GLOBAL BLUE ECONOMY

Analysis, Developments, and Challenges

Edited by
Md. Nazrul Islam
Steven M. Bartell

CRC Press
Taylor & Francis Group

Book

Global Blue Economy

Analysis, Developments, and Challenges

Edited By Md. Nazrul Islam, Steven M. Bartell

Edition	1st Edition
First Published	2022
eBook Published	28 November 2022
Pub. Location	Boca Raton
Imprint	CRC Press
DOI	https://doi.org/10.1201/9781003184287
Pages	530
eBook ISBN	9781003184287
Subjects	Earth Sciences, Engineering & Technology, Environment & Agriculture, Environment and Sustainability

Chapter 4 | 42 pages

Offshore Fish Farming

Challenges and Developments in Fish Pen Designs

By Chien Ming Wang, Yunil Chu, Joerg Baumeister, Hong Zhang, Dong-Sheng Jeng, Nagi Abdussamie

Abstract

Chapter 5 | 18 pages

Risk Finance for Natural Disaster in Lakes and Coastal Seas Using Modeling Techniques

By Jinxin Zhou, Kentaro Kikuchi, Hideya Kubo, Takero Yoshida, Md. Nazrul Islam, Daisuke Kitazawa

Abstract

Chapter 6 | 48 pages

Blue Economy Prospects, Opportunities, Challenges, Risks, and Sustainable Development Pathways in Bangladesh

By Md. Simul Bhuyan, Md. Nazrul Islam, Mir Mohammad Ali, Md. Rashed-Un-Nabi, Md. Wahidul Alam, Monika Das, Ranjan Roy, Mohan Kumar Das, Istiak Ahamed Mojumder, Sobnom Mustary

Abstract

Chapter 7 | 25 pages

Application of Blue Economy for Polymetallic Nodules from the Central Indian Ocean Basin

By Ankeeta A. Amonkar, Niyati Gopinath Kalangutkar, Sridhar D. Iyer

Abstract

Chapter 8 | 37 pages

Development and Challenges of Indian Ocean Blue Economy and Opportunities for Sri Lanka

By Nawalage S. Cooray, Upul Premarathna, Keerthi Sri Senarathna Atapaththu, Tilak Priyadarshana

Abstract

Chapter

Application of Blue Economy for Polymetallic Nodules from the Central Indian Ocean Basin

By Ankeeta A. Amonkar, Niyati Gopinath Kalangutkar, Sridhar D. Iyer

Book Global Blue Economy

Edition	1st Edition
First Published	2022
Imprint	CRC Press
Pages	25
eBook ISBN	9781003184287

Share

ABSTRACT

The Central Indian Ocean Basin (CIOB) is one of the largest and richest polymetallic nodule-bearing areas in the world's oceans. The basin has varied morpho-structures, sediments, and rocks and other materials that are 'seeds' for the growth of nodules through hydorgenetic and diagenetic processes. The abundance of 5kg/m^2 of nodules on the seafloor, metal grade of 2% (copper, nickel and cobalt), and areas of low slope angles collectively make the CIOB a potential target for nodule mining. For more than four decades India has been carrying out a nodule programme that largely encompassed exploration and collection of baseline data for environmental impact assessment studies. As a contractor with the International Seabed Authority, India has certain obligations to fulfill prior to mining of the nodules.

In this chapter, we provide a gist of the different investigations conducted by India in the CIOB and this is followed by processes developed for metal beneficiation from the nodules, technological progress that is underway to mine the nodules and the economic viability of mining the nodules. There exist a number of reports that pertain to the geological and geophysical characteristics of the CIOB, but the implementation of the blue economy has never been discussed with the seriousness that it deserves. Hence, we address this important concern and the ways by which India could execute the different sectors of blue economy towards a profitable and sustainable mining of the nodules.