



Environment and Sustainable Development

Problems, Prospects and Mitigation

(ESDPPM)

Edited by

Dr. Debabrata Das

Dr. Pampi Ghosh

Dr. G. Maheswari

 Bharti

**Environment and Sustainable Development
Problems, Prospects and Mitigation**

—(ESDPPM)—

Edited by

Dr. Debabrata Das

Dr. Pampi Ghosh

Dr. G. Maheswari



Bharti Publications
New Delhi- 110002 (INDIA)

Copyright © Editors

Title: Environment and Sustainable Development:
Problems, Prospects and Mitigation (ESDPPM)

Editors: Dr. Debabrata Das | Dr. Pampi Ghosh | Dr. G. Maheswari

All rights reserved. No part of this publication may be reproduced or transmitted, in any form or by any means, without permission. Any person who does any unauthorised act in relation to this publication may be liable to criminal prosecution and civil claims for damages.

First Published, 12 Sep, 2022

ISBN: 978-93-94779-43-3

Published by :

Bharti Publications

4819/24, 2nd Floor, Mathur Lane

Ansari Road, Darya Ganj, New Delhi-110002

Phone: 011-23247537

Mobile : +91-989-989-7381

E-mail : bhartipublications@gmail.com

info@bharatipublications.com

Website : www.bhartipublications.com

Printed by: Sagar Color Scan, Delhi

Disclaimer: The views expressed in the book are of the author and not necessarily of the publisher and editors. Author themselves are responsible for any kind of Plagiarism found in book and any related issues found with the book.

Contents

<i>Preface</i>	iii-iv
<i>Messages</i>	v-ix
<i>Editorials</i>	x-xii
1. In Vitro Efficacy of Mancozeb on <i>Fusarium oxysporum</i> Causing Wilt of Chilli Sowmya G.H, Rajeshwari N & Ramesh Babu H.N	1-7
2. Investigation on Rhizosphere Mycobiota of <i>Arachis hypogaea</i> in Davanagere Region of Karnataka, India Shaila M & Nafeesa Begum	8-21
3. Study on Aquaponics and Organic Farming (Fish and Plant Culture) Pond Nearer to Gajwel Area S. Swapna, Basetty Vishnu & P. Sunitha	22-41
4. Effect of Sulphur Limiting Conditions on Plant Metabolism Rumdeep Kaur Grewal	42-47
5. Vermicompost as Organic Pond Fertilizer Ammanna V. H. F.	48-56
6. Globalization and Its Impacts on Biodiversity Dr. Rabindra Dey	57-65
7. Antioxidant and Cytotoxic Effects of Methanol Extracts of <i>Sesbania grandiflora</i> Flower Tharani M, Gunavathi V, Deepika E & Santhy KS	66-76
8. Phytotherapeutical Wealth of <i>Catharanthus roseus</i>: A Review Deepika E, Gunavathi V & Santhy KS	77-96
9. In Vitro Regeneration of <i>Glycyrrhiza glabra</i> L. Dipu Samanta & Samadrita Deb	97-106

10. **Intensive Agriculture as a Threat to Biodiversity and Recent Trends in Mitigating the Problem** 107-121
Mitu De & Santi Ranjan Dey
11. **Physical Growth and Nutritional Status of Tribal Adolescents in Jhargram, West Bengal** 122-132
Rituparna De & Jayanta Kumar Kundu
12. **Effects of Vermiwash on Plants** 133-141
Priyanka C, Pavithra M & Chitra P
13. **Invasive Alien Species in Indian Biodiversity** 142-151
Pavithra M & Chitra P
14. **An Enumeration of Some Drought Tolerance Angiosperms Surviving on Walls in Hooghly District, West Bengal** 152-162
Dr. Sujit Kumar Mandal & Mr. Rajesh Man
15. **Ramsar Wetlands in India: Its Type and Importance** 163-203
Dr. Bireshwar Bera
16. **Antiviral Compounds in Plants with Particular Emphasis on Covid-19** 204-220
M. Daniel
17. **Cyclone: An Overview** 221-226
M S Santhanambika & G Maheswari
18. **Bioindicators: A Budding Tool in the Prediction of Natural Calamities** 227-231
M S Santhanambika & G Maheswari
19. **Climate Change: Addressing its Effects, Assessments and Best Practices** 232-238
Hemen Biswas
20. **Vegetation Study and Ordination Analyses for Theory and Practice in Ecology** 239-256
Debabrata Das
21. **Problems and Prospects on Viral diseases: Pandemics and Epidemics with special reference to Covid -19** 257-271
Dr. Pampi Ghosh
- * *Photographs of Some Endemic Plants & Animals During Madagascar Expedition on July 2022.* 272-274

