

Research paper on community management of drinking water schemes

DRINKING WATER UTILISATION – OLAVANNA SHOWS THE WAY

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Everybody talks about the water crisis in Kerala. Unfortunately, primary data is seldom available. Those who make serious attempts to acquire the primary data, seldom succeed because a private citizen, as per the 'Official Secrets Act', cannot access most of the valuable and useful information. In these circumstances, the Government finds the concept of merit good¹ as a saleable commodity and defines water as the pipe water. But the assessment over this definition of safe water as pipe water, has led to the effective non-use by a significant part of the rural population. Another reason for the inefficiency in the case of water is in the selection of institutional framework. The acquisition and free distribution of water by the state agency is the prevailing institutional frame work in Kerala and it has led to the inefficiency in solving the drinking water problem of different localities, taking their specific characteristics into account.

Kerala is one of the states in India where the coverage of the public water system has been very low. The estimate from population census indicates that only 19% actually utilise the public system². One of the major reasons for the failure of the public water distribution system, under the Kerala Water Authority (KWA), is the dominance of pipe-water systems in the public provisions. If only the statistical average is considered, the Pipe water distribution, in the settlement structure of Kerala is either unable to reach a large number of people, or is costly, if geographical standards has to be met.

Some significant parameters in assessing the public water system are 1) the ratio of number of perennial wells to number of households in each locality 2) the ratio of number of perennial wells to the total number of wells 3) the sources of water that each family use for drinking during summer and non-summer periods 4) the mode of taking water to the house 5) the variation in source and mode of collecting water among various income groups 6) and the plans of the family to upgrade the system.

The Government's decisions on the waterfront are not always the ones that suit reality or long term interests of the society. Often, it is the people who take the effort to have some informal mechanisms, to share water locally. The transaction cost involved in this process seems to be lesser than the cost required to collect water from the free public resources. This highlights the need for effective, decentralised mode of local community managed water distribution system, which ensures the sustainability and effective use of the water resources.

The facts that support the decentralised and local level management of water resources can be summed up as follows:

¹ There are certain goods like water, education, health and so on, which the government may wish its citizens to consume irrespective of their willingness, for the overall benefit of the society. The aim of the public policy in the case of such goods known as merit goods is to achieve an allocation of resources, which deviates from that determined by consumer sovereignty.

² V.Santhakumar, 1998

- As much as 80% of the rural households own wells in Kerala. The quality of these wells and the yield and quality of water in them maybe poor. But, the fact remains that the rural people continue to prefer and use these sources to public water systems.
- For the above reason, the localities facing acute water problems occur as isolated clusters of houses numbering less than 50, for which a large pipe water supply scheme is unnecessary.
- The investment cost per capita and unit cost of production of large comprehensive piped water supply schemes are more than double, compared to small community managed schemes.

The essential problem with the approach of the governmental organisation is that, it goes only by certain standards and hence, does not search for other cost effective sources of safe water. Even within the institutional framework, the mechanism to transfer the request, for the demand for water is a wearying process³.

Faced with acute water scarcity and the unreliable service of the state water authority (KWA), small groups of villagers of Olavanna Gram Panchayat, in Kozhikode district, have been organising themselves into groups, collecting money and setting up small piped water supply needs, rather than depending on the state government. Over the last two decades, it has matured into an admirable model (Olavanna model) of effective utilisation, according to the needs and wishes of the users.

<i>Name of the Panchayat</i>	Olavanna Gram Panchayat
<i>Area</i>	21.43 Square Kilometres.
<i>Population</i>	55324
<i>Population Density</i>	2582*
<i>Rivers</i>	3
<i>Hillocks</i>	32
<i>Hilly area (in percentage)</i>	61%
<i>Paddy fields (in percentage)</i>	32%
<i>Unclaimed land (in percentage)</i>	5%
<i>Marshy land (in percentage)</i>	2%

Source: Development Plan, Olavanna Gram Panchayat, 2002 –07

The water scarcity in Olavanna was very acute during the 1980s. Chaliyar, Cherupuzha and Mampuzha⁴, the three rivers in this area, are all either saline or marshy. The only KWA scheme

³ The local government has to request, in a passed resolution, to the state level organisation to implement a rural water scheme in the locality.

