory functional areas of the 3 –tier Panchayath Raj Institutions, comprising the district, block and the village. The new policy directions as contained in the new NRDWP guidelines, the strategic plan 2022 and the 12th Five Year plan (2012-17) all emphasis a PRI lead decentralized governance mode in drinking water sector involving active participation, management and ownership of communities.

However, the rural water supply schemes once completed are handed over to the PRIs/communities who are not adequately capacitated to manage such schemes. Compounded by gaps in structured post construction support, community based management is showing high degree of unsustainability. At sub-national level, wash service delivery is the constitutional mandate of the Panchayat Raji Institutions (PRIs), which are not capable of performing technically, financially and managerially. The accountability mechanisms of Government PHEDs and Water Boards are still vertical to State Governments and not horizontal to PRIs. Institutional harmonization and strengthening at grassroots level are critical for sustainable service delivery

To add to the existing complexity and management challenges, the national draft XII Five Year Plan (2012-17) envisages enhancement of rural service level from 40 to 55 lpcd and a shift to piped water supply with house connections to reach 80% in rural areas by 2022. While rural communities are struggling hard to manage simple local source based schemes, the new challenge of managing complexities of piped water supply is another threat to sustainable service delivery in India. Community centric institutional delivery models which dominate rural sector require professionalism and improved capacity; technical, financial and managerial[15].

The State of Kerala is considered as a lead model[16] in democratic decentralisation in India following a big bang approach of devolution supported by massive capacity building processes. Evidence from Kerala's Popular Planning Campaign launched in 1996 indicates that local council expenditures more accurately reflect local priorities but it is too soon to determine their equity impact (Isaac, 2000).

Kerala – Multiple Delivery Models

The State of Kerala, South India, is thus an interesting crucible in exploring explore the path of community based achievements in rural water supply and sanitation (RWSS) with specific reference to

sustainability sector investments. The sector reforms in Kerala started in the late 1990s, as stated earlier, was set in a globally acclaimed model of decentralized local governance under the 73rd constitutional amendment and people's planning. However, the model has serious institutional dichotomy characterized by the coexistence of monolithic vertically accountable service provider Kerala Water Authority (KWA) leaving the PRIs *de jure* mandated yet *de facto* not empowered.

The state is having multiple service delivery models comprising KWA led supply driven piped water supply schemes (PWS), World Bank community owned-demand driven Kerala Rural Water Supply and Sanitation Agency (KRWSA) called *Jalanidhi*, GoI funded PRI lead Sector Reform and Swajaldhara schemes, PRI owned and invested water supply schemes, NGO driven systems backed up by an overriding open well based self- supply. Except KWA schemes, all the models are based on the principle of community contracting, participation, partial capital cost sharing and O&M cost recovery at varying degree of differences. These schemes are implemented on the 'unfailing faith' in the capacity of the communities in operating and managing water supply.

Though the State is having outstanding global models in community driven development (CDD), apparently on account of increasing complexities of drinking water supply, erosion in social capital, deflation in voluntarism, absence of structured post construction and capacity support, there are manifested signs of slippage in community management.

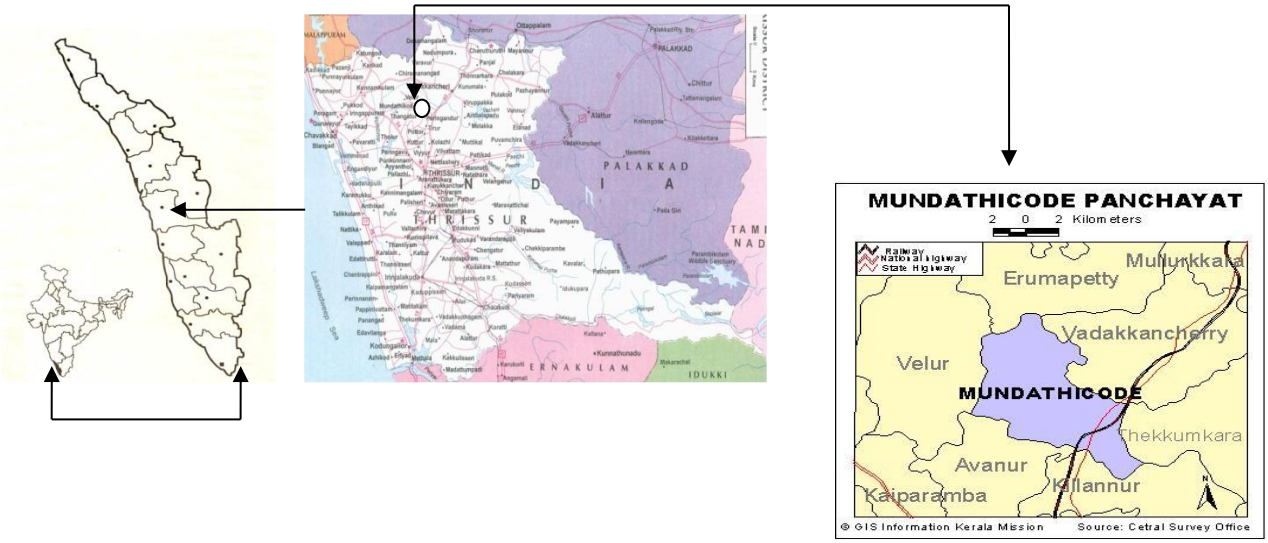
There are very few comparative analysis to reflect the social costs and benefits or performance evaluation of supply and demand driven service delivery models in Wash sector in Kerala. However, comparative analysis of the supply and demand driven models in 2005[17] revealed that the average production cost for Kerala Water Authority (KWA) is at Rs. 9.79 per kilolitre and the cost recovery is only Rs. 3.50. Under decentralised delivery models of which the following case study is a part of, the production cost is estimated at Rs. 3.5 per kilolitre and cost is fully recovered. In terms of service levels customer rating indicate better reliability. The unaccounted flow of supply driven models in Kerala was estimated at 35%, whereas the same is less than 5% for decentralised models. Though the study has shown that the participation of the below poverty line households are significantly above the state average, there are no analytical evidence on equity and inclusion of the marginalized.

