

**GOVERNMENT DEGREE COLLEGE FOR WOMEN
WANAPARTHY
DEPARTMENT OF CHEMISTRY**



**A Project Work on
WATER ANALYSIS - A STUDY IN VARIOUS VILLAGE OF GDC(W)
WANAPARTHY STUDENTS**

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WATER ANALYSIS - A STUDY IN VARIOUS VILLAGE OF GDC(W) WANAPARTHY STUDENTS

Aim Objectives:

To find the Quality Assessment of Bore well and Tap Water in various village Wanaparthly dist.

Introduction:

Water is one of the important compounds that which influences the human life. Initially, mankind used water for domestic purposes such a drinking, cooking, washing. However, the present uses of water may be classified as domestic, public, commercial and industrial. Due to fast growth of industries, population and large quantity use of different chemicals, fertilizers and pesticides in producing crops are causing heavy and rapid pollution in aquatic environment leading to deterioration of water condition and depletion of aquatic biota. Due to use of polluted water, human suffers from water borne diseases. It is need and compulsion to check the water pollutants at regular interval of time. The water may consist of pollutants and toxic metals which are injurious and damage the human health.

Methodology:

Wanaparthly district tropical region which consists of wet and dry climate. The annual mean temperature is 28°C; monthly mean temperatures is 22–35°C. The underground water level in and around the Wanaparthly district shows reasonable variations during the year. Samples mentioned in the above location were collected without adding any preservatives. Physical parameters of water, like Power of hydrogen ion concentration(pH), Total Dissolved Solids (TDS), and Electrical Conductivity (EC) were determined with the help of digital portable analyser.

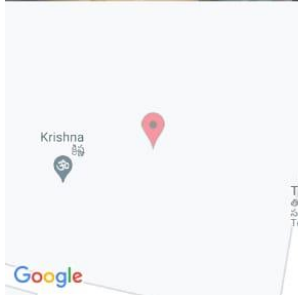
Observations and Results:

The study was carried out in a part of Wanaparthly district, Telangana State, India, to assess the groundwater quality for drinking, irrigation and industrial purposes. Groundwater samples collected from the study area were analyzed for pH, electrical conductivity (EC), total dissolved solids (TDS), calcium (Ca^{2+}), magnesium (Mg^{2+}), sodium (Na^+), potassium (K^+), bicarbonate (HCO^-), chloride (Cl^-), sulphate (SO^{2-}), nitrate (NO_3^-) and fluoride (F^-). The quality of groundwater shows an alkaline condition with a dominance of Na and HCO^- ions. The values of chemical parameters were compared with the drinking water quality standards and found that the TDS, Mg^{2+} , Na^+ , SO^{2-} , NO_3^- and F^- are more than their recommended limits in most groundwater samples. Irrigation water quality was assessed with respect to alkali hazard (SAR), salinity hazard

(EC), percent sodium (%Na), permeability index (PI), residual sodium carbonate (RSC), magnesium ratio (MR) and Kelly's ratio (KR).

Conclusions

Most groundwater samples are not suitable for irrigation except based on RSC parameter. According to the TDS, HCO^- , and SO^{2-} , the groundwater in a few samples causing incrustation and corrosion is unfit for industrial purpose. Therefore, groundwater quality management measures were suggested to improve the water quality.



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Latitude	17.388383	17°23'18" N
Longitude	78.469143	78°28'8" E

2022-04-30(Sat) 04:32(pm)

38°C
100°F



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