

Innovations

Situational Study of Addressing the Water Shortage Problem in Thavinhal Panchayat of Wayanad

Parvathy Ravikumar

Abstract

The study looks into the water shortage problem faced by the local people of Thavinhal Panchayat at Wayanad district. Wayanad is well known for its large-scale cultivation has scanty rains which contributed to water scarcity. Thavinhal panchayat is a rural local body in Mananthavady Panchayat of Wayanad Zilla Panchayat. The study is a tool to comprehend the water shortage problem and interact with the local residents of Thavinhal Panchayat. Water shortage problem affects the living conditions of the people, as well as it leads to health consequences and accessibility of water for basic needs. The common issues faced by the people are accessibility and quality of water. Therefore, the study is an evaluation from the public about the accessibility and quality of water. This study's methodology is based on quantitative research. Surveys and questionnaires will be used to gather the data. The study puts on light on the degree of water shortage that residents have attained. The residents acknowledged that during summer season and climate change, their situation worsens. The issue of water shortage problem should be given attention.

Keywords: water, water scarcity, wayanad, thavinhal, water shortage

Introduction

For the well-being and livelihoods of communities, water scarcity has wide ranging implications. Water shortage problem has emerged as a challenge which affects communities across the globe and Thavinhal, a village situated in Wayanad District of Kerala, India. Thavinhal region is known for its lush greenery and agricultural abundance has exacerbated with water scarcity. The limited number of wells and water sources worsens the situation. During climate change and summer season, the traditional common wells that once provided a reliable water source dries up. The impact of this water shortage problem is multi-faceted. With limited accessible clean water, the incidence of water borne diseases is on the rise. The water shortage issue also affects the daily life as women and children often bear the burden of fetching water from distant sources which affects their time and energy for productive activities. There are odour, smell and taste differences in the water which implicated bad water quality. Moreover, the residents do not have access to common wells which contribute to social

inequality. The research investigates the causes, effects and solutions for water shortage problem in Thavinhall Panchayat. A new theme “Situational study on addressing the water shortage problem in Thavinhall panchayat in wayanad” was created which aims to understand the effects of water scarcity problem and solutions by the resident’s own perception.

Statement of the Problem

Water is an essential component in everyone’s life. But local residents in Thavinhall Panchayat lacks access to good quality of water for their personal use. They are not getting adequate sources of water and need to travel a long distance to fetch water. Local residents in Thavinhall Panchayat depends common well for their personal use and this severe water scarcity issue. People should be given provision to access safe and good quality water. According to the survey created by Jal Jeevan Mission, people from more areas are suffering from water shortage problems. If water gets limited, basic necessities, drinking, cooking, washing will get affected. It also leads to poor hygiene, malnutrition and dehydration. Contamination from water- borne diseases like cholera, dysentery, typhoid etc. is also a potential health factor. It also hinders agricultural development and cause cycle of poverty and illness in areas. Ensuring good quality and accessible water sources for local people in Thavinhall Panchayat is a need.

Review of Literature

(Maneesh, 2015) in his study noted that Kerala has seen a decrease in per capita water supply over the years, and many of the state's rivers and lakes have been turned into drone-prone zones as a result of the proliferation of wreck less sand mining and quarrying. Within 500–1 km of elevation change, there should be at least 40 litres of safe drinking water available per person per day. The study highlighted the necessity of a comprehensive institutional framework for groundwater replenishment and conservation.

(Varma, 2017) stated that, based on 2011 data, roughly 62% of Kerala is dependent on groundwater. Numerous investigations by the Centre for Water Resources Development and Management (CWRDM), Kozhikode, have found that bacteria infect 90% of Kerala's open wells. The data also support localized issues associated with low pH and excessive fluoride and iron levels. To safeguard the state's fragile groundwater system, groundwater zoning must be applied according to extraction stress, groundwater scarcity, and aquifer fragility. Therefore, the state might be separated into three protection zones to maintain the natural identity of the aquifer and the needs of groundwater-dependent ecosystems.

