

# STUDIES ON ABIOTIC AND BIOTIC PARAMETERS OF A FISH POND OF SAHARSA DISTRICT, BIHAR

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## Abstract

The present study was conducted in a pond of Saharsa district of Bihar during April 2018 to June 2019. The physico-chemical and the biological parameters were analyzed by using standard methods. The parameters considered were Colour, Odour, Temperature, pH, Turbidity, EC, TDS, TA, TH, Mg<sup>2+</sup> hardness, Ca<sup>2+</sup> hardness, Nitrate, Phosphate, DO, BOD and Chloride.

During the study the colour and the odour of the water bodies were recorded as normal one. Temperature was 32°C- 10°C . the pH was recorded 6.9-8.6 during the study period. Turbidity found 20 NTU -1.2 NTU. The EC was high in the winter and low during the summer. TDS recorded high at site 1 and site 2 during monsoon season. At some site TDS values recorded high 1445 mg/l during the summer also. The minimum TDS was recorded as 342.4 mg/l at site 1 during the winter. Total Alkalinity was recorded high (360 mg/l) during winter at site 4 and minimum was recorded during monsoon at site 2. Dissolved Oxygen recorded maximum 12.47 at site 2 and the minimum 0 at site 4. There was sewage water and other effluents released into the pond t site 4, which may be one of the reason forgetting zero value of DO.

BOD also recorded high at site 4. Among biological parameters phytoplankton and zooplankton were counted by using Sedwitsch rafter chamber. The total count per ml and per liter was calculated for all the four sites. There are total 33 plankton species per ml were recorded. Out of this 27 were phytoplankton while rest zooplankton species. Among phytoplankton Chlorophyceae were more abundant during monsoon season while Bascillariophyceae were recorded maximum during the summer and winter season. Plankton (both phytoplankton and zooplankton) shows correlation either positive or negative with physico-chemical parameters especially against temperature, pH, Turbidity, Total hardness, Total Alkalinity, DO, BOD and Nitrates. The site 3 and the site 4 shows some signs of eutrophication.

## Key words

Physico chemical parameters, Saharsa pond, Biological parameters, Water quality

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