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A Review Paper On Assessment of Physico-chemical Properties of Drinking Quality of Various Water Resources in Kodoli Village.

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Abstract -*A Quality of water is most important factor in development of nation and use of ground water as resources. The main purpose of this research work is to asses the quality of drinking water from various resources in the Kodoli village. The quality of water have to identified in terms of various physical, chemical and biological parameters. Temperature, Odor, pH, Turbidity, Electric conductivity(EC), Total Dissolved Solids (TDS), Total Hardness (TH), Chlorides(cl-), Sulphate, Nitrate, Total Coliform are the physico-chemical parameters have to be identified. Analysis will be done by referring standard procedures by IS-3025 & result values will be compared with IS-10500.2012 guideline values. Samples will be collected from bore holes, piped water, open wells before monsoon(April- May) & After monsoon(June- July) from the research area Kodoli Village.*

***Key Words*: Quality of Drinking Water, Physico-chemical properties, IS-10500.2012, Result Analysis, Pre monsoon, Post monsoon, Sample Collection, Kodoli Village.**

1. INTRODUCTION

Water plays vital role in human life. It is necessary for industry, agriculture and human existence and many other purposes. The healthy water ecosystem is depends upon the physico-chemical and biological characteristics. Due to presence of various human activities , urbanization and industrialization, the groundwater sources are degraded gradually; therefore pure, safe, healthy and odorless drinking water is a matter of deep concern. There are various pollutants in groundwater due to seepages viz. organic and inorganic pollutants, heavy metals, pesticides, fluorides etc. Due to these pollutants problem of pollution of water arises.

1.1 Why Quality of Water is Necessary?

Water accounts for about 70% of the weight of a human body and about 80% of the earth's surface is covered by total water. Out of the total quantity of water present on the all over earth, about 97% of the earth's water resources are locked up in the oceans and seas, this water too saline to drink and for the direct use for agriculture and industrial purpose and about 2.4% is trapped in giant glaciers and polar icecaps. Hence not even 1% quantity of water is available for drinking, agriculture, domestic and industrial consumption. Due to increasing industrialization on one side and exploding population on the other, the demand of water supply has been increasing in large amount. But considerable part of this limited quantity of water is polluted by sewage, industrial wastes & wide verities of synthetic chemicals pesticides. Thus, the quantity of water as well as quality of clean water supply is of vital significance for the welfare of mankind. Access to safe clean drinking water is key to sustainable development of country and necessary for food production for living life, quality human health and poverty reduction. Safe drinking water is essential to living life & satisfactory safe supply must be made available to consumers. Water is becoming a vital factor for development of life and the quality of life in many countries. Good & clean drinking water is not a luxury thing but it is one of the most essential requirements of human life it. According to The World Health Organization (WHO) 75% of all diseases arise due to polluted drinking water in developing countries. So that , water quality strains are generally the most important component for measuring access to improved water sources. Considering all above factors Safe Drinking water is the most important for living life.

1.2 How to Analise the Quality of Drinking Water?

Water quality should be identified by the various physico-chemical, biological parameters. Temperature, Odor, pH, Turbidity, Electric conductivity(EC), Total Dissolved Solids (TDS), Total Hardness (TH), Chlorides(cl-), Sulphate, Nitrate, Total Coliform these are the various parameters need to find out for analysis of drinking water quality. By referring the standard test procedures by the IS-3025 guidelines parameters can be identified. For analyzing quality test results are compared with IS-10500.2012 guidelines.

2. Study Area

The Kodoli village is dependent on various water sources for drinking purpose it is necessary to assess the water quality and determine either it is fit for consumption or not. Kodoli is a village with a large population of about 50,000. When there is piped water is not available, most of the people

uses water directly from boreholes, open wells, etc. for drinking purpose. However there is no data on quality of water from all these sources to ascertain their suitability for drinking. In view of this, there is the need to assess safe drinking water quality of these sources and also need to check piped water quality for providing solutions for improvement in the existing system.

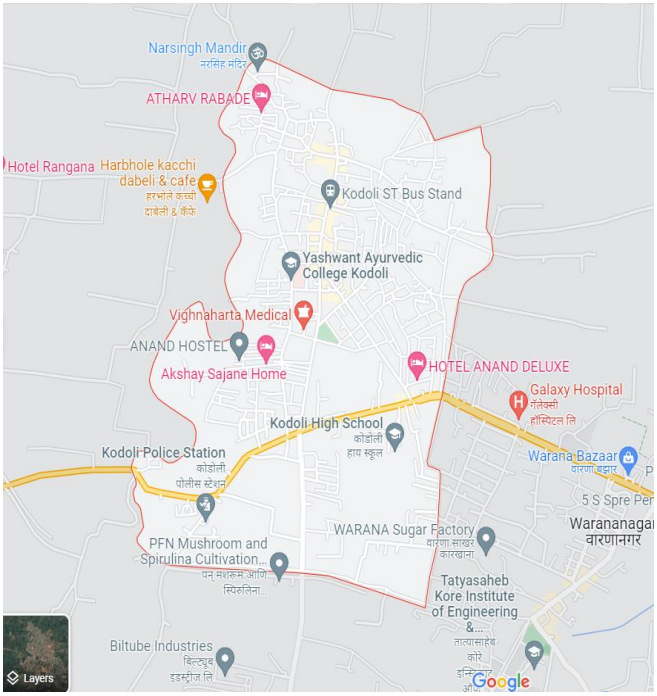

Fig.-1.1 Map of Kodoli , Tal-Panhala, Dist – Kolhapur.

3. Objectives

- To assess the quantity and quality of drinking water from various sources in Kodoli village.
- To examine the levels of physico-chemical and microbial parameters present in drinking water.
- To compare the various result parameters with Indian Standard (IS 10500-2012) Drinking Water guideline values.
- To suggest low cost remedial measures for the identified parameters for kodoli village .

4. Scope

- Drinking Water quality parameters of water sample from sampling station collection, including physico-chemical and microbial parameters are taken into consideration.
- Study of various sources of water used for drinking in the Kodoli village.
- Improving quality of existing water sources & system used for drinking.

5. Methodology

- Study area
  - Description of the study area and different sources of drinking water used inKodoli village.
- Sample collection
  - Sample Collection from river, boreholes, open wells, piped water etc.
- Determination of physico-chemical parameters of drinking water referring IS-3025 guidelines.
- Analysis of Microbial Parameters of drinking water.
- Comparative study of parameters with Indian Standard (IS) guideline values.
- Suggesting feasible low cost water treatment for the identified parameters in the kodoli village.

6. Conclusion

- Studied the resources of Drinking Water in Kodoli Village.
- Drinking Water Parameters studied as per the IS-10500.2012.
- Test procedures referred from IS-3025 guidelines.

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