(K, 2014) in their study on the Paniya tribal community in Wayanad, which has the largest concentration of tribal people, suffers from extreme poverty, inadequate schooling, malnourishment, gender and health disparities, water insecurity, and inadequate sanitation and hygiene. Better government policy and action should

result from it since it offers tribal women, a marginalized group, a stronger voice and illustrates the tribal WASH realities. It is known that maintaining the traditional tribal way of life and the heritage of their culture might help close the gap in the WASH sector. Water scarcity is a problem for women in Thavinhal Panchayat as well, as it has an impact on both their general and menstrual health.

Objectives of the Study

The main objectives of the study are to assess the cause and effect of water scarcity problem in the Panchayat and to propose interventions to address this issue

The study aims to:

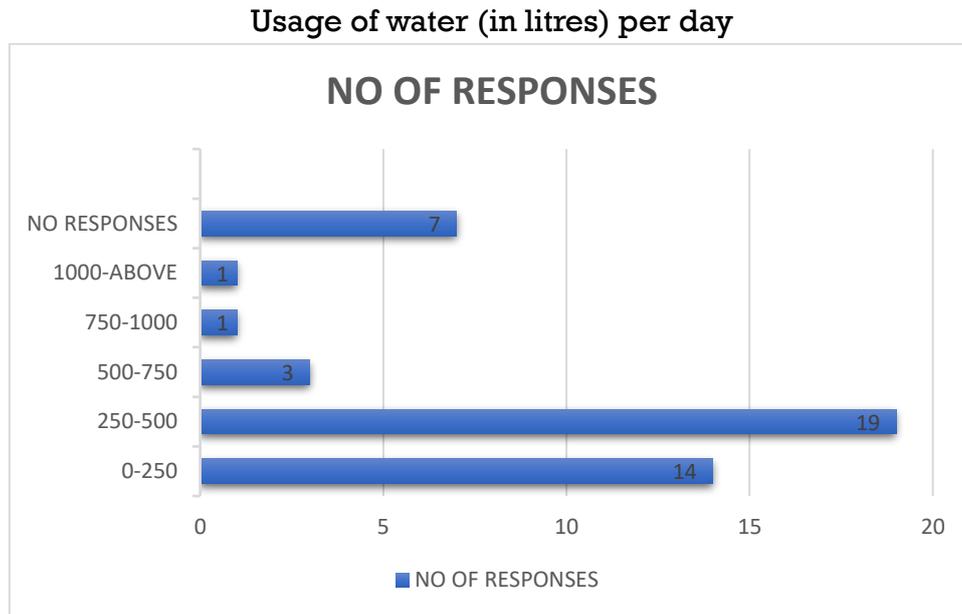
1. To assess the current water availability and usage patterns of the Panchayat
2. To identify the cause and effect contributing to water scarcity
3. To identify areas of recommendation for improving water usage and access

Data and Methodology

Descriptive research design was used in the study. The researcher employed both primary and secondary sources of data. An interview schedule was used to obtain primary data from 45 households of Thavinhal Panchayat of Wayanad district. The interview schedule was prepared to know their experiences and recommendations for the water scarcity problem they are using. The sample used was snowball sampling method. Journals, newspaper reports and articles were used as secondary sources of data collection. The data acquired from quantitative data was quantified using IBM SPSS version 27 and later analysed in qualitative terms, revealing that Thavinhal local area should be accessible to safe water and availability of water sources.