In this background the paper examine critically the performance of community managed PRI centric rural drinking water supply schemes in Mundathikode Grama Panchayaths in the State, which pioneered decentralised service delivery including taking over and community based rehabilitation of Kerala Water Authority (KWA) managed schemes. The study also amounts to a revisit after a decade of implementation to assess key issues of sustainability and to examine critical post construction support gap if any.

The Case Study

Mundathikode Gram Panchayath (GP) in Thrissur district of Kerala State was established in 1950. The GP was selected as the best local body government in the State consecutively for 2001 and 2002. Mundathikode was also one of the pilot batch GPs pioneered the World Bank funded community managed demand driven Jalanidhi Rural Water & Sanitation (RWSS) programme of Government of Kerala (GoK) during 1999-2002.

Under Jalanidhi 26 micro piped water supply schemes with house connections were implemented in the GP, which include 3 rehabilitation schemes taken over from the public sector KWA. Institutionally and legally, the project had a quadrilateral agreement among Beneficiary Groups (BGs), GP, selected NGO and Jalanidhi. Encouraged by the success of Jalanidhi, the GP has also managed to facilitate implementation of additional 13 new schemes under the same principle of community management and cost recovery. Now there are about 39 rural community managed drinking water schemes in the GP fully managed and maintained by communities through cost recovery. To supplement, the GP also has an excellent network of self- supply through traditional household open dug wells. Basically agrarian, the Panchayath is severely water stressed during summer months.



Location Map 1: Mundathicode Grama Panchayath, Thrissur, Kerala

Located 15km from the Thrissur town in Kerala towards the north, Mundathicode GP is divided into 17 ward divisions (village assemblies or Gram Sabha). Having a total area of 23.37 sq.km, with a population of 25432, it has a density of 1088/sq.km. The GP council is headed by an elected President and Vice President and has sub-committees for finance, development, welfare and health-education. These sub-committees are known as Panchayath standing committees, each committee consisting of four members. Of the 17 GP members, 9 are women. Literacy rate in the GP is 92%. Geographically, Mundathikode falls into the midland region of Kerala. Though the cropped area is steadily dwindling, paddy still remains the mainstay, irrigated by Vazhani dam. The GP has about 18 large ponds and 170 public wells and around 3200 open household dug-wells. In spite of such investments, there exists significant demand for improved water supply services such as household connections.

Objectives of the study

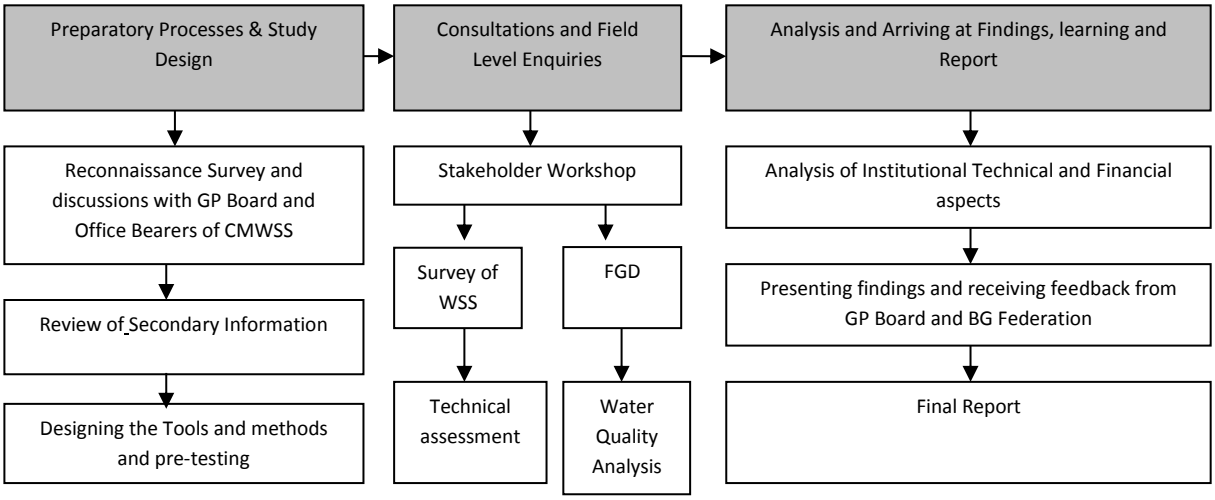
The key objective of the study is to revisit the GP after a decade of community led wash services to understand the sustainability status, with special focus on critical gaps if any in post construction support if. Specifically,

