

# Preface

Climate change is known to impact coastal areas in a variety of ways. According to the 5th Assessment Report produced by the Inter-Governmental Panel on Climate Change (IPCC), coastal zones are highly vulnerable to climate change and climate-driven impacts may be further exacerbated by other human-induced pressures.

Apart from sea level rise which poses a threat to both human well-being and property, extreme events such as cyclones and storm surges lead not only to significant damages to property and infrastructure, but also to saltwater intrusion, the salinisation of groundwater, and intensification of soil erosion, among many other problems. There are also many negative impacts on the natural environment and biodiversity, which include damages to important wetlands and habitats that safeguard the overall ecological balance, and consequently the provision of ecosystem services and goods on which the livelihoods of millions of people depend.

These impacts are particularly acute in the developing countries and island States in the Pacific, Caribbean, Latin America and Asian region, since they have limited access to the funding and technologies needed to allow them to be more resilient and recover from the damages caused by hurricanes, floods and other extreme events.

The above state of affairs illustrates the need for a better understanding of how climate change affects coastal areas and communities, and for the identification of processes, methods and tools which may help the countries and the communities in coastal areas to adapt and become more resilient. There is also a perceived need to showcase successful examples of how to cope with the social, economic, and political problems posed by climate change in coastal regions.

It is against this background that this book has been prepared. It is a truly interdisciplinary publication, with contributions from scholars, representatives from social movements, practitioners and members of governmental agencies, undertaking research and/or executing climate change projects in coastal areas and working with coastal communities.

The focus of the book is ‘managing climate change in coastal regions’, meaning that it serves the purpose of showcasing experiences from research, field projects and best practice to foster climate change adaptation in coastal areas and communities, which may be useful or implemented elsewhere.

The aims of this book are as follows:

- i. to document the influences of, the damages and the threats posed by climate change to estuaries and coastal communities;
- ii. to introduce approaches, methods, initiatives and projects which demonstrate how coastal communities can successfully meet the challenges climate change poses to them. Here, an emphasis is given to the latest research, but also on infrastructure projects, demonstrations on the use of technologies and natural and artificial means to reduce the impacts of extreme events and sea level rise to coastal communities;
- iii. to introduce funding schemes and mechanisms which can finance climate change adaptation in coastal areas.

Last but not least, a further aim of the book is to document and disseminate the wealth of experiences available today.

The book is structured along two parts:

Part 1-Principles, Approaches and Projects on Change Adaptation in Coastal Areas

Part 2-Case Studies on Climate Change Adaptation in Coastal Areas

I thank the authors for their willingness to share their knowledge, know-how and experiences, as well as the many peer reviewers, who have helped us to ensure the quality of the manuscripts.

It is hoped that this publication will help to outline the need for integrated approaches towards handling the impacts of climate change to coastal areas, and hence contribute towards advancing this field of work even further.

Enjoy your reading!

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