

WATER RESOURCE MANAGEMENT: A CASE STUDY OF JALANIDHI

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Abstract: The drinking water sector in Kerala has witnessed the emergence of different efforts in the provision of safe and adequate drinking water. But the goal of providing safe and adequate drinking water to all people in all types of localities has not been achieved. The total water supply schemes of KWA in operation as on March 31, 2017 in the State is 1,073. In the recent past, community managed drinking water supply schemes have been implemented in Kerala to fill the gaps in the water supply by the state government and panchayats. While community management demands more involvement of the beneficiaries, the authority takes advantage of it to transfer the responsibility of the service to them and withdraw from the picture. Jalanidhi is a paradigm shift in the area of water resource management projects. This contains various plans and programmes for the effective and efficient usage of available water. The Jalanidhi will be success in this regard for ensuring the efficient and sustainable use of inherent water potential for the present and future generations.

Introduction

Water is a natural resource vital for the survival of life. We get water from different sources. But from where we get water from the prescribed quantity and adequate quality is the pressuring problem. Now-a-days the demand for clean drinking water is running forward and the supply of the same is running backward. If sufficient measures were not taken by people as well as authority, the gap between demand and supply will widen and most of the experts predict a global war for water in the near future. It is becoming increasingly evident that limited availability of water can impede further progress while its thoughtless exploitation can negate most of our socio-economic achievements.

There is an imminent need to create greater social awareness about the rights and responsibilities in the use of water and to put it in place better management practices in the utilization of this invaluable resource. It is also necessary to ensure people's participation in water sector within the framework of decentralized democratic institutions and to evolve suitable frameworks and strategies for the continual up-gradation of water environment. Further it is important to make sure that the right of every citizen to equitable access to water for his or her basic needs is protected and enforced through appropriate policy, legislative and programme initiatives. (State water policy, 2008)

The major implementing agencies of drinking water supply schemes in the state are the Kerala Water Authority, the Kerala Rural Water Supply and Sanitation Agency and Local Self Government Institutions. Besides these agencies, the Department of Urban Development and the Department of Town and Country Planning are also implementing water supply schemes. The Kerala Water Authority, an autonomous body under the state government, was launched to plan, implement and manage piped water supply systems in the eighties.

Jalanidhi is a water resource management project implemented by the Government with the support of World Bank. The main objective of Jalanidhi is to assist the Government of Kerala to improve the quality of Rural Water Supply and Environmental Sanitation. The Government have also created an autonomous institution, viz, 'Kerala Rural Water Supply and Sanitation Agency (KRWSA)' to implement this project. The project expected to cover 3 lakh households, benefiting a population of more than 15 lakh from the selected Grama Panchyats. The first phase of jalanidhi seeks to cover 92 Grama Panchayats from the four districts of Thrissur, Palakkad, Malappuram and Kozhikode and 18 Grama Panchayats from the remaining nine districts, excluding Alappuzha. The areas were selected on the basis of water scarcity.

The present evaluation study was limited to 2 panchayats each from the 2 districts which are identified on the basis of intensity of the problem of water scarcity. The chart showing the districts and panchayats chosen for the present investigation is given below.

Sample Area

Sl.No	Districts	Panchayats	
		1	2
1.	Kottayam	Kaduthuruthy	Kadanad
2.	Pathanamthitta	Konni	Kodumon

Using the general formula for calculating the sample size $N/N(0.05)^2$, 378 samples were selected from the total population of 6959 households. Depending on the size of the population 89 households from Kadanad, 125 from Kaduthuruthy, 80 from Kodumon and 84 from Konni panchayat were selected on equi- proportionate basis.

Basic Statistics of Selected Grama Panchayats from Kottayam District

Sl.No	Items	Kottayam	
		Kadanad	Kaduthuruthy
1.	No.of wards	11	16
2.	Area in sq. Km	40	32.73
3.	Total no. Of households	3248	7372
4.	Population	16265	33793
5.	SC Households	194	901
6.	ST Households	35	12
7.	BPL Households	1420	3268
8.	No. of households having adequate water supply	1138	2263

It can be concluded from the above table that 2110 households in Kadanad panchayat and 5109 households in Kaduthuruthy panchayat are not having adequate water supply coverage.

Basic Statistics of Selected Grama Panchayats from Pathanamthitta District

Sl. No	Items	Pathanamthitta	
		Kodumon	Konni
1.	No.of wards	14	15
2.	Area in sq. Km	36.36	41.5
3.	Total no. Of households	7283	6914
4.	Population	28691	30609
5.	SC Households	1452	616
6.	ST Households	1	5

7.	BPL Households	2254	1700
8.	No. of households having adequate water supply	3318	4952

It can be concluded from the above table that 3965 households in Kodumon panchayat and 1962 households in Konni Panchayat are not having adequate water supply coverage.

Formation of Beneficiary Groups in Kottayam and Pathanamthitta Districts.

Sl. No	Details	Kottayam		Pathanamthitta		Total
		Kadanad	Kaduthuruthy	Konni	Kodumon	
1.	No. of clusters formed	152	137	78	35	402
2.	No. of BGs	57	61	48	35	201
3.	No. of SC BGs	0	8	1	22	31
4.	No. of ST BGs	0	0	0	0	0

Details of beneficiary groups were collected for analyzing their status. 152 clusters and 137 clusters were formed in Kadanad and Kaduthuruthy respectively in Kottayam district. 78 clusters and 35 clusters were formed in Konni and Kodumon respectively in Pathanamthitta district. Number of Beneficiary groups formed in Kadanad, Kaduthuruthy, Konni and Kodumon were 57, 61, 48 and 35 respectively. Number of SC beneficiary groups formed in Kadanad, Kaduthuruthy, Konni and Kodumon were 0, 8, 1 and 22 respectively. There were no ST beneficiary groups in both districts.