1. Conduct sustainability evaluation and to assess functionality and service levels of small piped water supply schemes
    a. Technical and environmental Sustainability – mainly source, water quality and distribution system and service levels.
    b. Financial sustainability in terms of cost recovery and O&M
    c. Institutional sustainability which include capacity for repairs and maintenance, O&M, conflict management and managing change and complexities
2. To identify and chart critical gaps if any in post construction support for sustainability

Methodological framework

The methodology comprised of reconnaissance, detailed questionnaire based survey of water supply schemes, Focus Group Discussions (FGDs) and consultation workshops as depicted below.

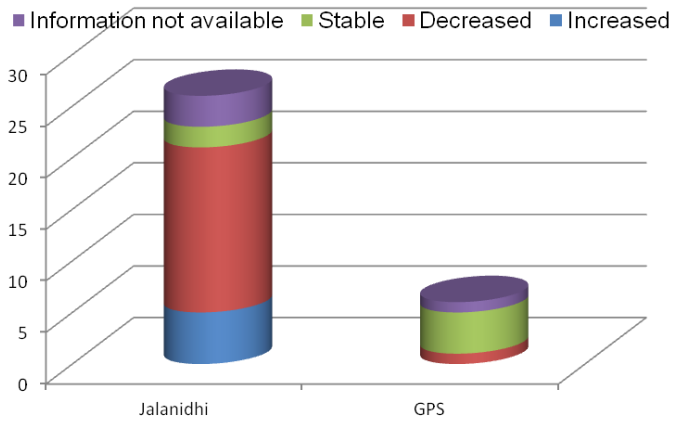
Chart 1: Methodological Framework



Evidences of Sustainability - Technical

(i) Source /environmental sustainability

All the 26 schemes commissioned under Jalanidhi in 2002-03 have been subjected to the detailed survey. The GP schemes are of 1 to 3 years old and hence not amenable well for long term sustainability evaluation. At the time of revisit all the schemes were functional and were supplying water to member households.



The community water supply schemes are managed by people's institutions, known as beneficiary groups – (BGs). These BGs are registered legal entities and allow exit and entry of members. The study has shown that the membership has increased in 4 schemes, while it decreased or remained same in the rest. This expansion or contraction is found to have positively correlated with source adequacy as a significant determinant.

Chart 2: Variation in Membership linked to source adequacy

	Table 2: Membership of Households						
	Sources	Increase	Decrease	Stable	Info-NA	Jalanidhi	GP
Jalanidhi Scheme	Bore well	3	4	1	1	10	4
	Open Well	0	12	1	1	14	2
	BW & OW	1	1		1	2	
	Total	4	17	2	3	26	6
GP Scheme			1	4	1		

Analysis technology options show that there is significant dropout of households from schemes having open well sources. Out of 26 schemes, 14 had open well sources. The open well sources could not supply water at the designed level especially during lean months. The beneficiary committees (BCs) have been finding it difficult to mobilize finance to augment or to construct alternate sources to supplement, except in two schemes already having alternate sources. Many schemes have also failed to provide adequate supply in the elevated areas as the BCs are finding it difficult to technically and socially regulate supply. Consequently, they quite often end up by pumping more water to ensure availability the tail ends, leading to environmentally unsustainable over extraction.

Of the 26 Jalanidhi schemes, 12 of them pump excess quantity of water. Surprisingly, the average service level in 7 schemes are as high as 150 lpcd as against the design level of 70 lpcd. The survey team came across instances of over-pumping when faced with complaints of poor service levels from households - a manifestation of the lack of technical capacity for balancing the schemes. In 2000, the State has reduced tariff for community schemes from commercial to domestic rates. Apparently the reduction in tariff had negatively contributed to resource use, quality and sustainability.

(ii) Quality sustainability

The biggest toll in the service delivery chain is the lack of attention attributed to water treatment, quality adherence, periodic monitoring and reporting. Of the 32 schemes, 26 (20 in Jalanidhi and 6 in GP funded schemes) are supplying raw water without any treatment. There were 14 schemes under

Jalanidhi practicing chlorination at the time of commissioning, however the number has come down to 6 now.

