

RESEARCH PAPER:

## A study on water quality of river Gangi at Ara town

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### SUMMARY

The present study deals with the physical and chemical parameter of water like pH, TDS, TSS, DO, BOD, COD, alkalinity, phosphate, total hardness, Ca and Mg hardness, ammonia, nitrate, nitrite etc. in four selected sites of river Gangi at Ara town (Bihar). The physico-chemical characteristics of river Gangi water sampled from selected site were analyzed in mg/L for period of April, May and June months in the year 2009 according to International Standard (IS) of drinking water. There was in increasing order all the parameters except DO in April to June months

### Key words :

Water quality, Gangi river, Pollution

Water is the most important natural resource for substances of life on biosphere. It is the medium in which all living processes occur. Water dissolves nutrients and distributes them to cell, regulates body temperature, supports structures and removes waste products. About 60% of our body is water. We can survive for weeks without food, but not only a few days without water. The quality of water is vital concern for mankind since it is directly linked with human welfare. It is a matter of history that faecal pollution of drinking water caused water borne diseases, which wiped out entire population of cities. At the present menace of water borne diseases and epidemic still looms large on horizons of developing countries; polluted water is a culprit in all such cases. The major sources of water pollution are domestic waste from urban and rural areas, and industrial waste, which are discharged in natural water bodies. The history of human civilization reveals that water supply and civilization are almost synonymous. Several cities and civilization are having dispersed due to water shortage originating from climate changes. Millions of people all over the world, particularly in developing countries are losing their lives every year from water borne diseases.

Ara town, which is district headquarters of Bhojpur district of Bihar is situated between 25° 30' N to 25° 45' N latitude and 85° 30' E to 85° 45' longitude. The Gangi river is the most important water resource for domestic,

industries and irrigation use in this region. The river Gangi is perennial river and tributary of the Ganga river. The Gangi river takes its origin from the Ganga near Keshavpur at Barahara block of Bhojpur district, which is at about 10 km distance from Ara town. Again it meets in the Ganga river near Buxar district of Bihar. Run off in the river depends on rain fall in catchments.

### Study area:

The sites in river Gangi were located under Ara town. Four sampling sites namely, site-I (Mathwalia), site - II (Gangi bridge), site - III (Majhauan) and site - IV (Chandwa Mor) were selected for present study based on varying human activities, sewage discharge and other activities.

### MATERIALS AND METHODS

The study was carried out from April to June months in the year 2009. Water samples were collected for physico-chemical parameters analysis from four selected sites of Gangi river, Ara. Water samples were collected in 2L capacity of polythene bottle from selected sampling station in early hours of day. All tests are conducted in the water testing laboratory within the stipulated period of each performed parameter. The water samples were analyzed as per the method described by ISI (2004), WHO, Trivedi *et al.* (1986).

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