

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*

2021

Associated Publishing Company®

A Division of

Astral International Pvt. Ltd.

New Delhi – 110 002

© 2021 EDITORS
ISBN : 978-93-89719-38-3

Publisher's Note:

Every possible effort has been made to ensure that the information contained in this book is accurate at the time of going to press, and the publisher and author cannot accept responsibility for any errors or omissions, however caused. No responsibility for loss or damage occasioned to any person acting, or refraining from action, as a result of the material in this publication can be accepted by the editor, the publisher or the author. The Publisher is not associated with any product or vendor mentioned in the book. The contents of this work are intended to further general scientific research, understanding and discussion only. Readers should consult with a specialist where appropriate.

Every effort has been made to trace the owners of copyright material used in this book, if any. The author and the publisher will be grateful for any omission brought to their notice for acknowledgement in the future editions of the book.

All Rights reserved under International Copyright Conventions. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without the prior written consent of the publisher and the copyright owner.

Published by : **Associated Publishing Company®**
A Division of
Astral International Pvt. Ltd.
– ISO 9001:2015 Certified Company –
4736/23, Ansari Road, Darya Ganj
New Delhi-110 002
Ph. 011-43549197, 23278134
E-mail: info@astralint.com
Website: www.astralint.com

Digitally Printed at : **Replika Press Pvt. Ltd.**

Contents

<i>Foreword</i>	v
<i>Preface</i>	vii
1. Environment and Climate Change: Kerala Scenario <i>Jude Emmanuel</i>	1
2. Current Status of Water Resources in Kerala <i>Anila George</i>	7
Impact on Groundwater	
3. Analysis of Physico-chemical Characteristics of Groundwater Samples of Pallikal Grama Panchayat, Thiruvananthapuram, Kerala <i>Jasmeya Beevi, M.V. Vincy and Brilliant Rajan</i>	19
4. Analysis on the Bacteriological Contamination in Groundwater Owing to Sewage Pollution: A Case Study <i>S.B. Swathy, V. Smitha Asok and V.S. Faseela</i>	25
5. Study on the Drinking Water Issues of a Coastal Locality of Purathur, Malapuram, Kerala <i>P.S. Sudina and Jainy Varghese</i>	29
6. Distribution of Heavy Metals in Sediment Samples of Aquifers in Chavara, Kollam <i>D. Meera and Sherly P. Anand</i>	35

Chapter 2

Current Status of Water Resources in Kerala

Anila George

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

Kerala lies on the Southern Western coastal region of India between latitudes of 8°15' and 12°50' N and between 74°50' and 77°30' E longitudes. It is a narrow strip of land covering an area of 38863 km², which accounts for about 1.2 per cent of total geographical area of country. It is hemmed in between Western Ghats in the East and the Arabian Sea in the West, Tamil Nadu in the South and Karnataka in the North. Kerala has an undulating topography and is divided into three distinct geographical regions *viz.*, highland, midland, and lowland.

Physiography of Kerala

The physiographic divisions of Kerala are presented in Figure 2.1. Highland region of the Kerala lies in the range of 800-2700 m above mean sea level for an areal stretch of 75 m. It covers approximately 48 per cent of the total area of Kerala. The highest peak (*i.e.* 2695 m) in South India is Anamudi (Kerala). The highlands are suitable for the cultivation of cardamom, tea, coffee, pepper, ginger, and turmeric. Most of the rivers originate from the Western Ghats.

Midland region of Kerala (41.76 per cent of the total area) extends in a stretch of 7.5-75 m in the elevation range of 300-700 m above mean sea level. This is an area of intensive cultivation of coconut, areca-nut, tapioca, banana, rice, ginger, pepper, and sugarcane.