Out of 32 schemes in the GP, 24 schemes had not conducted a water quality analysis at an accredited water quality lab of the Government or a public utility. Eight schemes only claimed to have done the water quality analysis, though they could not present evidence in the form of test results. BGs do not take advice from any expert/agency regarding the results of water quality tests and the GP is not involved in monitoring or regulating. It is found that generally people attach importance only to the physical quality of water (taste, odour and colour) and there is a pronounced preference of communities to drink well water and they quite often use piped water for other uses.

As part of the study, the Mundathikode Gram Panchayath took an initiative to collect water samples from 26 sources of the water supply schemes and these samples were tested for physical, chemical and bacteriological parameters at KWA lab, Thrissur. The results are given in the following table.

Table 3: Jalanidhi Schemes- Water Quality Test Results 2012

No	Parameters	Desirable Limits (DL)	Permissible Limits (PL)	No. of Schemes		
				Up to DL	Between DL and PL	Beyond PL
1	Turbidity	5	10	22	4	0
2	pH	6.5 to 8.5		17	9	0
3	Alkalinity	200	600	26	0	0
4	TDS	500	2000	26	0	0
5	Total Hardness	300	600	26	0	0
6	Calcium	75	200	26	0	0
7	Magnesium	30		26	0	0
8	Chloride	250	1000	26	0	0
9	Flouride	1.0	1.5	26	0	0
10	Iron	0.3	1.0	1	17	8
11	Residual Chlorine	0.2	1.0	0.0	0.0	0.0
12	Nitrate	45	100	26	0	0
13	Bacteria	NIL	NIL	5	0	21
14	Sulphate	200	400	26	0	0
15	Manganese	0.1	0.3	26	0	0

The water quality analysis shows that the water is potable against 12 out of 15 parameters. The value of parameters tested is within desirable or permissible limits. However, the value for iron presence in water samples tested exceeded in 25 of 26 schemes and is a cause for concern. E-coli bacteria are present in 21 of 26 samples. There is no residual chlorine in any of the samples. Therefore, claims of chlorination may not be factual. Though the system of community based water quality monitoring and surveillance was introduced in initial years, it has never been successful.

(iii) Operator Turn-over

It is also seen that, there has been frequent turnover of pump operators, initially trained by Jalanidhi. The newly recruited operators have not undergone any training and are not technically qualified or equipped. The high rate of turn-over is due to comparatively low wages and better opportunities elsewhere. Voluntarism was the hallmark of community based management which is under threat on account of changing socio-economic profile of communities. The User committees are also reluctant to raise the tariff to recover adequate finance to pay market rate to the operators. During the initial years the There are no O&M manuals to guide the operators and systematic monitoring is lacking. Obviously, there is clear need for better post construction interventions in operations and maintenance. The wash data bank started in the GP under the Jalanidhi project has also become dysfunctional.

(iv) Equity and metering

Equitable distribution of water at the design level to households in the Beneficiary Group is a real challenge in Kerala's uneven terrain. Though, metering and volumetric tariff structure would be a key solution to the problem of inequitable consumption, only one BG has implemented it so far. Fully financed by internal resources, this BG has been regulating consumption with great success. Unfortunately, inequity in distribution is often compensated by over-pumping, undermining source sustainability. Jalanidhi considered water meter as a private asset ineligible for project funding, on the assumption that regulation of pumping hours and community water audit would ward of possible excess use and wastage. In fact the reverse has happened. Tariff was levied equitably to cover the O&M costs, including power charges.

Evidences of Sustainability - Financial

Schemes established under Jalanidhi are based on a capital cost (Capex) sharing pattern of 75:15:10 by KWRSA, BG and GP respectively and full O&M cost recovery. The BGs are not provided any grant to cover repairs and maintenance (R&M) or O&M expenses. The range of O&M charges that the households pay ranged from Rs.30 to 50 per month per household in 2002-03. Data is available for 16 schemes out of 26 regarding their baseline and current rate of monthly user charges, as given in the table below:

Table4: Jalanidhi- Monthly Household Tariff- 2002-2012

Range of Tariff in INR (O&M)	Monthly household Tariff (No of BGs)		
	2002	2012	2012 (2001-02 rate NA
Up to 40	11 BGs	2	2
41 to 50	5 BGs	8	4
51 to 60		4	2
61 to 75		2	2
Total	16	16	10

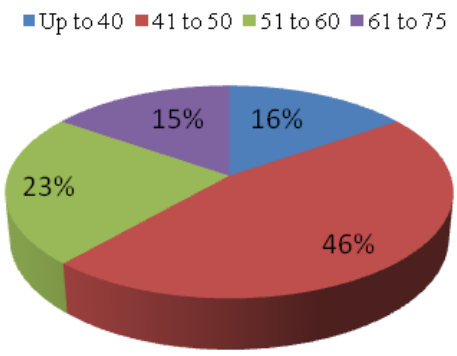


Chart 3: Jalanidhi: Range of O&M Charges

Surprisingly, over the last 10 years, 5 BGs have not increased their tariff at all. Seven BGs have increased tariff in the range of 25 to 50% and 2 BGs between 51 to 75% and 2 BGs have increased tariff by 100%. Despite a hefty hike in O&M (Opex) costs, tariff has not been increased proportionality, leading to financial crisis at the costs of timely capital repairs and maintenance (CapManEx). Asset maintenance or replacement is done on an *ad hoc* manner using a mix of reserve, borrowing or external grants only when there is serious breakdown.

