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Study of Drinking Water Supply and Quality with reference to Effects on Human-Health in Mahoba District

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ABSTRACT

Drinking water is the basic need for the human life it's quality should be as the Prescribed Indian Standards and W.H.O. but at Present it's supply is quite Contaminated, due to polluted riverine system as well as ground water has contamination due to toxic discharges on land such contaminated hazardous for the entire population. In the present study of Mahoba District which lacks River so the drinking cause serious diseases in human beings obviously. It is hazardous for the entire populations. In the present study of Mahoba District which lacks River so the drining water supply by Ponds and Tubewells both are contaminated. So scientific measures are suggested to rectify this problem.

1. Introduction

Bundelkhand Region is facing great crisis of drinking water and with contamination inspite of it the drinking water quality assessment has not yet been done in Chitrakoot Dham Division. In this region specially the district Mahoba is facing great shortage of drinking water, as it is not located on the river bank. So, drinking water for this city is supplied by pond Madan Sagar, some tubewells and handpumps, obviously suitable quality of water is not available for the city peoples.

At present the riverine system as well as ground water have become much polluted due to unwanted heavy contaminations which are due to increased population urbanization and advanced life style, which needs Industrilization besides it due to green revolution use of chemicals fertilizers pesticides insecticides and weedicides for that more irrigation is required for hybrid crops. Their leaching reach in rivers further domestic sewage also reach in the rivers. Besides toxic chemicals factory effluents & other leach and percolate through the soil. So even the ground water becomes contaminated and even highly toxic elements like Arsenic, Radon, Iron, fluoride etc. are also found in this water. In adition to these micro-organisms like coliform. E. colibacteria some pathogenic protozoans and algae are also found. Which are due to faecal matters and sewage with such contaminations the water is available for drinking water purpose which cause various serious diseases viz. Typhoid, Cholera, Hepatitis, Diarrhoea, Colic Problems etc.

The potential health is effected by consuming contaminated drinking water which range from minor to fatal. Inadequately treated drinking water could effect nervous system, organ damage, development or reproductive problems or cancer by consuming water containing Nitrates at sufficiently high levels can result in potentially fatal alternation sin hemoglobin of infants and very young children called blue baby syndrome.

Disinfection of drinking water is one of the major public health advances of the 21 century and has been a critical factor in reducing the incidence of water borne diseases including typhoid, cholera and gastrointestinal illness in the U.S. byproducts of disinfection have also been associated with potential cancer, although the extent of risk posed is still uncertain limiting concentrations of disinfection byproducts in drinking water. While ensuring that microbes are kept in check will have a positive effect on public health.

2. Methodology

The Physico-chemical parameters along with micro-organisms algae & zooplankton coliform bacteria have been analyzed as per the standard methods given in 1984 by American Public Health association (APHA). American water work association (AWWA) and pollution control federation.

3. Result

On testing the supply of drinking water from Madan Sagar, tubewells were analyzed physical factors pH, turbidity, colour, odour, chemical factors total hardness phosphate, sulphate, fluoride, CaCo3, D.O. and microbiological algae Zooplankton in winter season Nov Dec-06-Jan-Feb-07. It was found that Madan Sagar pond water contains various faecal coliform bacteria.

4. Discussion

Drinking water quality was assessed from the resources of the water supply which is by means of Madan Sagar pond, tubewells, handpumps for the period of winter season (Nov-Dec 2006-Jan-Feb-2007) various pollutants and toxic elements were found in Madan Sagar pond water which contains Physico-chemical and microbiological hazards. They are high turbidity Amonical Nitrogen Sulphates, Phosphates higher value of B.O.D., Zooplanktons faecal coliform bacteria, some harmful algae (Chlorophyceae, Cynophyceae, Bacillariophyceae and Xanthophyceae) were observed. Which cause various elements in human beings. Besides underground water supply also contains various injurious elements like Iron, Fluorides, lead, calcium, magnesium, carbonates, etc.

They are also quite harmful for the human body. The above pollution in pond water was due to domestic discharges bathing and washing activities throwing of the solid wastes. Further the underground water in Bundelkhand region is quite heavy due to calcium magnesium. Besides Iron, Chloride have bad effects on the population of Mahoba district.

Therefore to check this problem. So Scientific measures can be recommended for betterment of human life in this area.

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