



2nd International
Indian Ocean
Expedition
2015-2025

Newsletter

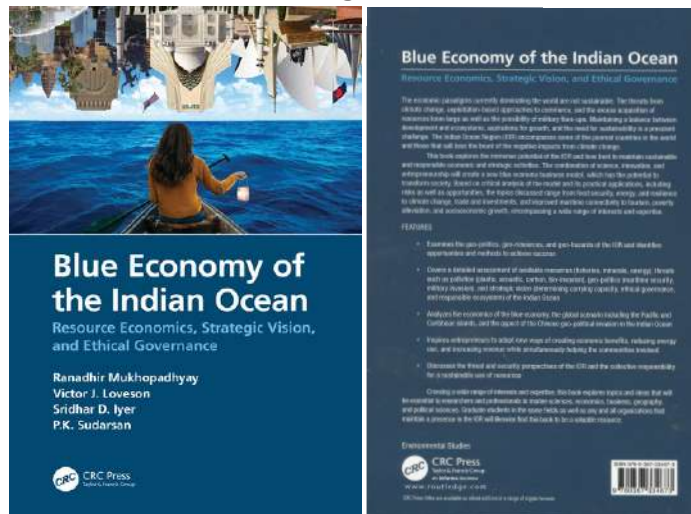
(A basin-wide research program co-sponsored by IOC-UNESCO, SCOR and IOGOOS)

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To advance our understanding of interactions between geologic, oceanic and atmospheric processes that give rise to the complex physical dynamics of the Indian Ocean region, and to determine how those dynamics affect climate, extreme events, marine biogeochemical cycles, ecosystems and human populations.

BLUE ECONOMY OF THE INDIAN OCEAN Resource Economics, Strategic Vision and Ethical Governance

A book published recently "Blue Economy of the Indian Ocean" by Ranadhir Mukhopadhyay, Victor J Loveson, Sridhar D Iyer, P K Sudarsan CRC Press, Taylor & Francis proposes that maintaining a fine balance between development and ecosystem, greed and sustainability, and science and ethics is a real challenge. Such an equilibrium could be achieved under the concept of Blue Economy. This economy could help shift the society from scarcity to abundance. Regrettably, the Indian Ocean Region (IOR), with many developing Nations bordering it has not received as much attention as it deserves. This is despite the fact that this Ocean hosts major international shipping lanes between Europe and the Far East/China/Australia (> 100,000 ships transit annually) that transport 66% of crude oil, 55% of container shipment and 33% of bulk cargo. Moreover, this ocean holds considerable amount of renewable energy and living & non-living resources. The IOR is also expected to bear the maximum brunt of climate change.



Drawing its strength essentially from the BTVG (Buddha-Tagore-Vivekananda-Gandhi) Doctrine, this book proposes an ethical blue economy (EBE) model to draw a road-map that combines economic development with ethical practices. The marriage of science, innovation, ethics and entrepreneurship could help create such an EBE model. The book insists on the need to reinvent the relation of the individual to nature. Towards this, an integrated balance among humans, nature, land, ocean and economic development is desired. This book traverses such a difficult terrain.

The book suggests a few simple algorithms to achieve the blue economy paradigm. The steps include ensuring first accurate valuation of blue economy resources by respective countries, and prioritizing the specific resource area(s) for investment. Second, to make the blue economy doctrine financially viable, introduction of blue bonds, insurance and debt-for-adaptation schemes may be explored. Stressing on regional and global cooperation in S&T innovation, technology transfer, and appropriate adaption of such newer developments could give any country a lead. Developing coastal and marine spatial plans and building a robust legal and institutional framework following the UN regulations are advised next.



This would help regulate all blue economy activities, including monitoring of pollution, harvesting living and non-living resources, transport and tourism, and resolve conflicts. If nations follow ethical measures for economic diversification, job creation, food security, poverty reduction, and equal distribution of resources, such initiatives would also help obtain a 'social license to operate' and negotiate any inherent resistance from society, workers and the business communities.

