

IMPACT OF CLIMATE CHANGE

BIODIVERSITY & ENVIRONMENT

Ajay Kumar Vashisht
Anila George



Impact of Climate Change Biodiversity and Environment

Ajay Kumar Vashisht

*Associate Professor, Department of Irrigation and Drainage Engineering,
College of Agricultural Engineering and Post-Harvest Technology,
Central Agricultural University, Ranipool, Gangtok, Sikkim*

Anila George

*Assistant Professor, Department of Environmental Sciences,
St. John's College, Anchal, Kerala*

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Chapter 8

Water Quality Assessment of Selected Sites of Ithikkara River of Kollam District, Kerala with Special Reference to Bacteriology

Anila George, P. Bindhu and S. Sreethi

PG Department of Environmental Science, St. John's College, Anchal, Kerala
e-mail: anila.george44@gmail.com

A study was made for evaluating the water quality of Ithikkara River during various seasons such as pre-monsoon, monsoon and post-monsoon of 2016-2017 based on the data collected at six stations. Water samples were collected and analyzed for various physico-chemical and bacteriological characteristics of Ithikkara River, Kollam district, Kerala. Parameters such as temperature, pH, conductivity, salinity, total dissolved solids, total alkalinity, total hardness, calcium hardness, magnesium hardness, nitrate, phosphate, sulfate, sodium, potassium were analyzed. Physico-chemical parameters assessed were well within the recommended standards (IS 10500, 2012). The study reveals that the river was polluted with bacterial pathogens. Different bacterial species like *E. coli*, *Enterobacter*, *Proteus*, *Pseudomonas aeruginosa*, *Shigella*, *Pseudomonas species*, *Klebsiella*, *Staphylococcus*, *Salmonella*, *Vibrio cholera*, *Vibrio parahemolyticus*, *Acinetobacter anitratus*, *Streptococcus* were isolated and identified. Bacterial contamination shows that river water is polluted with domestic, sewage, industrial and hospital wastes.

Introduction

Rivers are the most important freshwater resources and primary wealth of a nation and most of the developmental activities are still depending upon them (Suresh *et al.*, 2006). Rivers have a vital role in incorporating and organizing the landscape, and molding the ecological setting of a basin (Nikhil and Azeez, 2009).