JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

JALANIDHI: A PERMANENT SOLUTION FOR DRINKING WATER SCARCITY

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Abstract: Availability of water, especially potable water is an inevitable factor for daily life and its availability to be ensured is a major concern of the authority. Water supply programmes have been shown to be a great success when the community is involved right from the start of any project. The major challenge is to find ways of managing the available water sources and use it in a sustained manner without degrading the environment so as to sustain the resources for the coming generations. The Study can be concluded by saying that proper utilization of water resources, maintenance and strengthening of the infrastructure created under Jalanidhi, and extension of the Jalanidhi Model to other uncovered Panchayats with adequate funding will solve the problem of water scarcity in rural areas in Kerala.

INTRODUCTION

Availability of water, especially potable water is an inevitable factor for daily life and its availability to be ensured is a major concern of the authority. Water supply programmes have been shown to be a great success when the community is involved right from the start of any project. The major challenge is to find ways of managing the available water sources and use it in a sustained manner without degrading the environment so as to sustain the resources for the coming generations. The Study can be concluded by saying that proper utilization of water resources, maintenance and strengthening of the infrastructure created under Jalanidhi, and extension of the Jalanidhi Model to other uncovered Panchayats with adequate funding will solve the problem of water scarcity in rural areas in Kerala.

OBJECTIVES OF THE STUDY

- To evaluate the performance of Jalanidhi project in Kerala.
- To explore the lacuna in the existing jalanidhi project.
- To study the need and necessity for revamping Jalanidhi project.

METHODOLOGY

The present study was exploratory in nature. After a prelude to the empirical enquiry, a historical investigation was conducted. Both primary and secondary data were used for the study. A primary level investigation was made through pretested research schedule/questionnaire. Among the beneficiaries of Jalanidhi project.

- **POPULATION**

The population of the present study was 6959 households from 4 panchayats of Kottayam and Pathanamthitta districts.

- **SAMPLE**

Jalanidhi project spread over 112 panchayats of various districts, which constitute 92 Gram panchayats from Thrissur, Palakkad, Malappuram and Kozhikode and 20 Gram panchayats from 9 districts except Alappuzha. 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.

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

Using the general formula for calculating the sample size $N/ (1+N (0.05)^2$, 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 Kodumonand 84 from Konni panchayat were selected on equi- proportionate basis. Secondary data were collected from journals, publications, governmental organizations, etc.

The data collected are systematically arranged and analyzed. Inferences, generalizations, diagonal relationship and variances are made. For this, appropriate statistical tools and techniques were employed. Measures of central tendency, Z-test, relative, position and relationships were analyzed. Inferences and generalizations are drawn and conclusions and suggestions are made. Systematic tabular and graphic representations are done.

PERFORMANCE EFFECTIVENESS OF JALANIDHI

1. Among the four gram 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.
2. Implementation of Jalanidhi has created additional water supply coverage of 50% in Kadanad, 31% in Kaduthuruthy, 20% in Kodumon and 21% in Konni.
3. The total water supply reached 62% to 93% in each panchayat after the implementation of Jalanidhi.
4. As per the project 52% of beneficiaries would be from BPL communities. But in Kaduthuruthy and Konni Panchayats covered more APL families than BPL families.
5. As per the Project 16% of beneficiaries would be from SC/ST communities.
6. Beneficiaries have various opinion regarding the water availability, quality and overall performance of the schemes.
7. In general, 98% of the beneficiaries positively remarked about the success of this Project. With that 83% believed that jalanidhi project is a sound solution for redressing the water scarcity in Kerala.

8. Supporting agency shows a pivotal role in the working of Jalanidhi. 93 percent of respondents are satisfied with the working of supporting agency.

9. The fund utilization was in the ratio of 75:10:15 between the Government, Panchayats and beneficiaries; however, it was in the ratio of 80:10:10 for ST schemes.

10. Beneficiaries have to pay 15% of capita cost and 100% of operational and maintenance cost.

11. To meet the operational and maintenance cost of jalanidhi project, monthly subscription at the rate of Rs.30-Rs.60 was collected from the beneficiaries.

