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RESEARCH ARTICLE

Bacteriological studies on ground water quality in Kanpur city (U.P.)

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SUMMARY : The study was investigated on the groundwater quality in Kanpur metro with reference to microbiological assessment. Water samples from various residential areas (Higher Income Group, Minimum Income Group, Lower Income Group, Juggi Jhopari and Industrial area) of the Kanpur metro were subjected for the spectrophotometric method. The results have disclosed the elevated level of pollution present in ground water of residential area, Juggi Jhopari (JJ) and followed by Industrial Area (IA). These results can help the local authorities to take an action in term of remediation purposes.

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Water pollution is alternation in physical, chemical and biological characteristic of water, which may harm humans and aquatic biota. Although it is more difficult to pollute ground water than surface water because the soil can either stop the pollutant reaching ground water or help to reduce its concentration. Many of our activities affect it adversely. Chauhan (1998) presented an extensive review of groundwater pollution in India from various factors. In and around urban areas, domestic and industrial effluents, septic tanks solid waste refuse dumps and their leachates are the potential sources of ground water pollution and also accidental spillages may lead to groundwater contamination. In rural areas, where extensive agriculture is done, many natural and man-made factors contribute to groundwater pollution. The extensive use of fertilizers, pesticides like insecticides, herbicides, rodenticides, miticides, processing wastes and animal wastes etc. contribute to groundwater pollution. Leachates from agricultural land containing nitrates, phosphates and potash move towards with percolating water and join the aquifers below posing danger to the groundwater. The quality of water available to man has received the earliest attention and over the years. Safe drinking water and sanitation facilities provided although not 100 per cent in the country is reported to have considerably brought down the incidence of diseases such as cholera, typhoid, dysentry and diarrhoea (Wishwakarma, 1993). Diarrhoea remains one of the commonest illness of children and also a leading cause of childhood mortality in developing countries. It is estimated that over 1,000 million episodes and 3 million deaths occur each year among children of less than five years of age in the developing countries (WHO, 1993). Comprehensive national and international studies have been carried out. The planned growth of urban centres in developed and less developed nations have resulted in the development of unplanned settlements without formal water supplies or sanitation. The urban centres with their factories and large population place an enormous strain on local rivers and aquifers. Khan *et al.* (1994) studied the different pollutants and degradation patterns of the leachate produced from the refuse of ITI Kharagpur Township and reported that different pollutants attained peak values at different times and manifested high rates of self-purification.