The study found that only 6 BGs out of 26 (23%) had surplus funds, ranging between INR 50,000 – 100000. Jawahar BG, which is a KWA rehabilitated scheme top the list with INR 0.35 million as reserve fund. Eight BGs do not have any information whether there is surplus with them or not and 4 BGs declared that they do not have surplus funds, leaving nothing to fall back.

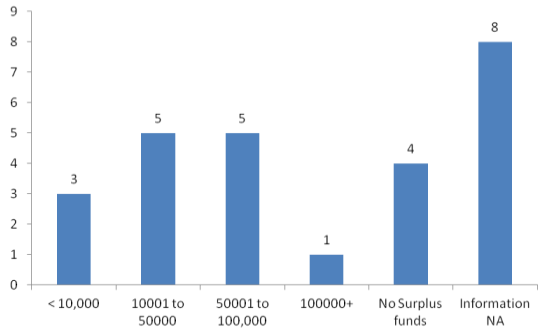


Chart 5: Jalanidhi-Position of Surplus Funds

However, it does not mean that the BGs will stop functioning in the event of any serious breakdown. Evidences are that they immediately borrow, or financed initially by the BG leadership to be recouped later by one time collection, or at times receive support from the GP. All such sources of financing risk and capital management expenditure (CapManEx) are purely ad hoc increasing significantly the chances of failure, especially when there is a conflict, as evidenced in one BG.

Table 4: Jalanidhi-Remuneration paid to Pump Operators

INR	2002-2003	2012
<500	2	0
500 to 1000	15	11
1001 to 2000	4	8
2001 to 6000	0	7
NA	5	0
Total	26	26

It is interesting to see that, though the O&M charges were kept low, BGs were generous in enhancing the payment to the pump operators, from a very low base, in a desperate bid to retain them, though with limited success. The wage structure in rural Kerala is always on the increase. It is the responsibility of the pump operator to manage the scheme, monitor quality and to collect the O&M charge from the households.

Evidences of Sustainability – Institutional

Rural water stressed communities organized themselves into registered BGs in 1999-2000 to demand Jalanidhi project expressing their willingness for partial capital cost sharing and 100% O&M cost recovery. The study revealed that in 17 out of 26 communities (65%), the Beneficiary Groups (BGs) have rather become functionally sluggish except when there is a crisis. The initial enthusiasm and participation in BG meetings during the planning and implementation phase has now fizzled out. Over the years, a typical consumer-provider relationship has emerged in the Jalanidhi BGs. The management committees have transformed under duress to assume the role of providers and the BG members are the 'consumers'. This transformation is the result of a silent change in occupational shit in the GP as more and more people move away from primary sector to services, economic growth and conventional social capital and voluntarism giving way to rational economic behavior of individuals. Apparently, the concept of participation is getting redefined and manifested in willingness to pay, a typical behavior of consumers in the market. The obvious impact of this shift is in the need for professionalizing community management backed up by adequate economic incentives for sustainability. Yet another interesting feature is the sticky management committees with little or limited turn over as there are only very few takers of responsibility without adequate incentives. All said and done, the management committees are commanding leadership status as they function voluntarily during post construction phase for a

social cause. Many of them have been elected to local government positions as well, which is yet another incentive.

Conventionally, the dynamism in the Beneficiary Group (BG) meeting is yet another indicator of participation and sustainability of communities. The study has shown that 7 BGs (27%) have meetings only during grave crisis, 10 BGs (38%) only during annual meetings. Only 4 BGs (15%) have monthly meeting. The frequency of the meetings has no more been an indicator of participatory functioning of the BGs, as participation largely limited to monthly payment and also in raising finance to meet emergencies.

Similarly, vibrancy of the BG is in its democratic process of annual elections and the number of new leaders emerging. However, only two BGs have conducted elections on an annual basis and the rest continue with the same management committees formed during the construction and commissioning phase. Similarly, the BGs are legally required to file the list of their office bearers before the Registrar of Cooperative Societies annually, however only 2% of the BGs adhere to this requirement. Maintaining accounts and proper book keeping are requirements which enhance transparency of functioning and credibility. Out of 26 BGs, only 9 are maintaining and updating their books of accounts properly. Same is the case with auditing as well. The functioning of the BG as an institution has become quite passive. Hardly any efforts are seen to maintain transparency arrangements and democratic credibility. The situation is almost similar throughout the GP. The BG in a typical rural setting is a local spring board of other development activities. However, only 6 of the 26 BGs have undertaken some activities in this lines.