Bioindicators: A Budding Tool in the Prediction of Natural Calamities

M S Santhanambika¹ & G Maheswari²

¹Department of Zoology, Avinashilingam
Institute for Home Science and Higher
Education for Women, Coimbatore, Tamil Nadu

²Department of Zoology, Avinashilingam
Institute for Home Science and Higher
Education for Women, Coimbatore, Tamil Nadu

ABSTRACT

Animals possess vital receptors to detect the changes in the surrounding environment. They have the unique sense organs to perceive the earth's magnetic field change. Natural calamities such as earthquakes, volcanic eruptions, tornados, tsunamis, and avalanches produce the pneuma gasses and infrasound that insects and animals detect with special receptors to evade. Various reports and eyewitnesses data from different parts of the globe say that animals' unusual behavior before the calamities is the first sign in sensing the natural disaster compared to humans. The current chapter explains how insects and animals act as bio-indicators by sensing natural disasters.

Keywords: Animals, Natural Calamities, Predictions



Environment is the totality of our surroundings. It includes living and nonliving components of nature. All round holistic development of nature and environment is 'sustainable development'. It was emphasized by the UN Conference on Environment and Development (UNCED) which defined it as: 'Development that meets the needs of the present generation without compromising the ability of the future generation to meet their own needs'. Environmental sustainability is important because of how much energy, food and human-made resources we use every day. Rapid population growth and use of resources

- has resulted in a polluted environment, leading to more greenhouse gas emissions, unsustainable energy use, and deforestation and even malpractice that cause social pollution. So, need to identify the problems, highlight the prospects and finally mitigate the issues for a better healthy environment. As the environment performs our crucial functions, every citizen should know the situation and promptly work for a green, clean and healthy environment. The book, 'ESDPPM' highlights some basic information to know the present scenario of the environment.

About the Editors



Debabrata Das (b.1969) Ph.D. in Botany is presently working as Associate Professor of Botany and Head, Dept. of Botany, Govt. General Degree College, Lalgargh, Binpur-I, Lalgargh, Jhargram, W.B. He acted as IQAC Co-ordinator of the same College. He is a Govt. officer since 2002 under West Bengal Educational Service (W.B.E.S). He published more than 110 scientific research papers and authored 6 books. His working field is Ecology and Conservation Biology.



Pampi Ghosh (b.1974) Ph.D. is an Assistant Professor of Botany (S-3), Seva Bharati Mahavidyalaya, Kapgari, Jhargarm, West Bengal. She is working on various aspects like ethnobotany, taxonomy and soil AM fungi. She published more than 42 scientific research papers and authored 3 books.



G. Maheswari (b.1975) Ph.D. is an Assistant Professor (SS), Department of Zoology, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore, Tamil Nadu. Her field of specialization is 'Stored Product Entomology' and working in the management of stored product insects using physical, mechanical methods and botanicals. She authored many scientific research papers and editor of one book.



Bharti Publications, New Delhi

E-mail: bhartipublications@gmail.com, info@bhartipublications.com.
www.bhartipublications.com

ISBN: 978-93-94779-43-3



Price- Rs. 1280/-