Study of Water Quality Along Pazhayar River Basin at Nagercoil, Kanyakumari District, Tamil Nadu

S. Bhagavathi Perumal, P.Thamarai and L. Padma

The Rajaas Engineering College, Department of Civil Engineering, Vadakangulam, Tirunelveli-627 116

Delineation of Groundwater Potential Zones by Using Electrical Resistivity Survey of Muddanur Mandal, Y.S.R. District, Andhra Pradesh

G. Sudarsana Raju and G. Sreenivasa Reddy

Yogi Vemana University, Department of Geology and Geoinformatics, Kadapa-516 003

Electrical resistivity studies at 56 locations in and around Muddanur area has been carried out. The main lithological units in the study area are quartzites, shale and limestones. The data were interpreted with the help of master curves and auxiliary point charts. Interpretations of VES were used to generate aquifer resistivity contour map and depth to basement map. Resistivity results were correlated with the existing lithology. Based on the aquifer resistivity contour, depth to basement, a groundwater potential map has been prepared in which good, moderate and poor zones are classified. The study reveals that the weathered and fractured portions in shale and limestone that occur in the central portion of the study area constitutes the productive water bearing zones classified as good groundwater potential zones.

Effect of Pollution of Dissolved Oxygen Concentration in Seer Stream of Shivalik Himalayas

D.K. Gautam and M.R. Sharma

Govt. Polytechnic, Hamirpur - 177 030

This paper addresses the effect of pollution on dissolved oxygen content (DO) in a Shivalik Himalayan stream during early hours of day in the summer season (May, 2009 - June 2010). The study showed that the dissolved oxygen in the stream is below 4 mg/L in a stretch of 2600 m and, therefore, water is not fit for public supply, bathing wildlife and fish culture.

Generated Household and Temple Waste in Chitrakoot, Their Management and Impacts in River Mandakini

Aprana Singh, Ganshyam Gupta and Amar Singh

Mahatma Gandhi Chitrakoot Gramodaya Viswavidyalaya, Faculty of Science and Environment, Chitrakoot - 485 780, Satna

The present paper deals with the characterization of solid waste. Being solid waste a direct consequence of the daily activities of our societies, it is important to understand how their main characteristics evolve in time quantitative and qualitatively. The characterization of solid waste is a tool that allows getting together important information to the study and applicability of suitable and efficient management models, mainly in what concerns the gathering, transport, valorization and treatment of waste. In the scenario of solid waste management, most significant is the problem found at household level solid waste generation. During the study period Chitrakoot Nagar Panchayat, the MSW composition was found as polythene (10.12%), plastic (4.78%), rubber (3.70%), metals (2.84%), glass (4.08%), wood (5.55%), cotton and cloths (4.29%), paper and cardboards (7.77%), vegetable wastes (11.66%), soil and constructional wastes (29.87%), garden waste (9.73%), rags (2.29%) and ash (3.32%). The extent of biodegradable part was found 44.61% in Chitrakoot. In face of unavailability and inaccessibility to municipal bins and waste collection system, most of the households, shops and establishment throw their waste just outside their premises on the streets or any dumping site available nearby. For treatment composting technology found suitable. The changes in nutrient values of N, P and K of Chitrakoot waste was found from 1.04 to 1.51, 0.63 to 0.94 and 0.92 to 1.09%, respectively in the presence of activator.

Seasonal Variation of Physico-chemical Parameters and Water Quality Indexing of Harike Lake

K.S. Parmar, Priyanka Chugh, Preeti Minhas, Rasmi Bhardwaj and H.S. Sahota

Guru Gobind Singh Indraprastha University, Department of Mathematics, School of Basic and Applied Science, Kashmere Gate, Delhi - 110 006

River water is attracting the attention of government, public, Ngo's and environmentalists all more than ever before. This is in particular so as the dissolved solids percolate to underground water during recharge. All human activities tend to pollute the river waters with domestic, industrial and agriculture wastes. The underground water thus get inferior and unsuitable for drinking particularly when soluble ions get into the ground water resources. Arsenic, fluorides, nitrates in particular are found at many places above the tolerable levels. This paper deals with river water of Beas and Sutlej in Punjab are examined with the help of 16 parameter, namely 6 cations, 5 anions beside DO, BOD, TDS, pH and conductivity. Area

chosen for the study was the confluence of the two main rivers of Punjab, namely Beas and Satluj at Harike in the form of Harike Lake. All the water quality parameters were estimated following standard methods and procedures. Water of the Lake has been found to be severally contaminated during 2007-08. The water is not fit for drinking and for industrial use.

Assessment of Ground Water Quality in and Around Tiptur Town, Tumkur District, Karnataka

S.B. Basavaraddi, Hina Kouser and E.T. Puttaiah

Kuvempu University, Department of Environmental Science, Shankargatta - 577 451, Shimoga

Man needs water for domestic, agriculture, commercial, industrial and recreational purpose. The water used by him should be good in quality. The intensity of mans activity and diversity and the magnitude of waste introduced into the environment as a consequence, are increasing at an accelerating rate with improvements in technology, advance in industrialization and explosive population growth. These discharges of waste products create a significant impact on environment and affect all living beings including man. The basic aim of an environmentalist is to control and deviate such adverse changes in the environment. The physical and chemical methods are concerned with a variety of procedures, each applicable to the particular situations. In many instances a combination of chemical analysis is needed to obtain a reasonably accurate picture of the water. Many of the chemical methods serve as indices of past pollution of organic origin. With the advantage of chemical research and developed technology, it has been possible to analyze water quality parameters. Ground water samples were collected from different locations in and around Tiptur town, Tumkur district, Karnataka were analyzed for their physico-chemical characteristics. This analysis result was compared with the WHO and ICMR standards of drinking water quality parameters with the following water quality parameters, namely pH, electrical conductivity, total dissolved solids, chloride, fluoride, turbidity and total hardness, calcium, magnesium, iron, alkalinity, nitrite, phosphate, sulphate, etc. The usefulness of these parameters in predicting characteristics was discussed. Thus an attempt has been made to determine the quality of ground water of Tiptur town and its surrounding areas to ascertain its suitable for drinking purpose.