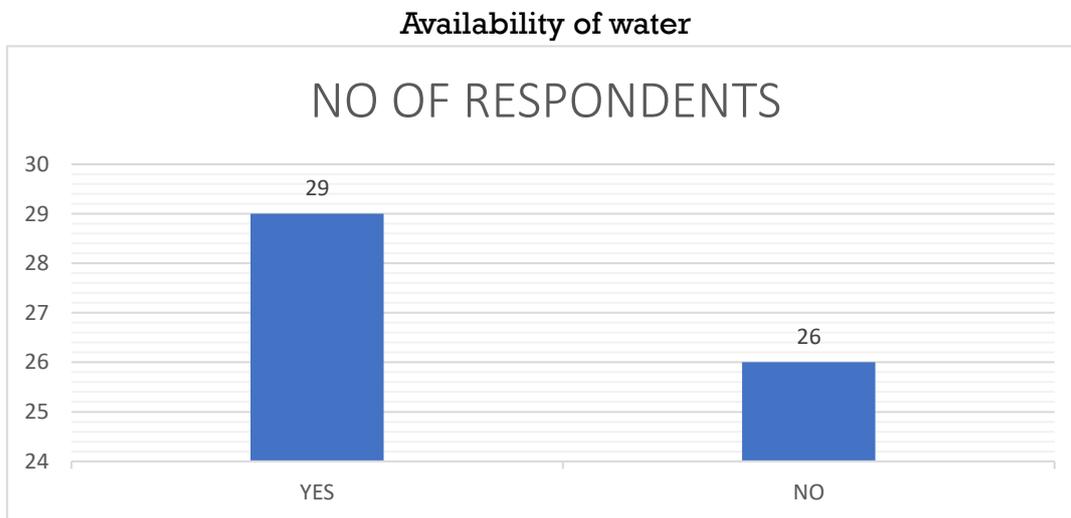
Results

Figure 1



The above figure shows that local people in Thavinhal Panchayat uses 250-500 litres of water per day. Normally, a person needs 50 to 100 litres of water per day to meet basic needs, which include personal uses like drinking, washing, bathing etc. The necessity of water use is implicated in the above figure.

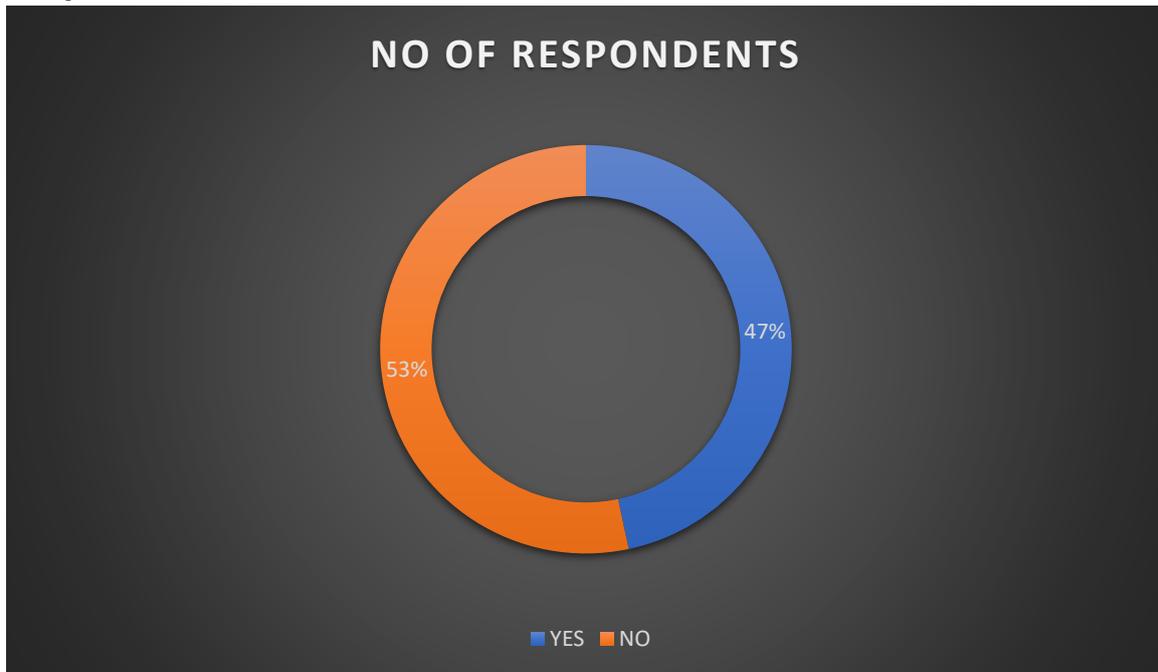
Figure 2



The severity of the water shortage problem is shown by the figure, which shows that over half of the local population does not have direct access to water. Many inhabitants' everyday life is severely hampered by having to fetch water from a far-off communal well. With women and children being the most impacted, the time spent commuting for water drastically cuts into the amount of time available for work, education, and home chores. Because overcrowding and possible well