* The state average is 819.

⁴ Puzha means river in local dialect.

in the village provided uncertain and erratic water supply to just 1,600 of the 7,100 households. 42 public taps and 42 house connections were already in place, but of these 42, 30 were non-functional. In 1984, a well in Kambaliparamaba was found to be full of safe drinking water, even during the time of droughts. Incidentally, Muhammad, a resident came up with the innovative idea of piped water system, run with a diesel motor. Ten neighbours mobilised the resources collectively, the pipes were laid and a proper scheme was envisaged. This facility has been in use since then. The success of the plan attracted nearby households also to think in the same line. A schoolmaster was the next in the line to offer the similar scheme to his neighbours. This was also proven successful, and it runs to the present day. At present, the two schemes provide water supply to 10 and 26 households respectively. While Muhammad collects Rs 30 for six months, Rafeeq, son of the schoolmaster collects Rs 30 per month.

Slowly, people from various hamlets began to unite. It started with a hamlet at Vettuvendankunnu, near the Panchayat office in 1987. The hamlet with a large majority of the poor had had drinking water shortage for a long period. The villagers approached the district administration through the Panchayat, but in vein. However, the then District collector allotted a small water project to the hamlet. People joined together to form a beneficiary committee; one of them donated land for the well and another for the water tank. Under the people's initiative, the scheme was completed within the stipulated time, unheard of, in the usual government programmes implemented through contractors⁵. Apart from implementing the project, the beneficiary committee decided to take over the responsibility of managing the water supply too. 14 public taps were built and 87 households were given the water connection. The Collector allotted Rs 3000 to the project in two instalments. A new era of empowerment and management, ensuring self-sufficiency was put to practise for the first time. The motivation came from the already established water system in the neighbourhood at the individual capacity. The Samaritan's concern for his fellow beings, in way caused a historical makeshift in the social scenario. Overwhelmed by the success of the project, the Panchayat agreed to meet the operating cost of the scheme.

The success of the people in Vettuvendankunnu hamlet triggered a series of initiatives. Another group at Kambaliparamba started working along the same line, without seeking any help from the local administration. Initially, the local people were apprehensive about the success of the proposed project. But a few individuals, very much convinced about their mission, converted the dream into a reality. In 1989, the project started functioning. At the outset, 22 households were members of the user beneficiary group. The committee bought 0.061 Hectares of land for Rs 4000.⁶ The scheme consisted of an intake well, an overhead tank and pipelines to distribute drinking water. The contribution of the Panchayat was a meagre Rs 500. The initial cost was borne by the users equally (Rs 2000 each). A few who could not aid the project financially, chipped in with labour. The very supportive local administration helped in getting the electricity connection, and also the building number for the pumping station. The successful completion of the project attracted seven more households into the scheme. Today, the Kambaliparama user beneficiary group has 58 household members.

Since then, the people of Olavanna took the lead in setting up private societies and commissioning small water schemes. Today, 60 small, water supply schemes are operational in Olavanna, of which 27 have been funded entirely by the local community and 33 are partially

⁵ Joy Elamon, 2002

⁶ 1Hectare = 2.471 acres

supported by the Gram Panchayat⁷. In the recent times, the Panchayat has taken over 2 KWA projects and has given the management to the user beneficiary groups. In addition, there are many schemes run by individuals and one such scheme has 20 household connections. The Gram Panchayat has successfully shifted its role, from being a provider, to a facilitator, and it has performed the regulatory function to sustain and encourage these kinds of projects in the last decade.

Unlike the supply hitherto approach followed in KWA schemes, Olvanna model is implemented, based on the needs of the people. The project is implemented by the people's own initiative. The interested group of people show their willingness to participate in the project and abide by the conditions of cost sharing. The beneficiary group approaches the Gram Panchayat with a sketch of the proposed project, plot details and applications seeking approval, signed by the proposed users. The Olavanna Gram Panchayat has shown a unique alacrity in approving the project, not giving any room for bureaucratic meddle ups. After enlisting all households who wish to benefit from the piped water supply scheme, the beneficiaries get together, draft together byelaws and register their co-operative society (Under the Co-operative Societies Act 1860). An over all assessment has presented the following main features of the byelaws in general.

