International Journal of Emerging Trends in Science and Technology

Open access Journal

Comparative Studies of Few Chemical Parameters of the Quality of Drinking Water in Alwar Rural Area Zone I and II

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ABSTRACT
The main aim of this paper is to access the various chemicals and substances present in drinking water of Alwar rural area. In Alwar district the amount of different chemicals and chlorine, nitrate ions fluorine ions is more than a desirable limit according to WHO.
Key Words: *TDS, Chlorine, Nitrate ions, pH, Fluorine*

INTRODUCTION

The hydro-geochemical analysis and quality evaluation of drinking water sources are the strategic topic for research and development activities as well as natural resources management. This study is performed to bring out a drinking water quality status in rural and urban area of Alwar district (Raj.).

This study is been done for collection & analysis the specific data which can help the further researchers, local people, and the related local govt. & private authority who supply the water for human community in Alwar region.

MATERIAL AND METHOD

Water samples were collected from the different drinking water sources in alwar district like as tube well, hand pumps, bore well, tap water (supplied by govt. body) etc. these sample are labeled according to their site for analysis.
Samples were collected in plastic or glass bottles. All bottles must be thoroughly cleaned and rinsed with reagent water. Volume collected was sufficient to insure a representative sample, allow

for replicate analysis (if required), and minimize waste disposal. Samples were analyzed as soon as possible after collection. complexometric titration by the help HCl or EDTA method, electronic method & equipment are used in the analysis of different essential characteristics of the water.

As according to Alwar Rural area data analysis, the scenario is clear the only few site such as in Village Gandala, Bhror area TDS is more than a desirable limit according to WHO (figure – 1).Here we can see that The Total hardness and chloride Ions in drinking water is also out of desirable limit as according as WHO. Some other Ion are also altered in a very small amount of drinking water. But overall study show that expects few sites or few chemical parameter the quantity of drinking water is acceptable for Human and other living organisms including plants. In the Rural areas of Alwar, Rajasthan people were generally satisfied with the water services provided by the municipality because the water quality was good and walking distances were short. Here some site has required for Implementation of new technologies regarding water purification.
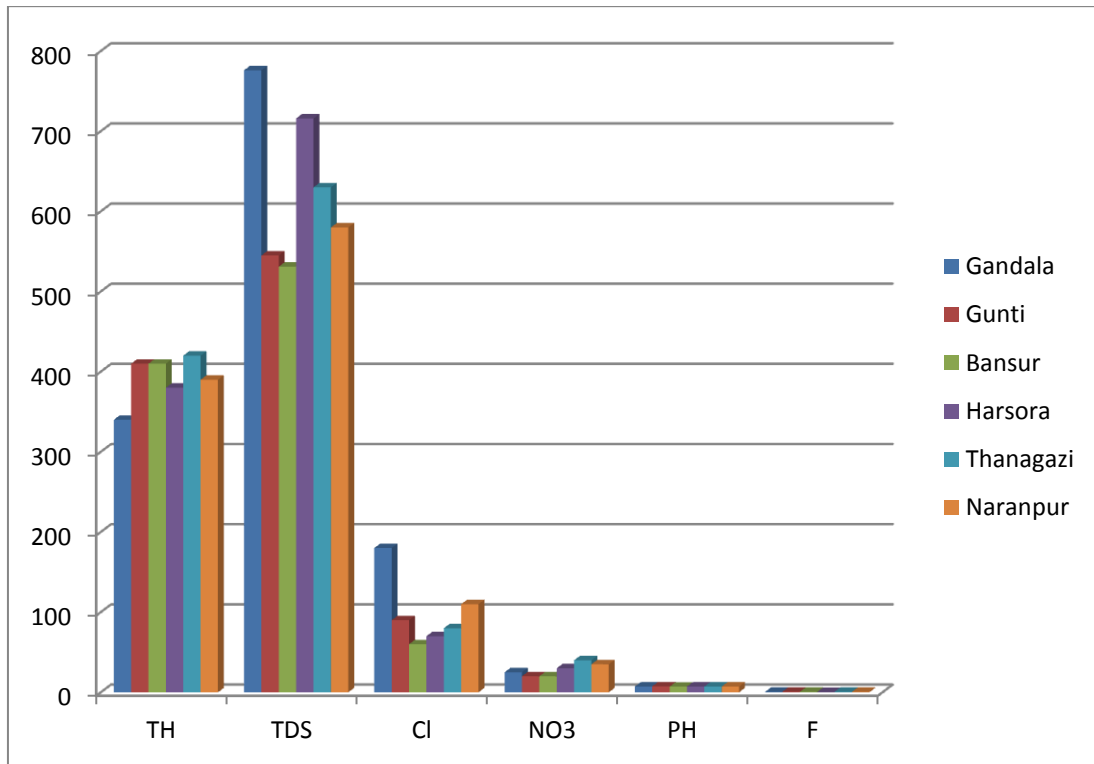
Figure No. 1 – Comparative Study of data of Drinking Water in Rural Area Block I

