Riverine environment and its dynamics:

Challenges, issues and sustainable managements

'Riverine environment and its dynamics: Challenges, issues and sustainable managements' is the title of the book and is depicting the challenges of contemporary riverine environment. River is a natural resource that is inevitable to prosper all the civilizations. Such studies are nothing but the engine for analysing economic development including the sustainable environment. Degradation of river-floodplain systems is of serious concern. River and riverine landscape degradation is rapidly exaggerating over time and is becoming a political issue associated with socio-economic implications. This book offers an insight into the basin management i.e., basin morphometric characteristics, water resource, species diversity, land use and land cover changes, and also landscape evolution. Many of the scholars are especially recognized and specialized in the studies of riverine environments and the book is not an exception. As riverine landscapes are depending largely on hydrological conditions and hydraulics of the channel, the studies on morphometry, surface and subsurface ground water storage with seasonal hydrological dynamics are of prime focus to maintain the ecological integrity. The book will be helpful for the researchers, planners and different stakeholders.

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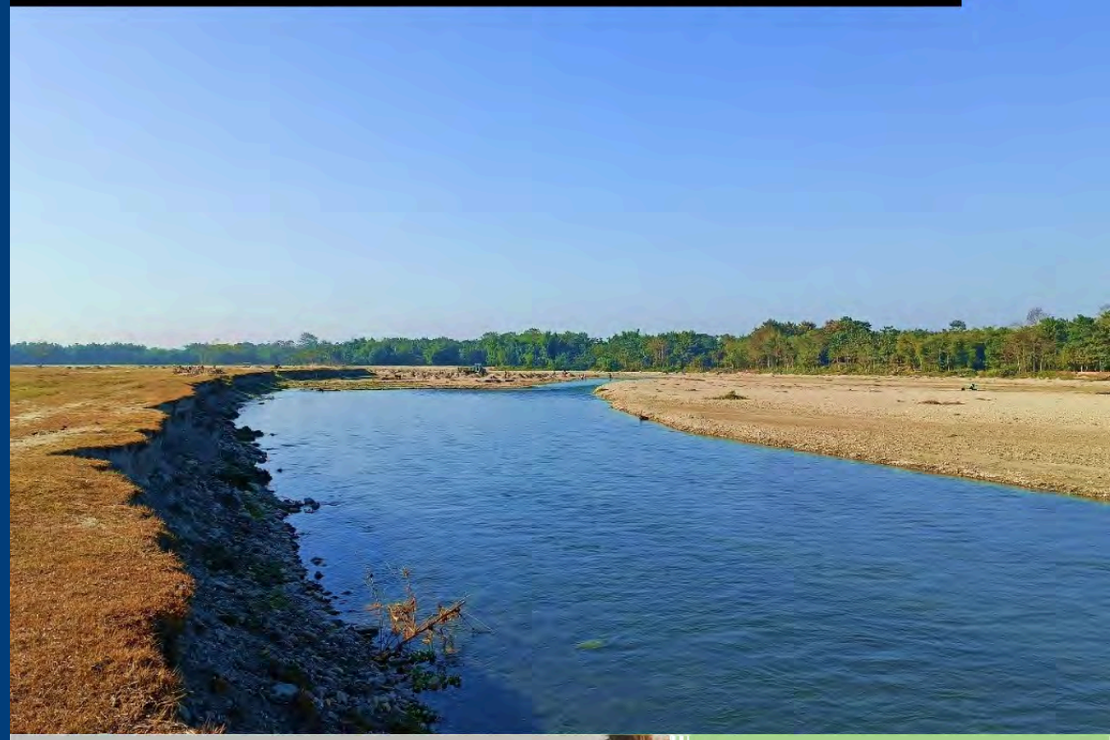

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Contents

Chapter-9

Water Quality Assessment of the Mahananda River in Sub-Himalayan Foothills Regions of India

Sujoy Kumar Malo[1] & Dr. Snehasish Saha[2]

Abstract

The Physico-chemical characteristics were supported by a recent study determining the quality of water in the Mahananda River. While assessing water quality, pH, dissolved oxygen (DO), temperature, biological oxygen demand (BOD), nitrate, fecal coliform, total coliform, and conductivity were taken into account. Samples were taken from three distinct locations along the river, and temporal data was collected from 2009 to 2016 to be analyzed using various statistical approaches. The majority of the parameters in our analysis surpassed the highest allowed standard value set by the CPCB. Especially the people of Siliguri are mostly captivated by river Mahananda to meet their needs for drinking and numerous household uses regularly, but the river's state is currently very poor due to several water pollution problems. The Physico-chemical properties of the Mahananda River are Miserable due to unpurified sewage, garbage, and rapid urbanization of the Siliguri municipal area. This glance gives a general overview of the present problems with water in the river adjacent area. This study may be the simplest way to communicate with the people and the policymakers.

Keywords: Sewage, Urbanization, Mahananda River, Tal, Diara

1. Introduction

Throughout history, surface water resources have played a critical role in the advancement of human civilization. Natural features such as lakes, rivers, and canals provide nearly a third of the world's drinkable water demand. However, these sources are the most efficient sinks for injecting both residential and industrial waste (**Mishra, 2012**). In the last few decades, the rapid population increase and industrial development induced by the significant propagation in the demand for freshwater have brought enormous

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