- The date of the general body meeting shall be intimated to all the members, at least 3 days before the meeting.
- The quorum is 50% of the general body
- Executive meeting dates and times must be intimated to the Executive committee at least 24 hours in advance.
- Members should inform the Executive committee in writing, if they cancel or attend a meeting.
- If a member is absent from 3 consecutive executive meetings without notice, the executive committee has the right to co-opt another member in his or her place, but has to obtain the approval from the General body within three months.
- A copy of all the rules of the society, which has been signed by the secretary and adopted by the Executive committee, must be made available to all members.
- The secretary is authorised to sign for expenses up to Rs 100 a day. For larger amounts, the treasurer has the sanctioning authority.
- Amounts succeeding Rs 500 should not be kept in the custody of the treasurer.
- Any amount more than Rs 500 must be deposited in the bank account in the name of the Secretary, in a bank chosen by the executive committee.
- The treasurer has to present written accounts to the executive committee and the General Body
- All members of a society must permit other members to lay pipelines through their property. However, this must be done without causing any damage to the property owner.
- All members must take individual connections from the main line to their houses, at their own expenses.
- Water must not be used for irrigation under any circumstances. Storing water for irrigation, if detected will invite penal action by the executive committee. However a show cause notice must be issued to the member concerned, before initiating any action.
- If a member sells his house, the water connection is also transferred. These sales must be intimated in writing to the executive committee. In no case will the executive

⁷ Olavanna Development plan 2002 -07

committee return the initial contribution of the member. The purchaser will automatically become a member of the society.

- If for any reason the society is dissolved, all assets of the society shall be handed over to another registered Society with similar mandates.

Self-regulation has been the key concept of these societies. The objectives of the project are the sustainable supply of safe drinking water, sustainability of sources, sustainability of operations, regularity and adequacy of supply and ensuring the quality of water supplied⁸. Here the cost sharing and cost recovery are met within the User Beneficiary group. Initially, there were apprehensions regarding the incorporation of the poor people in the scheme. But the project has been designed in such a way that their concerns are also taken into account. Generally, the lesser-privileged people are allowed to pay in instalments, or labour is solicited from them. When the project was implemented at Paryankadukunnu, in addition to the district administration's grant, Rs 2 was collected from each user. When the project was proven a successful one, new connections were given at the rate of Rs 4500 each in the next phase. 140 households were to get the connection under this new rate. No one resented since the water scheme ensured 24 hours availability of the water, which KWA could not offer. At present the scheme has two bore wells also in addition to the wells. These bore wells were built with the cooperation of users who donated Rs 6000 each for the same. At present the new connections are given at a charge of Rs 8000. In order to minimise the loss of water and to generate the awareness of the water used daily, most of the schemes have cut down on the number of public taps and plans to meter consumption.

The Paryankadukunnu scheme pumps water to the tank for 10 hours daily, starting at 5:30 in the morning. Motors of 10 HP and 13HP are made use of here. The water tank is cleaned once, every month. It requires 4 persons for the task. They are paid wages of Rs 150 per person.

The users are themselves, fully involved in all the activities, right from identifying their sources, deciding on the technology to be utilised, contracting and implementation to the operations and maintenance aspects of the schemes. All contracting of goods, works and services are done at the user level itself, for which adequate training is provided and guidelines made available. Under KWA schemes, licensed plumbers lay the pipes. There are no guidelines on the service charges these plumbers can charge the user. In all the Government contract works, the bids are quoted along with 10% commission for the contractor. But in Olavanna model, the user group itself, avoiding the high-end charges, implements the scheme. KWA officials claim that KWA engineers residing at Olavanna has helped the implementation of various private and cooperative schemes by offering technical solutions and assistance. By and large, this has resulted in the cost effective implementation of the projects.