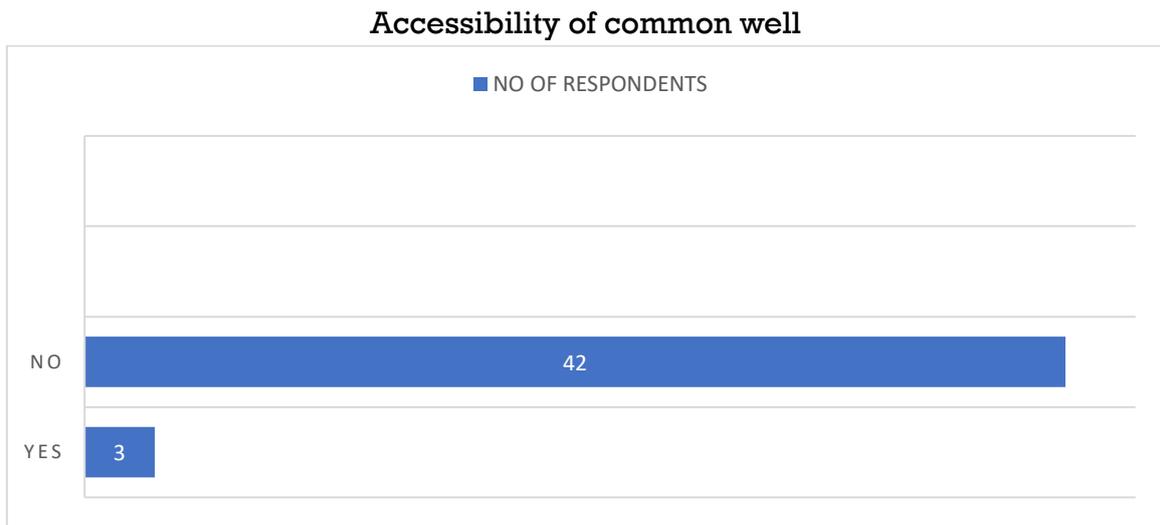
pollution can result in waterborne illnesses, this reliance on a shared water supply also increases health hazards. The circumstance highlights the pressing need for long-term solutions to bring dependable access to potable water closer to households, which would enhance public health, lessen hardship, and foster social and economic advancement in the neighbourhood.

Figure 3
Quality of water



According to the figure, 47% of people do not have access to clean water, and the quality of water sources is getting worse every day. This emphasizes how urgently the neighbourhood needs safe, clean water. Given that illnesses and long-term health issues can result from low water quality, the continuous contamination presents serious health dangers. The figure emphasizes how urgently effective actions are needed to enhance water quality and guarantee that everyone has access to safe drinking water. In order to protect public health and advance the general well-being of the populace, this issue must be addressed.