Trainings Conducted

Sl.No	Type of Training	Kottayam		Pathanamthitta	
		Kadanad	Kaduthuruthy	Kodumon	Konni
1.	Orientation	12	32	4	48
2.	Management oriented	4	5	-	7
3.	Skill Development	10	13	-	10
4.	SHP	7	42	-	50
5.	Training to SO staff	6	41	-	10

Number of orientation training that were conducted in Kadanad, Kaduthuruthi, Kodumon and Konni were 12, 32, 4 and 48 respectively. Management oriented training that were conducted in Kadanad, Kaduthuruthi, Kodumon and Konni were 4, 5, 0 and 7 respectively. 10, 13, 0 and 10 Skill development programmes were conducted in Kadanad, Kaduthuruthi, Kodumon and Konni respectively. 7, 42, 0 and 50 Self Help Group training programmes were conducted in Kadanad, Kaduthuruthi, Kodumon and Konni respectively. Number of SO staff training that was conducted in Kadanad, Kaduthuruthi, Kodumon and Konni were 6, 41, 0 and 10 respectively.

Schemes Implemented

Sl.No	Details	Kottayam		Pathanamthitta		Total
		Kadanadu	Kaduthuruthy	Kodumon	Konni	
1.	Active BG's	57	61	35	48	201
2.	No. Of WSS	57	61	35	42	195
3.	No Of Pumping schemes	11	44	35	19	109
4.	No of RWH Schmes	46	17	0	23	86

Number of Water Supply Schemes that were implemented in Kadanad, Kaduthuruthi, Konni and Kodumon were 57, 61, 42 and 35 respectively. Number of pumping Schemes that were implemented in Kadanad, Kaduthuruthi, Konni and Kodumon were 11,44,19 and 35 respectively. Number of Rain Water Harvesting Schemes that were implemented in Kadanad, Kaduthuruthi, Konni and Kodumon were 46, 17, 23 and 0 respectively. In total , there were 402 clusters, 201 beneficiary groups, 31 SC beneficiary groups, 0 ST beneficiary groups, 195 water supply schemes 109 pumping schemes and 86 rain water harvesting schemes together for Kottayam and Pathanamthitta districts.

Jalanidhi Coverage in Kottayam and Pathanamthitta Districts.

Sl. No	Items	Kottayam		Pathanamthitta	
		Kadanad	Kaduthuruthy	Kodumon	Konni
1.	No. of Households having adequate drinking water supply	1138	2263	3318	4952
2.	SC House holds having adequate drinking water	32	116	358	214
3.	ST House holds having adequate drinking water	6	8	0	0
4.	BPL House holds having adequate drinking water	298	683	748	994
5.	No. of Households covered under Jalanidhi	1638	2310	1472	1539
6.	% of coverage of eligible HHs	77.63	66.60	37.12	78.44
7.	No. of SC Households covered under Jalanidhi	60	352	655	78
8.	% of coverage of eligible SC HHs	37.04	44.84	59.87	21.89
9.	No. of ST Households	9	4	0	2

	covered under Jalanidhi				
10.	% of coverage of eligible ST HHs	31.03	100	0	40
11.	No. of BPL Households covered under Jalanidhi	516	1349	830	527
12.	% of coverage of eligible BPL HHs	45.98	52.18	55.11	74.64

Among the 4 grama panchayats selected for the study, Kadanad had water supply coverage of 35% prior to the implementation of Jalanidhi and it was 31% in Kaduthuruthy, 46% in Kodumon and 72% in Konni. Implementation of Jalanidhi has created an additional coverage of 50% in Kadanad, 31% in Kaduthuruthy, 20% in Kodumon and 21% in Konni. So the total water supply reached 62% to 93% in each panchayat after the implementation of Jalanidhi. The project strongly suggests that 16% of the beneficiaries should be from SC/ST communities. Beyond that separate schemes are implemented under Jalanidhi for ST community.

Jalanidhi is a community managed rural drinking water supply scheme implemented with the financial assistance of World Bank and its objectives of demonstrating the viability of the cost sharing model and in building up the state's capacity in environmental sanitation were commendable. Though these ideals point to far reaching implications in the state, the planning and implementation of jalanidhi lacked this long term vision.

Jalanidhi is also following a demand driven approach. The functioning of jalanidhi is a public private partnership that blends the government and panchayat with the beneficiaries. The entire beneficiaries divided into several groups and actively participated in the planning, implementing and maintain of various water supply schemes in jalanidhi. As a rural drinking water supply programme, jalanidhi not only concentrated on the quantity of water but also the quality of water provided. Environmental sanitation is also implemented as a long term goal with water supply programmes.

Most of the beneficiaries opined that the project is excellent and serving beyond their expectations. It is observed that the vast majority of beneficiaries who had real problem with regard to drinking water stated that; jalanidhi could solve the drinking water scarcity in Kerala. Regarding time, quality and quantity of water available, 60% are satisfied with quality and 95% are satisfied with quantity of water available through Jalanidhi. As a beneficiary, people have to pay 15% of capital cost and 100% of operational and maintenance cost. Majority of respondents replied that they get merit from Jalanidhi project equal to the financial expenditure that they have to pay for getting the service. The Jalanidhi will be success in this regard for ensuring the efficient and sustainable use of inherent water potential for the present and future generations.

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