12. For empowering the beneficiary groups, training programmes are also organized at the panchayat level. Nearly 60 % of the respondents are not satisfied with the quality of the training they got as part of Jalanidhi project.

13. Most of the rural water supplies including jalanidhi depend mostly on open wells, tube wells, bore wells, rain water etc.,57% of the beneficiaries are satisfied with the quality of water supplied by Jalanidhi, judging it by the physical characteristics of colour, odour and taste.

14. Among the beneficiaries, 70% were using water for drinking and cooking, and others for various purposes.

15. Water supply projects have been shown to be an immense success when the community is involved right from the start of any project. Since it is a demand driven project, cost sharing and willingness from the part of interested people is very essential. 90% opined that people participation is the main energy source of this project.

16. Environmental sanitation under jalanidhi was implemented through the construction of new latrines and maintenance of existing latrines.

EXPLORING THE LACUNA

1. Role of Panchayat was merely as a facilitator and as a result the operation and maintenance of the project was given to beneficiary groups, which were not in a position to handle it in a proper manner.

2. Water recharge measures were not given adequate importance in Jalanidhi project. Rain is the main source of natural water recharge, but the natural slope of the terrain in the State in many places, lead to quick runoffs. Lack of interest of the beneficiaries in water recharge measures after getting water for their needs is also adversely affect the recharge measures.

3. Some of the poorest people are unable to pay the 15% of beneficiary shares. Because of that they were left out from the Project coverage.

4. The operation and Maintenance costs of Jalanidhi project sometimes turn out to be very high for the beneficiaries. This high level of cost may sometimes lead to default in payment, which ultimately affects the functioning of the project.

5. Due to lack of proper coordination, monthly charges are not properly collected in certain beneficiary groups and Panchayats.

6. Political decisions and political interference created bias in the identification of water supply sites. So it adversely affects the proper working of Jalanidhi project.

SUGGESTIONS FOR REVAMPING JALANIDHI

1. The role of Panchayats should be upgraded from the level of a facilitator to the level of controller and administrator of the Project. Operation and maintenance of the project should be done by the panchayat itself with the support and help of beneficiary group.

2. Panchayats should take necessary measures to include the poorest people, who are unable to pay the capital cost and monthly share project coverage.

3. Make it mandatory that all Panchayats should designate sufficient funds to solve the water supply problems by utilizing the available water resources potential.

4. The Panchayat should maintain proper accounting and follow strict monitoring of the Project.

5. Panchayats have to use their unutilized and under-utilized water resource potential for the successful implementation of this project.

6. Beneficiary Groups are to be strengthened through proper support and arrangements of regular meeting.

7. It is found that the economic status of beneficiaries have a major bearing on water consumption. The rich sections may use water lavishly for modem domestic gadgets, gardening, washing vehicles etc. Absence of control on using water may lead to over use, thereby leading to higher electricity charges and depletion of water sources.

8. Increase the number of beneficiaries by demand estimation. It reduces the capital cost and monthly subscription per head.

9. Per capita availability of water for each households should be monitored and link that usage with their monthly subscription. If meters are provided for household, monitoring becomes easy.

10. A water quality measurement system should be adopted to test the quality of water supplied periodically.

11. Maintenance should be done properly on a predetermined interval. It can be done only by increasing the efficiency in cost collection and management.

12.Water shortage is more acute in the urban areas. So the authorities have to widen this project into urban areas also.

The drinking water sector in Kerala has also 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 state intervention in the provision of providing drinking water began even before the formation of the state. During the pre- independence period water supply programmes were mainly concentrated on urban areas. After the formation of the state Kerala, the provision of rural drinking water supply programmes increased rapidly. 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. These water supply schemes are being implemented with the financial assistance from external funding agencies like the World Bank, JBIC etc...

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. 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.

The water management science has to be diagnosed by internationally renowned water management scientists. Modern science, especially Satellite Technology, Astro Physics, Computerized macro dynamic operational magnetic model etc... can be used for water resource management. Application of science and technology in developed economies are operational models in this context.