The beneficiary group digs the wells where the safe drinking water is available. Areas are identified in Olavanna where potable drinking water is in plenty. In such situations, the wells are dug at the ideal localities and the water tanks are constructed. Then the water is pumped to these tanks. A person from the local area is posted as the pump operator and the beneficiary group pays his wages. The committee monitors the drinking water supply, and

⁸ The schemes depend on government laboratories for checking the quality of water, as they do not own laboratories on their own. No cases of poor quality, or contaminated water have been reported so far. Neither have there been cases of health hazards, caused by the consumption of this water.

takes the initiatives in its maintenance and sees to it that the repairs are done at the right time. The basic difference between a KWA project and the Olavanna Model is that in the latter, the user group is more involved and that itself generates the sense of ownership and togetherness. Every user is equally responsible for the successful operation of the scheme. When the pipe gets leaked or damaged, they are reported earnestly and replaced soon.

<i>Name of the scheme</i>	Parayankadukunnu	Pallivalappil Methel
<i>Type of the scheme</i>	Panchayat Aid + Self managed	Self managed
<i>No of household users</i>	87 (1989)	84 (1994)
<i>First stage revenue generation</i>	Rs 6000 (District collector allotted) + Rs 2 from each household.	Rs 1000 from each household.
<i>No of public taps</i>	14 (1989)	Nil (1994)
<i>Second stage revenue generation</i>	Rs 4500 from each new connections (1997)	Rs 10000 from each new connections (1997)
<i>Third stage revenue generation</i>	Rs 6000 each from existing household to put up two bore wells and pumps (2004)	Rs 10000 from each new connections (2004)
<i>Fourth stage revenue generation</i>	Rs 8000 each from new connections	No new connections
<i>User charge</i>	Rs 30 per month for the allowed usage of 450 litres per day. Beneficiary group is strict to the allowed quantity of water (2005)	Rs 45 per month for the allowed usage of 400 litres per day. Rs 70 per month for usage of 500 litres per day and Rs 85 for 600 litres per day. User has to pay Ps 2 per litre for any usage above 600 litres in addition to the slab rates. For the social occasions like marriages, festivals etc the user has to pay Ps 3 per litre outside the slab rates.
<i>Number of connections (2005)</i>	227 house connections + 7 public taps for 4 Harijan colonies. (Cross subsidised) + 5 new bore wells (280 ft)	99 house connections only

Besides the Gram Panchayath aided water schemes, there are also private schemes. One such scheme is 'Jaladhara' owned by Aziz and Basheer. There are as many as 40 connections under this scheme. To begin with Rs 12000-18000 is collected from the customers in addition to the Rs 30 solicited every month from each household. The customers are satisfied with the quality of service, the cost factor not withstanding.

All these schemes will be more powerful and successful, if the Government supports the electricity charge under a special category, rather than on an industrial basis. The average electricity charge for a month is in the range of Rs 650-950⁹. Rather than spending too much on KWA project to implement just household connection, it would be of tremendous boost if the Government can support the electricity charge.

In most of these schemes, both metering and penalising, for the increased use of water, are yet to be implemented effectively. Though the metering has been on the agenda of many user beneficiary groups for a long time, this has not been implemented so far, since the consciousness of the users are found to be self regulatory. Recently however, a few schemes have implemented metering of water usage. The meters made use of here usually cost Rs 500, and a further Rs 150 is spent on the installations of the same. Most of the beneficiary groups believe in spreading awareness among the users on the value of each drop, rather than setting rules and regulations. This approach has already met with enormous success in this area.

Under the Water and Sanitation Program supported by DFID, a study at Olavanna in 1999 compares private schemes, Gram Panchayat schemes and KWA schemes as follows:

<i>Type</i>	<i>Private scheme</i>	<i>Gram Panchayat</i>	<i>KWA</i>
<i>Per capita share in capital cost</i>	<i>Rs 4, 500 (full recovery)</i>	<i>Rs 7,000 (25% recovery)</i>	<i>Rs 7, 000 (no recovery)</i>
<i>Average capital cost</i>	<i>Rs 2.5 lacs</i>	<i>Rs 3.75 lacs</i>	<i>Rs 16.8 lacs</i>
<i>Average number of house connections</i>	<i>54</i>	<i>52</i>	<i>240</i>
<i>Number of public stand points</i>	<i>-----</i>	<i>20</i>	<i>45 (25 in use)</i>
<i>Management responsibility</i>	<i>Society</i>	<i>Gram Panchayat</i>	<i>KWA</i>

