



SCIENTIFIC
PUBLISHERS

Objective Environmental Studies and Disaster Management

M. Prasanthrajan
A. Balasubramanian



Objective
Environmental Studies
and Disaster Management

About the Authors



Dr. M. Prasanthrajan is presently working as an Associate Professor (Environmental Sciences) at Forest College and Research Institute, Tamil Nadu Agricultural University, Mettupalayam, Coimbatore, Tamil Nadu. He has handled Under Graduate, Post Graduate and Ph.D. courses in the field of Environmental Sciences to the Agriculture, Horticulture, Forestry, Agricultural Engineering, Agriculture Information Technology

students of Tamil Nadu Agricultural University. He has been trained in the field of Application Nanoparticles for environmental cleanup at University of California, Riverside, USA. He has published 45 research papers in peer reviewed National and International journals. He has obtained seven awards including two international travel grants. Dr. Prasanthrajan has visited Singapore, Thailand and Indonesia to share his research experience to the international arena. At present Dr. Prasanthrajan is developing biofloaters for lake cleanup and screening native tree species for controlling urban air pollution using mobile ambient air quality monitor.



Dr. A. Balasubramanian is presently working as a Professor and Head, Department of Silviculture, Forest College and Research Institute, Tamil Nadu Agricultural University, Mettupalayam. He worked at different capacities for past 20 years. He has rich experience in forestry research and has handled more than 21 research projects with the total budget of more than 05.00 crores. He is handling courses related to silviculture, forest

ecology and biodiversity, forest and climate change for under graduate, post graduate and doctoral degrees in Forestry and Agriculture. He has published 6 books, more than 150 research articles. He has visited about 15 countries and have strong research collaboration with Japan, Canada and United States. He has established modern research facilities for forestry research in his institute including mobile van based continuous ambient air quality monitoring system (CAAQMS) and precision tree farming. He has guided over 25 students in M.Sc. (Forestry) as well as Ph.D. (Forestry) research. Dr. Balasubramanian has awarded with more than 15 awards and honors at national and international level for his achievements in forestry research and education.

Objective Environmental Studies and Disaster Management

M. Prasanthrajan

A. Balasubramanian

*Forest College and Research Institute
Tamil Nadu Agricultural University,
Mettupalayam - 641301
Tamil Nadu*



Published by
SCIENTIFIC PUBLISHERS (INDIA)

Jodhpur –

5 A, New Pali Road
P.O. Box 91
Jodhpur - 342 001 INDIA

© 2018, Authors

All rights reserved. No part of this publication or the information contained herein may be reproduced, adapted, abridged, translated, stored in a retrieval system, computer system, photographic or other systems or transmitted in any form or by any means, electronic, mechanical, by photocopying, recording or otherwise, without written prior permission from the publisher.

Disclaimer: Whereas every effort has been made to avoid errors and omissions, this publication is being sold on the understanding that neither the editors (or authors) nor the publishers nor the printers would be liable in any manner to any person either for an error or for an omission in this publication, or for any action to be taken on the basis of this work. Any inadvertent discrepancy noted may be brought to the attention of the publisher, for rectifying it in future editions, if published.

This book contains information obtained from authentic and highly regarded sources. Reasonable efforts have been made to publish reliable data and information, but the editors and publisher cannot assume responsibility for the validity of all materials or the consequences of their use. The editors and publisher have attempted to trace and acknowledge the copyright holder of all material reproduced in this publication and apologize to copyright holders if permission and acknowledgement to publish in this form have not been obtained. If any copyright material has not been acknowledged please write and let us know so that we may rectify it.

Trademark Notice: Product or corporate names may be trademarks or registered trademarks, and are used only for identification and explanation without intent to infringe.

ISBN: 978-93-87893-82-5 (Paperbound)

ISBN: 978-93-88172-29-5 (Ebook)

Visit the Scientific Publishers (India) website at
<http://www.scientificpub.com>
Printed in India

Preface

Plan of writing a competitive guide with objective type questions in the field of Environmental Science sparked in my mind well early in the year 2001 during my masters. By the time when I was preparing for UGC-CSIR junior research fellowship, I struggled to collect notes, found myself difficult in selecting an appropriate book for preparation, and in fact I was looking for all the information in one book, but it went in vein. I have started collecting notes from books, journals and through internet, started scribbling hints in papers, papers got accumulated as days gone and Obviously I have to secure them in a file with a bundle of papers, I have done that. Upon striking the UGC fellowship for the first time in the Department of Environmental Sciences, TNAU, Coimbatore during the year 2001, I have received more appreciation and motivation from almost all the faculty of my department that set the platform to do something for my fellow junior friends in the department. So, I have started circulating the file containing collection of questions to my juniors in the Department of Environmental Science, TNAU, Coimbatore for preparing UGC, ICAR-NET/JRF examination. I have received good feedbacks from juniors upon their success, I have realized the importance of the file with the collection questions. After becoming an Assistant Professor (Environmental Sciences) during the year 2004, I have continued to add more questions and circulated the file among my students. Gaining confidence and realizing the worthiness of the material, I thought it is the right time that the content in the file should come as a a book for the benefit of students across the country. This book is intended to give easy readability, and it covers almost all the sub sect of Environmental Science and Disaster management.

Prasanthrajan, M

Acknowledgement

The authors thank Shalini, Ph.D. Scholar, Nirmala College for Women, Coimbatore and Sushma Sharanya, Software Engineer, USA for their meticulous efforts and keen observation to minimize errors in the book. We also thank Scientific Publishers and their editorial team in bringing this book to a finest shape. We thank our Dean Th. Deepak Srivastava, IFS for his motivation in writing books and his vision in lining the students towards competitive goals. We thank all our students, research scholars and supporting staff for their contribution in proof reading. Despite all, we thank Lord Almighty for giving us this chance to enrich the knowledge of student community through this book.

Contents

<i>Preface</i>	v
----------------	---

<i>Acknowledgement</i>	vii
------------------------	-----

Environmental Science	1—76
------------------------------	-------------

Environmental studies - Natural Resources - Renewable and non-renewable resources - Forest resources - Water resources - Mineral resources - Food resources - Energy resources - Land resources - Ecosystems - Energy flow - Ecological succession - Food chains, food webs and ecological pyramids - Forest ecosystem - Grassland ecosystem - Desert ecosystem - Aquatic ecosystems - Biodiversity and its conservation - Environmental Pollution - Air pollution - Water pollution - Soil pollution - Marine pollution - Noise pollution - Thermal pollution - Nuclear hazards - Solid Waste Management - Social Issues and the Environment - Climate change - Global warming - Acid rain - Ozone layer depletion - Nuclear accidents - Environmental Acts.

Disaster Management	77—146
----------------------------	---------------

Natural Disasters - Floods, drought, cyclone, earthquakes, landslides, avalanches, volcanic eruptions, Heat and cold waves - Chemical disasters, biological disasters, building fire, coal fire, forest fire, road accidents, rail accidents, air accidents, sea accidents - Disaster Management

