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ENVIRONMENTAL CHALLENGES TODAY: GLOBAL PERSPECTIVE



V.D. SATPUTE, M.B. PATIL, S.A. TENGSE

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Ground Water Problems in Osmanabad City

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INTRODUCTION

Tremendous increase of population in last two decade has put extra trace in water source in any area. The ground water quality directly depends upon geology of the area. The sewage water released from city contributes to the pollutant ground water surrounding the area. Therefore, detail study of hydrogeological and hydro chemical condition of the area. To understand the groundwater quality of the hour. In the present investigation the relation between ground water quality and health effects has been studied.

STUDY AREA

Osmanabad city is located in central part of Osmanabad district. The whole region is an average elevation on 548 mts. Mean sea level. Ground water available only in weathered and fractured zone. Most of the people depend on ground on ground water. Average annual rainfall is around 700 mm. which is mostly loss surface and runoff and evaporation.

MATERIAL AND METHODS

For this study we have collected six samples from different places in Osmanabad city. All samples were kept in pre cleaned white polythene plastic made Jeri cane. EDTA trimetric and gravitation of were sold for the determination

of calcium. TDS denote the various type mineral present in the water in dissolved form. According to BIS the limit of TDS in drinking water is 500 mg (Dhembare 1998, Sangeetha 2000) observed higher values of TDS more than that of is standard calcium and magnesium are the major cation responsible for hardness.

RESULT AND DISCUSSION

Obtained result of ground water were within the limit as compare to drinking water standard.

Analysis of ground water in Osmanabad city

Sites	Tambri	Barshi naka	Amrut nagar	Ganesh nagar	Sonar gully
TDS	420	1610	810	1200	530
CAL	50	202	51	121	75
Mg	21	50	17	42	25
Hardness	235	750	198	478	293

Above table shows that, the contamination of TDS, Cal. Mg, and Hardness are observed in different sites in Osmanabad city. The higher concentration of TDS shows in site no.2 (Barshi naka) and site no. 3 and 4 (Amrut nagar and Ganesh nagar). On the other hand higher concentration of calcium has been found in site no.2. Calcium observed under permissible limit of BIS in Tabri area and sonar gully's high content of calcium are undesirable for clothing, bathing and drinking. Above table indicate that Barshi naka has more hardness compare to other samples.

Hence, this ground water is very hard and not suitable for drinking purposes. K Jain (1992) reported that the content of hardness may be causes kidney problem, high content of mg causes nausea, muscular weakness and paralysis in human being.

The study is reveals that, ground water is deteriorate with high level of TDS, Ca, mg, and hardness. The permeability in the rock formation is high especial Barshi naka and Amrut nagar. City waste water comes and stored in Sonar gully. So, it is affecting ground water quality.

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