Women Representation in Management Committees

Table 5: Jalanidhi BC -Women Representation

Representation	Men	Women
No	0	2
1	0	6
2	2	7
3	0	7
4	2	0
≥5	20	2
No Information	2	2
Total	26	26

Women and water are closely related as they bear the brunt of inadequacy most. Since they have greater stake, better women participation facilitate improved sustainability. Accordingly, Jalanidhi project placed substantial importance to the role of women in the planning, operation and management of community based water supply schemes. This was quite true in the case of planning and implementation stages as well. After commissioning of the scheme, it looks as if, women have gone back to the conventional position of water users and not water managers. There seems to be a withdrawal of women from the Beneficiary Committees of the BGs, as their number and presence have dwindled in these bodies. The following diagram presents the women presence in the Beneficiary Committees

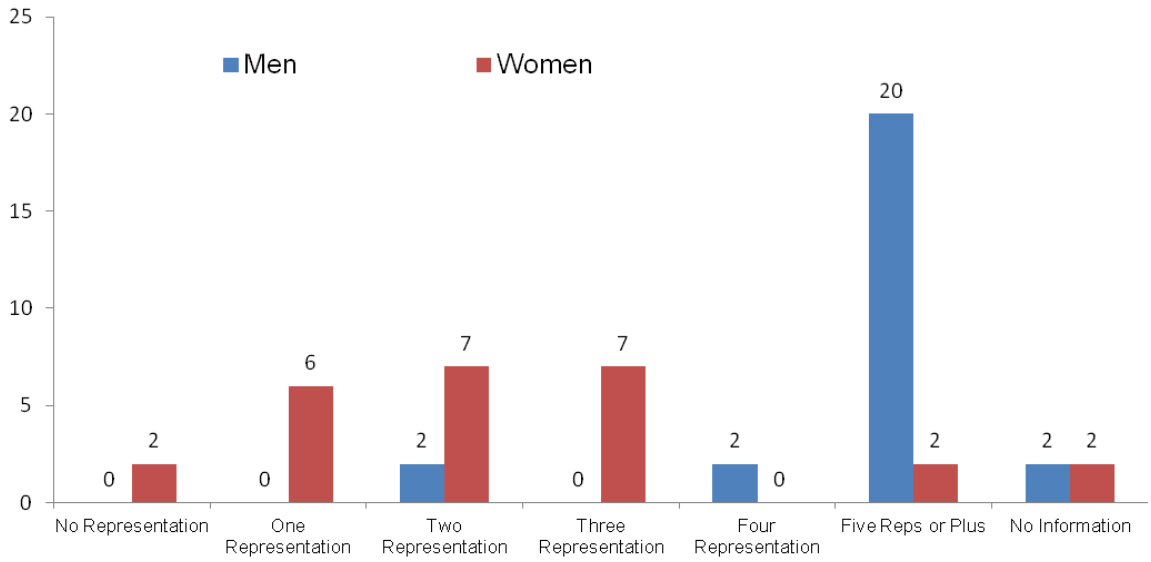


Chart 5: Jalanidhi- Women Representation in BCs

Training and capacity building

The study has also enquired whether the BG require further training and capacity building, ranging from technical to institutional aspects after commissioning. All the BGs unanimously indicated that the pump operators, office bearers and also consumer households require training, motivation and orientation. It was opined that the presence of support organization (SO) during the planning and implementation period of the project was a very helpful facilitating BGs to take informed choices and decisions. However, when the SOs withdrew at the end of their contracts no alternative arrangements were put in place or linked up, on the assumption that BGs would be able to manage the complexities. Though, some efforts were made to form a BG Federation as an institutional anchor to mobilize the bare-foot expertise, this is still in its infancy. If managed well, a BG federation could be positive in many ways to act as a post construction support vehicle for rural communities

After project completion KRWSA too withdrew from the GP creating a vacuum. Despite the handholding efforts, exit means emptiness as there are no technical backstopping arrangements. The GP has only limited technical capacity to support the BGs in need and the KWA is not mandated to do so as well. Practically the BGs are resorting to semi quack technicians or repair on their own creating more problems than they solve. In short, a structured post construction support mechanism is conspicuous by its very absence undermining sustainability of community initiatives.

Though the schemes are designed for 20 year life span, the quality of assets is good enough for say 50 years or more, if timely repairs and maintenance (R&M) are done. However, there are no systemic arrangements of ring fenced financing or for motivating BGs to provide for CapManEx or a sinking fund for capital replacement. Secondly, new households coming up in the BG area are also demanding connections. In reality the systems are not technically designed to meet the growing demand and management committees are generally not capable of addressing them.

Satisfaction Rating

The study has shown that, despite many symptoms of crack in CBM, 81% of the schemes households have reported that the timing of water supply is convenient, in 50% of schemes supply is adequate and in 46% of the schemes households are happy about both quantity and quality.

