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WATER POLLUTION CAUSING ENVIRONMENTAL HAZARDS IN RAIPUR CITY, CHHATTISGARH

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Abstract

The impact of water pollution on aquatic life and land life can be devastating. The study area Raipur City (C.G.) had 120 tanks in past but at present less than 50 tanks remain and they are struggling for existence. The water in these tanks is polluted and is not used for drinking purposes but used for fish culture and other purposes. In the present study 13 tanks have been selected and 39 water samples have been collected from three places at each tank, were fourteen parameters were determined, namely – DO, pH, TDS, TH, Conductivity, Salinity and Temperature, by using digital DO meter and Water and Soil Analyses Kit. Sulphate and Phosphate are determined by Spectrophotometer. Chloride, Calcium and Magnesium have been determined by titration method and Na and K were determined by Systronics Flame Photometer. Humans taking bath along with animals in these tanks has caused "Rino Sporodiosis". Persons using the water from these tanks are suffer mainly from stomach and skin diseases. In some of these tanks waste liquid flows and solid waste materials are dumped. Few tanks are covered by aquatic plants. Water colour is not only dirty (all most translucent) but also gives a bad smell. All these above parameters vary from one tank to other tank and are co-relatable with the scenario of pollution. Dissolved Oxygen in water varies from 7.1 to 9.0 ppm and pH varies from 6.92 to 8.85. TDS varies from 0.22 to 1.36 epm, Salinity varies from 0.1 to 1.4 epm, Conductivity varies from 0.33 to 2.13 epm, Na and K varies from 0.10 to 0.29 epm and 0.05 to 0.93 epm respectively. Sulphate, Phosphate and Chloride varies from 0.109 to 0.685 epm, 0.28 to 3.39 epm and 109.90 to 422.21 epm respectively. Calcium varies from 40 to 205 epm, Magnesium 50 to 270 epm and Total Hardness varies from 90 to 333 epm. Surface temperature of tank water which varies from 27.5^{o} C to 31.4^{o} C. Present study indicates that water pollution in these tanks is mainly caused by anthropogenic activities which are responsible for environmental hazards. On comparisons of the water with the standards, it is concluded that the water is not suitable for drinking purposes.

Keywords: Water pollution, Environment, Tanks, Raipur City.