As according to Alwar Rural area data analysis, the scenario is clear the only few site such as in Village Khairthal Bus Stand Area and Tijara School water sample area TDS is more than a desirable limit according to WHO in (figure – 2).Here we can see that The Total hardness of drinking water is also out of desirable limit as according as WHO. Some other Ion are also altered in a very small amount of drinking water. But overall study show that expects few sites or few chemical parameters the quantity of drinking water is acceptable for Human and other living organisms including plants.
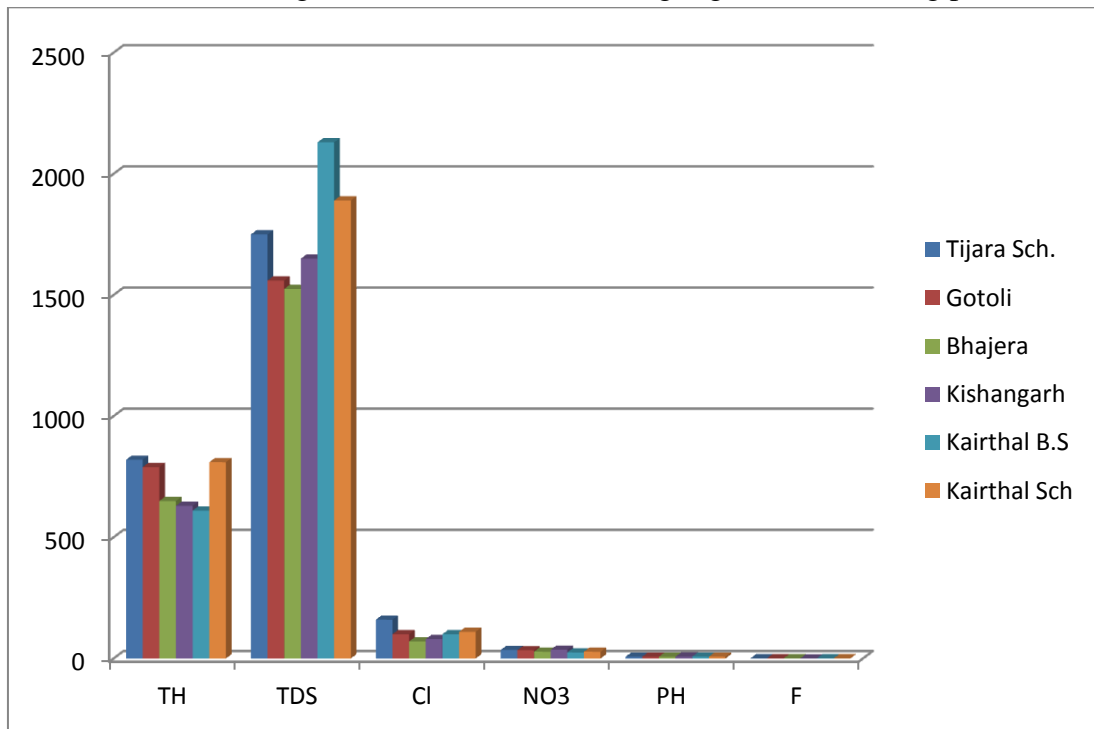

Figure No. 2 – Comparative Study of data of Drinking Water in Rural Area Block II

Several studies have been carried out to analyze people's perception and attitude about the drinking water source quality and accessibility. Creating good community awareness about water quality issues and the associated problems like sanitation and hygiene services is important to alleviate health effects but it remains below the expected rate of coverage.

Fifty percent of rural population is covered by improved water supply system.   It was observed that all of the unprotected alternative water sources were not protected at all but to protect the source from direct contact to animals and children it was common that roofing the scheme with wood or stone. Whereas from the total sampled improved water sources about half of them were not protected at all while the rest 23% somewhat protected and 27% were well protected.

In the Rural area there are 250 individual pipeline connections and 11 public stand taps. The technicians report that one tap supplies 500 people. At the time of the survey, the residents paid 1birr for 5 Jeri cans. After March 2011 the price decreased to 8 Jeri cans per birr to make it more affordable to the poor.

A stratified random sampling technique was adopted to select the sample needed for the study. Therefore each ward used as a sampling frame was identified as urban areas, rural areas with market centers and rural areas without market centers.

The mean, minimum and maximum amount of each household income from non agricultural, crop production and livestock production are shown in table 7d. The total income source of the house hold show that with an average of 2,252 birr and a maximum of 10,200 birr in urban area while 3,505 birr of average and 20,950 birr of maximum in rural areas. The income median value was taken because it is recommended to use median value when the difference between minimum and maximum values is too large.

people in rural areas were not willing to pay for improved water services whereas, in urban areas especially the poor who were unable to pay for the tap water owned by municipal water service enforced to search alternative unimproved sources. Beside that queuing time was also a problem to access water hence people obligate to found alternative unhealthy water sources

RESULT AND CONCLUSION

In rural areas distance from the source to the house, quality of the water, adequacy from the source and waiting time were significant at P values less than 0.05. This means there was a relationship between reluctance and these variables. Because when the distance from improved sources increased people prefer to collect water from nearby unimproved sources. Even though distance was a reason, waiting time undermine to travel long distances to access the water any where coupled with lack of adequate amount of water availability. Sometimes household prefer to collect water from unimproved sources because they believed the water sources can be cleaned manually. The reason behind was less attention given to treat the improved sources by the water office technicians once installed.

It was important to saw the relationship between the adequacy and perceived safety or quality of water sources with households" willingness to accept to pay for the improved sources. Figure 6: shows there were a better percentage of acceptances to pay for the quality water for those responded not safe at all, somewhat safe and partially safe.

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