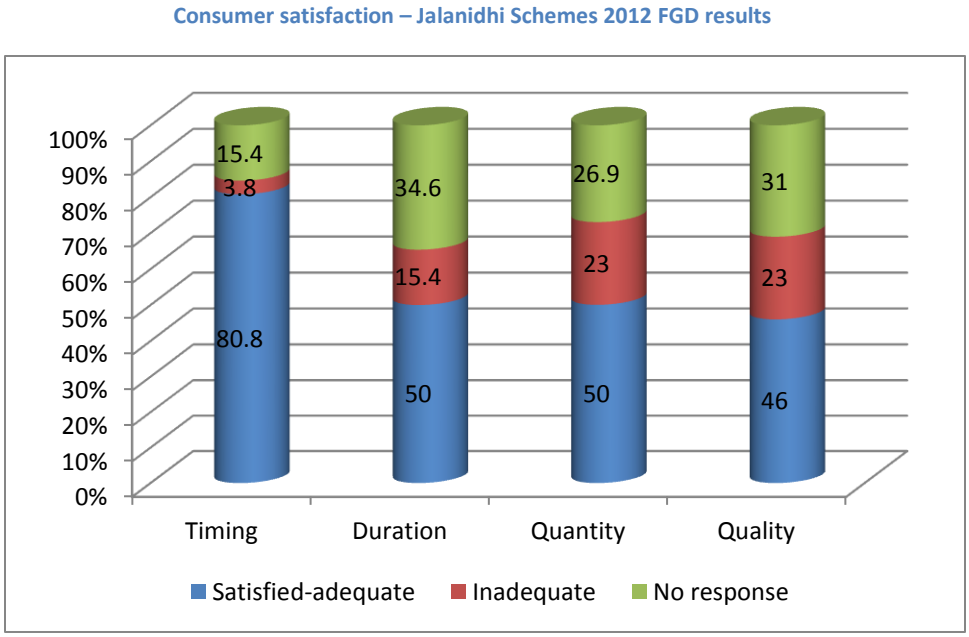


Chart 6: Jalanidhi – Consumer Satisfaction Rating

Table 7: Jalanidhi - Satisfaction rating in FGDs

Timing of Water Supply	Convenient (21)	Not Convenient (1)	No reply (4)
Duration of Water supply	Adequate (13)	Inadequate (4)	No reply (9)
Quantity of water supplied	Adequate (13)	Inadequate (6)	No reply (7)
Quality of water supplied	Satisfied (12)	Not Satisfied (6)	No reply (8)

All the 26 schemes are functional after a decade and recover 100% of O&M costs paid by consumer households on a normative basis. Given adequate access to the window of structured post construction support, both to service providers (the BC) and authorities (GP), CBM would be a viable, cost effective and sustainable model of decentralized wash governance.

Post Construction Support (PCS) Gaps

The study has brought forth a series of post construction gaps at the level of both service provider and service authority to ensure sustainable services forever. In fact PCS should be an integral part of CBM. If the water boards and departments are given continued support financially and technically for sustainability, there is no reason for not providing such opportunities for communities. The BCs need a level playing ground. The critical PCS gap identified in the case study are summarized in the table below:

Sustainability Parameters	Table 8: Jalanidhi -Post construction Support (PCS) Gaps	
	Service Provider (SP) BGs	**Service Authority SA (GPs)**
Technical	• Lack of internal technical capacity and capacity to out-source • Lack of arrangements for trouble shooting and correct design flaws.	• Capacity constraints to facilitate technical backstopping to SP
Financial & Managerial	• Weak Tariff administration and cost recovery • Weak financial strength and surplus for CapManex and risk financing • Lack of transparency • Weak financial planning, management and poor capacity for resource mobilization	• No control of financial sustainability • Ad hoc arrangements to finance risk and contingencies – not ring fenced • Ineffective systems of social audit
Source/ Environmental	• Over extraction and over pumping • Source unsustainability and disregard source protection	• Weak regulatory capacity to control over-pumping and water pollution
Water quality	• Weak capacity for quality assurance and checking/ treatment • Weak monitoring system • Lack of awareness	• Absence of horizontal flow of quality monitoring data • Poor capacity to regulate
Institutional/social	• Jalanidhi BGs are separate registered entity legally not linked to GP • Lack of capacity for asset management • Frequent drop out of households • Erosion of voluntarism and social capital • Absence of continued handholding and capacity building • No credible system for dispute resolution	• Assets Not legally owned by GP – schemes to be included in the asset register of GP • VWSCs /BGs to be made sub-committees of GP and mandated for technically and financially facilitate service delivery • Capacity constraints • Lack of role clarity

Conclusion: Wither Community Based Management?

The pertinent question here is whether community based management (CBM) as an institutional model is withering out? Apparently not, as long as the community recovers full O&M costs and participating households are paying user charges. They also mobilize themselves when there is a crisis. The sheer fact that, relatively *well empowered* communities are functional in constraints for the past one decade with full cost recovery, while supply driven large utilities are grant funded for sustenance, itself demonstrate the viability of the service delivery model. Evidences suggest however a move towards market based participation manifested in the willingness to pay. Considering the sustainability challenges as evidenced the BGs have to transform themselves either into professionalized management group or they require professional technical backstopping and handholding support to sustainability at scale in the long run.