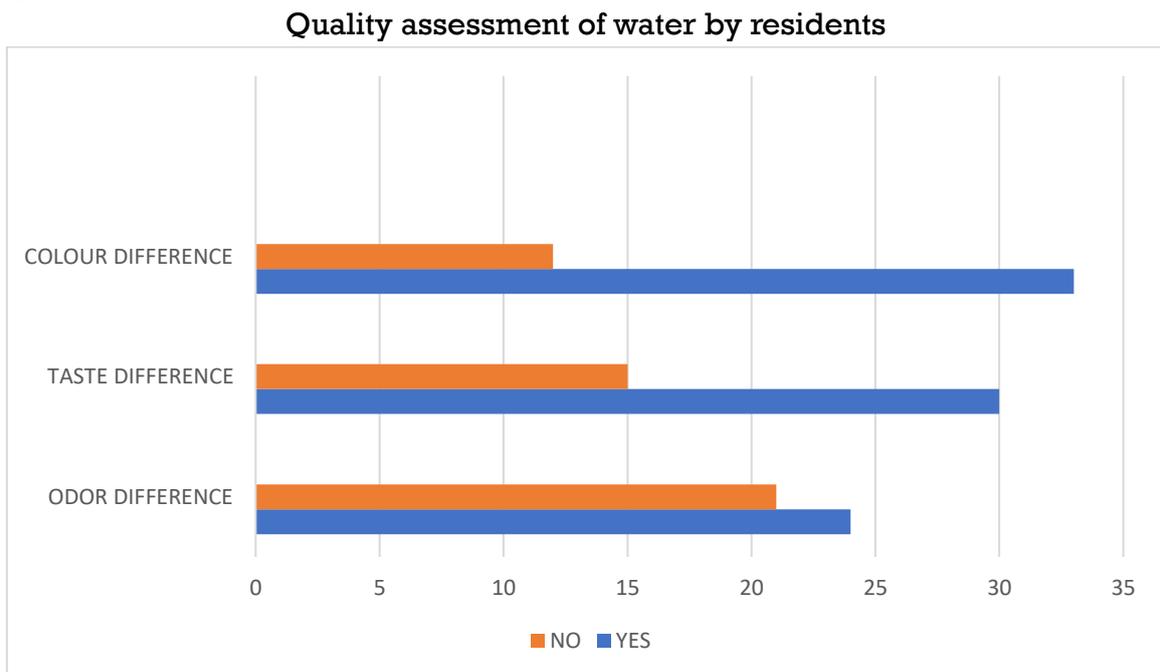
Figure 4



The severity of the water shortage situation is demonstrated by the fact that more than 90% of the local population does not have access to a shared well. The neighbourhood is under tremendous strain due to this large gap in access to a dependable water supply, which forces residents to depend on far-off or unreliable sources for their daily water needs.

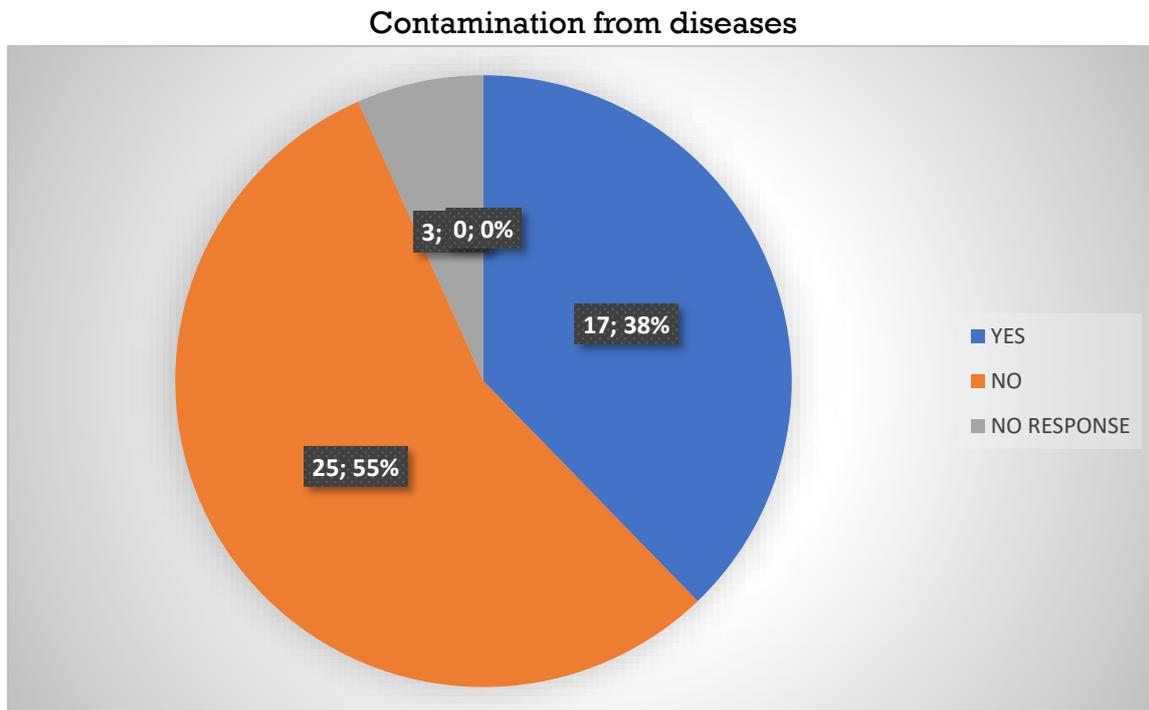
In addition to having an impact on hygiene and health, the absence of easily accessible wells takes up time and energy, particularly for women and children who are frequently responsible for bringing water. This situation emphasizes how urgently better water infrastructure is needed to provide fair access and lessen the suffering of the community.

