

# Water Quality Analysis

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SUBMITTED BY,

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# Water Quality Analysis

## **Introduction**

The project was based on testing the quality of water. Three different samples were collected

from 'Kantajhar Basti' situated behind the campus of NIT Rourkela from three different

tubewells at two different times of the year. The first set of samples was collected after the rainy

season in the month of September, 2013. And the second set was collected in April, 2014.



## **Water quality**

Water quality refers to the chemical, physical and biological characteristics of water. It is a measure of the condition of water relative to the requirements of one or more biotic species and

or to any human need or purpose. It is most frequently used by reference to a set of standards

against which compliance can be assessed. The most common standards used to assess water

quality relate to health of ecosystems, safety of human contact and drinking water.

Different properties were analysed & compared during the course of the project.

# Literature Review

## 1 Total suspended solids

TSS is identified as a conventional pollutant in the U.S. Clean Water Act. TSS was earlier known as non-filterable residue (NFR). TSS is the dry-weight of particles which are trapped by a filter having a specified pore size.

To find TSS of a water sample, measured volume of water should be passed through a pre weighed filter having a specified pore size, then taking the weight of filter again after drying to evaporate the water in the filter paper. Filters composed of glass fibres are typically used for measuring TSS. The dry weight measure of the particulates present in the water sample is the gain in weight & it is expressed in units derived or calculated from the volume of filtered water.

## ***Data Collection Of Water Quality Analysis***

water quality data containing parameters like pH, Hardness, Solids, etc

### ***pH Value***

pH is basically a measure of the acidity or basicity of an aqueous solution. Solutions having pH less equal to 7.

Primary pH standard values are found out by using a concentration cell with transference, simply by measuring the potential difference between a standard electrode such as the silver chloride electrode & hydrogen electrode.

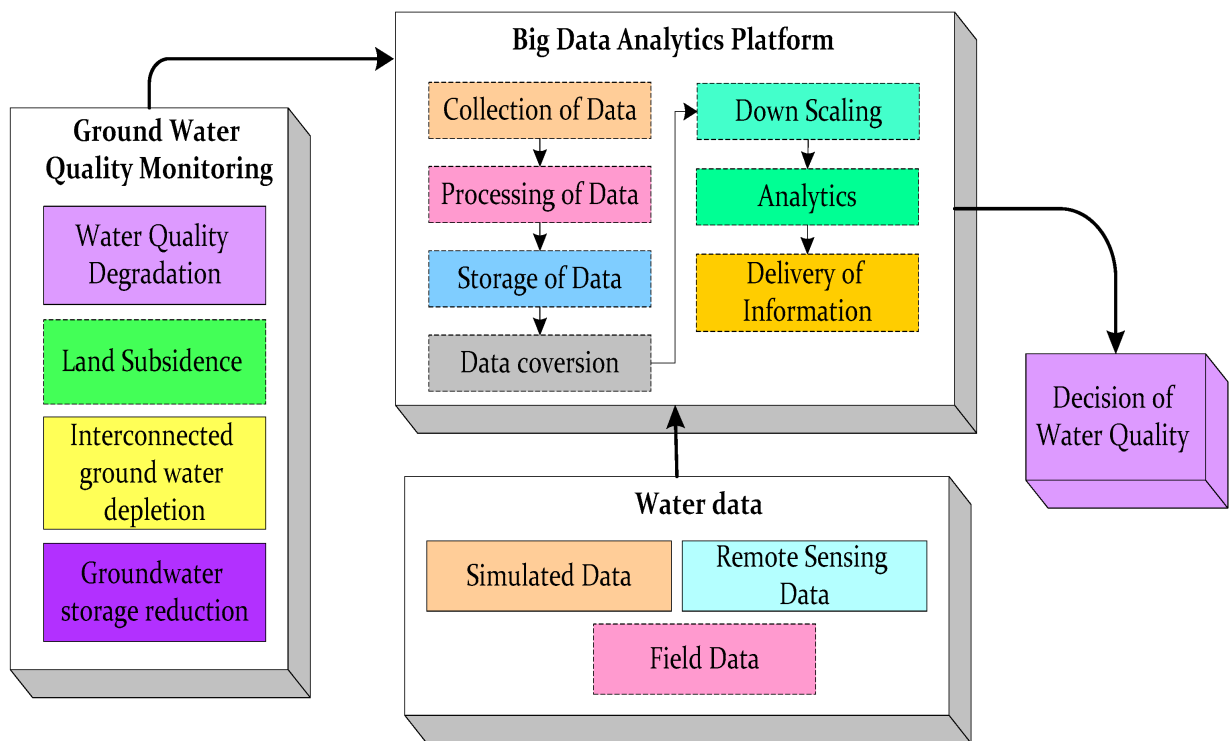
Measurement of pH for aqueous solutions can be done with a pH meter or a glass electrode. We can also find the value of pH by using indicators.

pH measurements have significant importance in the field of biology, environmental science, chemistry, medicine, oceanography, food science, agriculture, nutrition, civil engineering, chemical engineering, forestry, water treatment & water purification and many other applications.

# pH value

## Apparatus Required

1. pH meter
2. Beaker



## ***CONCLUSION***

- ☐ Conduction of preliminary survey in Bellur, Honakere, and Bindignavile Hoblies.
- ☐ Problems found in drinking water in Honakere, Arni, Bellur, Chamalapura, and Pura villages.
- ☐ No installations of filtration units in some villages.
- ☐ Some existing filtration units are not in working condition.
- ☐ Most of the villages are using non filtered water.

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