Statistical Assessment of Water Contamination and Effect of Different Seasons in Eastern Doon Valley

M.K. Singla, I.P. Pandey and Vishal Aggarwal

D.A.V. (P.G.) College, Department of Chemistry,Dehradun

In the present paper water quality of eastern Doon Valley was assessed. The evaluation of water quality of different localities of Raipur block was studied in the different months throughout the year. WQI for drinking water of the eastern Doon valley has been calculated with the help of estimated values of different physico-chemical parameters, such as pH, turbidity, conductivity, alkalinity, hardness, DO, BOD, COD, Ca^{+2}, Mg^{+2} and heavy metals, like Fe^{+2}, Mn^{+2}, Pb^{+2} and WHO drinking water quality standards. Estimated higher values of different parameters verify the results of contamination which can be compared with the values of WQI based on Natural Science Foundation Studies. It was observed that some harmful chemicals are hindering the growth of vegetation in Doon valley. But in Doon Valley the industrial effluents are very low as there are no harmful industries around the study areas. The ground water contains salts which are derived from the location and movement of water. The main purpose of analyzing the physico-chemical and toxicological parameters of water is to determine its pollution status. After analyzing, it was concluded that ground water sources in Raipur block is hygienic and safer in all senses to be used for drinking or other domestic purpose without any specific treatment whereas, the surface water of Rispana river which is near the Raipur Region need some treatment before use. The people dependent on this water are often prone to health hazards due to contaminated drinking water.

Assessment of Water Quality and Plankton Diversity of Senkulam Pond in Thiruthangal, Virudhunagar District, Tamil Nadu

S. Balaji and S.P. Sevarkodiyone

Ayya Nadar Janaki Ammal College (Autonomous), Post graduate and Research Department of Zoology, Sivakasi-626 124

Zooplankton diversity is one of the most important ecological parameters to assess the water quality. Zooplanktons are extensively used as indicators due to their changing pattern of diversity and it is an emerging concept in environmental management, like environmental impact assessment (EIA). Water quality has detrimental effect on plankton density and its species diversity. In this present work various physico-chemical parameters and diversity of plankton were analysed for a period of 7 month from August 2009 to February 2010. Six species of phytoplankton and 15 species of zooplankton were observed in the study. The observed phytoplankton families were chlorophyta, cyanophyta, pyrrophyta and the zooplankton families were rotifera, cladocera, copepoda and ostracoda. Seasonal fluctuation of planktons was noticed in this study. The pond was highly polluted with discharge of many pollutants from domestic sewage, industrial waste and thus the chemical parameters of the pond were noticed to fluctuate and showed adverse effect on the diversity of plankton.

Rotifers and cladocerans were dominant families of planktons, occurred during both the pre-monsoon and post-monsoon periods. Abundance of cladocerans and the continuous existence of ostracodes indicates the poor quality of water.

Study on the Physico-chemical Characters Sediment Minor Estuary of West Coast of India

T. Selva Mohan and A. Palavesam

Sivanthi Aditanar College, Department of Microbiology, Pillayarpuram, Kanyakumari–629 501

Physico-chemical characteristics estuarine sediment samples collected in 4 sampling stations were studied in 2001.During this study pH, nitrate, phosphorus, iron, zinc, copper and potassium were analyzed following the standard methods described in APHA (1988). Mean monthly values indicated the station dependent variation of the tested sediment quality parameters. Seasonwise pooled data also indicated its influence on the tested parameters.

Subsurface Water Quality of Challakere Taluk, Karnataka

H. Manjunatha, H.B.Arvinda and E.T. Puttaiah

Kuvempu University, Department of P.G. Studies and Research in Environmental Science, Shankaraghatta - 577 451, Shimoga

The present study deals with the physico-chemical characteristics of subsurface water quality in Challakere taluk. Water samples were collected from different identified bore wells for the purpose of studying the quality of groundwater during November 2009. The bore wells from which the samples were collected are extensively used for drinking purpose. It has been proved from the present investigation findings that value of few parameters fall-out of the permissible range with reference to BIS (1998) drinking water quality standards. Hence, suggested to take proper care to avoid contamination of groundwater pollution through periodic monitoring of the water quality.

A Statistical Assessment of Water Quality of Ponds: A Study of Vadodara City

Bindu Bhatt, Shivani Vyas and Suhrud Pendse

The Maharaja Sayajirao University of Baroda, Department of Geography, Faculty of Science, Vadodara - 390 002

The quality of surface water is a very fundamental issue as anthropogenic and natural processes influences and degrades it. Water monitoring for different purpose is well defined, but the overall water quality assessment is complicated with large number of samples. One of

the several methods to describe the quality of a given water sample is to list out the concentrations of everything that the sample contained. Water quality index based on some very important parameters and provides a simple indicator of water quality. It serves as statistical assessment to transfer large quantities of water characterization data into single value. The present study aims at analyzing physico-chemical parameters of pond water (pre and post monsoon season) in Vadodara city and calculate water quality index.