Figure 5



According to the figure, more than half of the respondents reported problems with the colour, taste, and Odor of the water. These differences raise questions regarding the safety of the used water and indicate contamination. Since discoloured or odorous water is frequently associated with dangerous contaminants or microorganisms, such issues with water quality pose serious health hazards. This has an impact on the water's fitness for drinking and domestic use, but it also emphasizes how urgently water treatment and distribution infrastructure must be improved to guarantee everyone has access to safe, clean water.

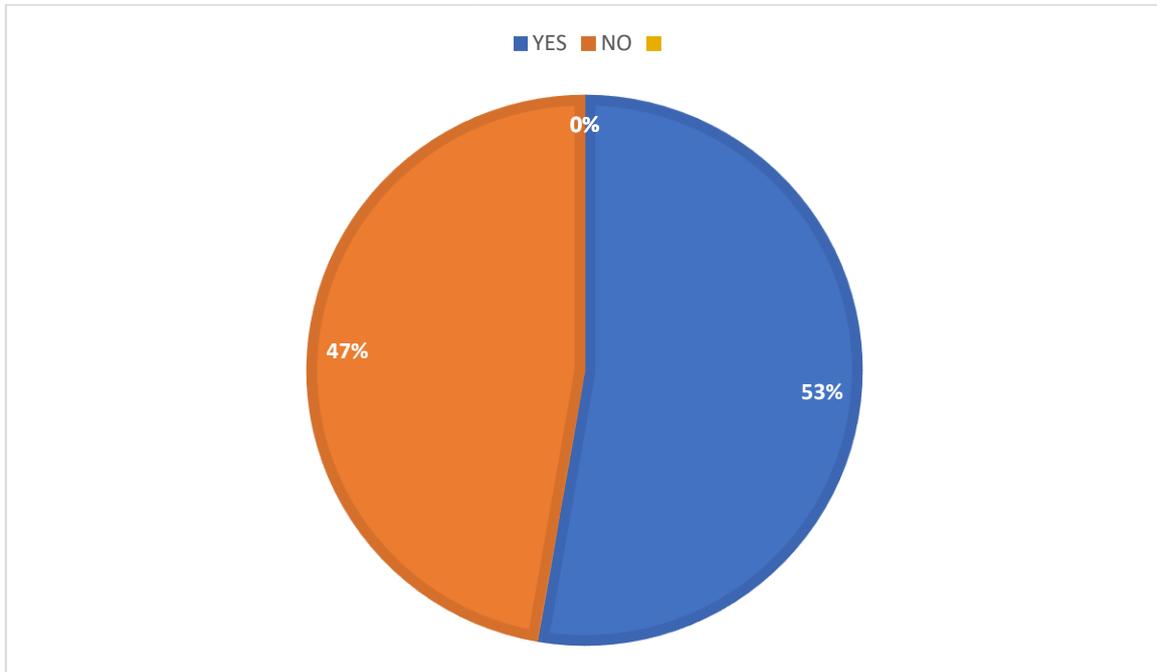
Figure 6



55% of respondents reported having been contaminated by water from the public well, according to the data, underscoring the urgent need for improved water quality to safeguard public health. Waterborne infections, which can spread quickly in communities that depend on contaminated water sources, are among the major health dangers posed by the contamination. This instance highlights how crucial it is to guarantee everyone has access to clean, safe water. The community's health and wellbeing will remain in jeopardy if water quality does not improve, which emphasizes the urgency of taking action to ensure that everyone has access to clean drinking water.