The increasing complexities of managing drinking water supply, atrophy in social capital and capacities over a period of time necessitate unconventional solutions. Yet another key determinant of success is the role of empowered PRIS organically anchored to networked service provider communities to perform service authority functions effectively and to facilitate sustainability. Professional services could play a vital role to fill the gap in erosion of voluntarism and capacity constraints.

Notes:

Multiple Delivery Models: As stated elsewhere, following the heels of the 'Cochin declaration' in 1999 adopting 'community demand-responsive development approaches' in rural water supply and sanitation, the State of Kerala tested this model through several projects in rural water supply, the most prominent of them being 'Jalanidhi', Sector Reforms Project in Kollam and Kasaragod disricts, Swajaldhara project implemented through Kerala Water Authority, 'Suvarnadhara' implemented by Kannur District Panchayath and 'Jeevadhara' implemented by SEUF with the support of the Netherlands Government, all of these models following demand responsive approaches.

73rd amendment of 1992 led to the formation of Panchayat Raj system in India in establishing and strengthening the 3 – tire system comprising the district, block and Grama Panchayaths

Read more: http://wiki.answers.com/Q/73rd_amendment_of_the_Indian_constitution#ixzz29Z4uI5KS

People's Plan Campaign, held in 1996 in Kerala State, was a remarkable experiment in decentralisation of powers to local governments with focus on local planning. Kerala State lying in the south-west part of India, is considered a fertile land for decentralization. In India's Ninth Five-Year Plan, each state within the national federation was expected to draws up its own annual plan and the Peoples Plan was an off-shoot of it.

Beneficiary Committees (BC): They are the elected executive body of the Beneficiary Groups which include all members of the households. BGs are functionally similar to the Village Water and Sanitation Committees (VWSCs) – a registered legal entity.

Mundathicode GP: Located 15km from the Thrissur town in Kerala towards the north, the GP is divided into 17 ward divisions (village assemblies or Gram Sabha). The GP council is headed by an elected President and Vice President and supported by smaller sub-committees for finance, development, welfare and health-education. These sub-committees are known as Panchayath Standing committees, each committee consisting of four members. Of the 17 GP members, 9 are women. Geographically, Mundathikode falls into the midland region of Kerala. Agrarian in nature, paddy is the mainstay. The GP has about 18 large ponds and 170 public wells and many open household wells for self-supply. Vazhani and Peechi irrigation projects supply water to agriculture.

Details of Jalanidhi Project in Mundathikode GP		
Sl.No	Description	No

1	No. of community managed Water Supply Scehemes	28
2	Total No. of Households benefited by the project	2867
	Total population covered	14862
6	KWA Rehabilitation schemes	2
8	GP Rehabilitation	1

Jalanidhi: a community managed drinking water supply and sanitation programme implemented by Government of Kerala during 2000-2008 through the **Kerala Rural Water Supply & Sanitation Agency** (KRWSA). 112 Gram Panchayaths were covered by the Project, financed under the World Bank - IDA line of credit. The Project was implemented in batches, taking Gram Panchayaths as the basic unit of intervention. The project has emerged as a global best practice unique in pilot testing and demonstrating the viability of community /demand driven PRI centric RWSS based on partial capital and full O&M cost recovery.

Triple-S – Sustainable Services at Scale – is a multi-country learning initiative to improve and ensure sustainable water supply to the rural poor. It is led by IRC International Water and Sanitation Centre and funded by the Bill & Melinda Gates Foundation (BMGF), in Ghana, Uganda and Burkina Faso in late 2011.

LCCA: The life-cycle costs approach is a methodology for monitoring and costing sustainable water, sanitation and hygiene (WASH) services by assessing costs and comparing them against levels of service provided. The approach has been tested in Burkina Faso, Ghana, Andhra Pradesh (India) and Mozambique, under IRC multi-country Action Research Programme supported by BMGF.

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Acronyms

BC	Beneficiary Committee
BG	Beneficiary Group
CapEx	Capital Expenditure
CapManEx	Capital Management Expenses
CBM	Community Based Management
CDD	Community Driven Development
DL	Desirable Limit
FGD	Focus Group Discussion
GoI	Government of India
GoK	Government of Kerala
GP	Grama Panchayath
IDDWS	International Decade for Drinking Water and Sanitation
KRWSA	Kerala Rural Water Supply & Sanitation Agency
KWA	Kerala Water Authority
LCCA	Life Cycle Cost Approach
NGO	Non -Governmental Organization
O&M	Operation and Maintenance
Opex	Operational Expenses
PCS	Post Construction Support
PL	Permissible Limit
PRIs	Panchyath Raj Institutions
PWS	Piped Water Supply
R&M	Repair and Maintennace
RWSS	Rural Water Supply
SA	Service Authority
SO	Support Organisation
SP	Service Provider
WSS	Water Supply and Sanitation

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