

Pollution in groundwater and its remedy

Editors

C.Singaraja
G.Johnsonbabu
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WATER QUALITY ASSESSMENT OF RICE MILL ZONES AT ARANI IN TAMILNADU, INDIA

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Abstract

Sub-surface water samples of Bore wells, Hand pumps and Surface water samples of Ponds, Lakes and Rivers collected from 20 different locations in Arani town in Tiruvannamalai District, Tamil Nadu was analyzed for their physiochemical characteristics. The present study was undertaken to characterize the physiochemical parameters such as Total Dissolved Solids(TDS), Ph, Electrical Conductivity(EC), Chloride(Cl), Calcium(Ca), Phosphate(PO₄). Each parameter was compared with its standard permissible limit as prescribed by World Health Organization (WHO) and Bureau of Indian Standards (BIS). Also, to know the type of pollution occurred and prepare a pollution map using Geographical Information System

Key words: Physio-chemical, water quality, Interpolation in GIS

INTRODUCTION

Water is an indispensable natural resource on earth. Safe drinking water is the primary need of every human and also their basic fundamental right. Fresh water has become a scarce commodity due to over exploitation and pollution of water. Ground water is the most important source of water supply for drinking, agriculture, irrigation and industrial purposes. In the past few decades due to population growth, rapid urbanization, and industrialization, water quantity and quality has been deteriorated especially in the developing countries such as India. As the water is an important part of the hydrological cycle, it is more prone to various sources of contamination. In India, industry is the second highest consumer of water. The main sources of water for the industrial sector are groundwater and surface water. Groundwater has emerged as an important source to meet the water requirements of industries. Industrial water demand has been increasing with the pace of industrial development. The growth in some of the water intensive industries has been quite significant, putting further pressure on the industrial demand for water. (Mosaferi et al, 2014, Khatri and Tyagi, 2015, Talalaj and Biedka, 2016, Yihdego, 2017, Teta and Hikwa, 2017, Odiyo and Makungo 2018)

Enhancement of Sustainable Transport for Urban Roads in Metro Cities

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Abstract-Transport is often confined as a vital part of industrial growth of any country .Due to rapid urbanization and transformation of a country, typically contribute to usage of land and transportation. Transportation of an any developing country is economically and environmentally unsound due to mixed traffic conditions. This paper will endure the Hyderabad traffic conditions as a case study that is that the major and rapid growing urban and economic centre of the state, passing through associate uncontrolled phase of fast urbanization. The paper initial reviews an associated with sustainable transportation systems to recognize the construct of sustainable development and transportation. The paper then evaluates the prevailing transport and infrastructure system, national transportation policies. Atlast some sustainable strategies were adopted for the urban development and transportation system in Hyderabad

Key Words: Sustainable Development, Urbanization

1. INTRODUCTION

City and state governments to board on a sustainable and reasonable urban mobility pathway for sustainable and fair growth. The National Urban Transportation Policy (NUTP), launched in 2006 and revised in 2014, plan to provide good mobility and sustainability by focusing on peoples mobility . The policy predict an urban mobility framework that is related, and is right to the social and geographical economic needs of our cities and citizens. However, the progress in implementation of the NUTP in our cities is far from satisfactory. Change needs to happen before Indian cities double in population by 2050 (World Economic Forum, 2016). The present focal point is on building roads and flyovers to cater to the everincreasing vehicular traffic of India. something is missing in sufficient infrastructure for moving people through means, such as bicycle tracks and dedicated pedestrian pathways. Even where such infrastructure is available, it is not being used to its complete extent. The pattern of urban growth in terms of urban sprawl has resulted in an even higher demand for motorized travel. The need of the hour is to focus on public transportation (PT) in India, especially, low carbon non-motorised transport (NMT). As income levels raise, people too seek to shift to private transport, due to irregularity and unpredictability of public transport. As a result, the use of such attractive modes of transportation (non-motorised transport or public transportation) is declining and the use of undesirable modes (i.e. car and 2-wheelers) is growing. To keep India walking, the government needs to supervise an incremental and mixed mode approach for a transition into a low carbon pathway.Cities and states needs to be active and may consider following intervention for sustainable urban mobility solutions Sustainable transport implies the broad area of research in transportation. Which attain sustainable in areas of social, environmental and climate

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Chapter 9

Numerical Modeling for Groundwater Recharge



Marykutty Abraham, Priyadarshini, and Kavisri Manikannan

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9.1 Introduction

Excessive resource utilization, uncontrolled urban and industrial discharges, and agricultural intensification are causing increasingly widespread degradation of aquifers. Conserving water by recharge and managing the natural resource by artificial recharge are very important for meeting the challenges of twenty-first century (Pande and Moharir 2015; Pande et al. 2018; Pande and Moharir 2018; Pande 2020a, b, c, d). The frequent occurrence of water crisis in many regions of the world is not due to scarcity alone, but it is mainly due to the poor water management practices (Pande et al. 2017, 2019a, b). Groundwater levels continue to fall beyond

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