Figure 7

Availability of water for basic needs



According to the figure, 47% of the population lacks access to enough water for their basic needs, while just 53% of the population possesses this resource. This notable discrepancy demonstrates the severity of the community's water access crisis. Nearly half of the population struggles to achieve basic needs like drinking, cooking, and sanitation when they do not have consistent access to water. This impacts general well-being and quality of life in addition to endangering health and hygiene. The information emphasizes how urgently measures are needed to guarantee that everyone has fair access to water.

Recommendations to Improve the Water Scarcity Problem

Findings

- The study revealed that more than fifty (42%) of the respondents use between 200-500 litres of water per day
- More than majority (95%) of the respondents uses common well as their water source
- Below three-fourth (64.4%) of the respondents get water for their basic needs
- Nearly half (47%) of the respondents are satisfied with the water quality
- Majority of the respondents do not have accessibility to the common well.
- More than three-fourth (82%) of the respondents have agreed that the well dries up easily and it is mainly during the summer season and the climatic changes

- Below two-thirds (60%) of the respondents have stated that water distribution happens on a specific time, but not on all time.
- More than half (55%) of the respondents have stated that people have contaminated with diseases while using the water from village
- More than half (53%) of the respondents have stated there is odour differences in the water
- Below three- fourth (67%) of the respondents have felt there is taste difference in the water
- Nearly three-fourth (73%) of the respondents felt colour differences in the water

Suggestions

- Implementing rain water harvesting techniques
- Implementing Jala Nidhi programme and more water connections
- Capacity building programmes to manage water resources effectively
- Establishment of community-based community tracking systems to track water availability, consumption patterns and water quality

Discussions

Based on the data gathered through the various approach and the researcher's own check list, it can be concluded that the study supports the assertion that the local people from Thavinhal Panchayat is suffering from water scarcity problem which affects their health and overall well-being. Their issue is clearly pronounced during the months of summer and periods of climate change. The impact of water scarcity on the daily life of women and children is huge as it disrupts their daily life, education as well as income-generating work as these groups are responsible for fetching water from distant wells or other water sources. Only through implementing Jal Nidhi programme and more water connections and providing alternative water solutions, their distress can be solved. It is important to address these challenges as it improved public health, enhances the quality of life and supports the long-term development of the region.

Conclusion

The cornerstone of sustainable community development is the resolution of pressing problems such as scarcity of water. Addressing the issue of water scarcity in Thavinhal Panchayat calls for coordinated action and planned measures. Having access to dependable and clean water sources is crucial for enhancing general well-being, cleanliness, and public health. Providing water security directly improves people's quality of life, lowers health risks, and gives locals—especially women—more authority because they are the ones who must carry the weight of bringing water. Long-term social and economic advancement

can be made by the community by enhancing water infrastructure and management, opening the door to a more resilient and healthy future.

References

1. *Maneesh, P. (2015). Access to water and drinking water supply coverage: Understanding water security in Kerala. Indian Journal of Economics and Development, 3(9), 1-6.*
2. *Varma, A. (2017). Groundwater resource and governance in Kerala: Status, Issues and Prospects. Forum for Policy Dialogue on Water Conflicts in India, Pune*
3. *Central Government of India. (2002). National health policy (2002) India. India Ministry of Health and Family Welfare. Government of India*
4. *Sohn, K. Investigating the Water, Sanitation, and Hygiene (WASH) Crisis and its Impact on Tribal Women and Children in Wayanad, Kerala.*
5. *N Ajith Kumar, D Radha Devi, & CSS India. (2010). Health of women in Kerala: Current status and emerging issues health of women in Kerala: Current status and emerging issues. Centre for Socio-economic & Environmental Studies.*