KWA guidelines at the state level speaks immensely on how connections are given:

⁹ This is based on the average electricity consumption of the machines and motors involved in the scheme

<i>Application charge</i>	Rs 550 for a domestic connection + Rs 15 for application form
<i>User charge</i>	Rs 22 for less than 10,000 litres for a month. Rs 2 per each 1000 litres for any usage above 10000 litres per month.
<i>Other liabilities for the user</i>	Metre and other fitting charges
<i>People involved in the process</i>	User, plumber, overseer, Assistant engineer, Assistant Executive engineer and sometimes Public Works Department (PWD)
<i>Role of PWD</i>	Discretionary. PWD can charge starting from Rs 500 onwards for any works caused by side cutting, cross cutting of the PWD property while giving a water connection.

Olavanna model is a bold initiative to give power from water to the people. It mobilises the people on planning, implementation and monitoring of water supply schemes in their own localities. The model does not look at water as a commercial commodity, rather, as an indispensable unit of life. Once commercialised, water will not be available to the common man in the street. That is the reason, private societies and a few individuals involved in these schemes, treat the scheme on the lines of a service rather than a profit-making venture. Even the supply areas are not demarcated or separated from each other for any particular project. Thus providing free market and better quality of service to the user. At most of the places, there are more than one scheme being operated upon.

Interestingly, there have been immigrations from Kozhikode city to Olavanna in the recent times. The major cause for this phenomenon is the success of the Olavanna Model. The real estate has almost risen ten times during the last decade. In 1989, when one-cent land¹⁰ was bought for Rs 2500, in the year 2005, the land rates are quoted around Rs 25000. This development has slightly affected the Olavanna model, as the water scarcity has again resurfaced at least during summer months in the last few years. During summer, the water supply was reduced by 6-8 hours while in other times 24 hours supply is ensured. As a result, majority of the beneficiary group committees have decided not to give new connections.

One important aspect of the Olavanna model is that, the right over water connection, is land based and non-exchangeable. Contrary to this view is that the wells are constructed at far off places from the project site. Even in these cases, local people around the well do not make a hue and cry since they do not consider it as a threat to their resources. Sometimes, the project is extended to meet their requirements as well¹¹. But in the future, there can be issues over this policy. Another important aspect of the Olavanna model is that, it is based on demand

¹⁰ 1 cent = .0040 Hectare

¹¹ With the increase in the population and immigration, Panchayat and individuals have formed new societies in the same line of Olavanna model to meet the requirements.

driven approach. The project is introduced in areas where only people show willingness to participate and abide by the conditions of cost sharing. This is to ensure cost recovery. Sustainability is ensured through capacity building and social mobilisation. Since the users contract themselves into works, goods and services, all the matters are decided and solved at the user level itself. Thus Olavanna model is a typical management system where in which the people do planning, implementation and operation.

<i>Project Type</i>	<i>Number of schemes</i>	<i>Number of families</i>	<i>Number of users</i>
With the aid of Gram Panchayat and other agencies	34	2131	10655
Private Societies	26	1267	6335
Public wells	34	850	4250
KWA	3	600	3000
Private wells		4200	21000
Total		9048	45240

Source: Olavanna Panchayat Manual

In addition to the 60 water schemes listed, there are approximately 20 more such schemes, run by individuals, families and social organisations.

The success of any project at the community level depends on the involvement of the community at the management level. Olavanna model is the best example for such a scheme, which is successful just because of the participation of the community. Olavanna is no more distinct from the political climate prevailing in the state. But the water supply schemes point to the congeniality and togetherness of the masses. The Olavanna model has proved that micro level projects can be designed and implemented successfully, with the participation of the local communities. Through such projects, the local administrative body can act as a facilitator and not just as a provider. Also, the cost recovery ranging from 75% to 100% lessens the burden on the state exchequer and eliminates the bureaucratic-engineer-contractor nexus. The project also suggests that community-managed models like Olavanna can replace the failing state run model and privatisation.

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