After discussing the concept, rationale and potentials of the blue economy, the resources that can be conceivably procured by countries (eleven nations from IOR and another ten from other oceans) under the blue economy architecture are discussed. The three-pronged threats to the blue economy and how an ethical approach could overcome such threats are also discussed in the book. In fact, the IOR countries, stand to gain the maximum from Blue economy paradigm.

The timing and rational articulation of this book, and also its approach to renew relationship between men and nature rests on the BTVG doctrine. The philosophy is 'how can one be happy when the others are sad'. The ethical blue economy model seeks to apply this philosophy in global governance. This nine-chapter and a little more than the 300-page book is a step towards a better stewardship of the Indian Ocean, using its resources in a responsible manner.

Citation: *Ranadhir Mukhopadhyay, Victor J Loveson, Sridhar D Iyer, P K Sudarsan; 2021, CRC Press, Taylor & Francis (USA), ISBN 978-0-367-33467-3, 312p*

[Report Courtesy: Sridhar D Iyer, Former Chief Scientist, CSIR- National Institute of Oceanography, Goa, India
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Productivity in the East African Coastal Current Under Climate Change (PEACC) Project

The Productivity in the East African Coastal Current under Climate Change (PEACC) Project commenced in July 2016, and was completed in June 2018. The Project was aligned with the Western Indian Ocean Upwelling Research Initiative (WIOURI), one of the flagship initiatives under the Second International Indian Ocean Expedition (IIOE-2). The PEACC Project was endorsed by the IIOE-2 in March 2018, in recognition of its potential for contributing to an increased multi-disciplinary understanding of the dynamics of the Indian Ocean, and of its contribution to the achievement of societal objectives within the realm of the Indian Ocean region.

The objective of this project was to investigate the responses of biological productivity and fisheries to changes in atmospheric and oceanographic conditions in the upwelling region associated with the East African Coastal Current. The hypothesis was that coastal upwelling is often associated with increased productivity of both primary producers and small pelagic fishes. Conversely, the small pelagic fishes, which have in the recent past constituted the main source of protein supply to coastal communities along the East African coastal region, have been facing persistent fishing pressure. The preference for small pelagic fishes was triggered by the previously preferred demersal and reef fisheries catches declining due to overfishing and the use of destructive fishing methods.

The project was undertaken by a multidisciplinary team of scientists from Tanzania, Kenya, South Africa, UK and USA, representing a consortium of ten institutions led by the Tanzania Fisheries Research Institute (TAFIRI). The project was largely supported by the Western Indian Ocean Marine Science Association (WIOMSA), with partial contributions from the UNESCO/IOC Sub-commission for Africa and the Adjacent Island States, Nairobi.

As an output of the project, a Special Issue of the Western Indian Ocean Journal of Marine Science (Issue 1/2020 of December 2020) has recently been published having eleven articles in four broad areas: primary productivity, fisheries ecology, biophysical modeling and climate, and socio-economics which can be freely downloaded from this link: <https://www.ajol.info/index.php/wiojms/issue/view/19461>

[Report Courtesy: Shigalla Mahongo, Tanzania Fisheries Research Institute, Tanzania E-Mail: shigalla@tafiri.go.tz]



SOLAS Indian Ocean online meeting

A Surface Ocean - Lower Atmosphere Study (SOLAS: www.solas-int.org) sponsored event focusing on the Indian Ocean was held on 30 September 2020. The overall aim of this workshop was to present and discuss results from ongoing SOLAS activities. Moreover, the workshop provided a platform to discuss upcoming research initiatives and to help initiate and foster collaborations between colleagues and institutions. Another aim of the workshop was to reinvigorate the Indian Ocean SOLAS community and develop community actions and strategies supported by SOLAS.

The event was conducted online, with participants attending via two different streaming platforms. The meeting was very well received and it enabled a large number of early career scientists to attend. In total 350 people from 35 countries registered for the event, which has been viewed by approximately 650.

The meeting was divided into four scientific sessions after an introductory talk. The sessions were designed to cover the latest in SOLAS research in the Indian Ocean and were: (i) The air-sea interface and boundary-layer exchange of trace gases; (ii) Air-sea exchange and monsoons; (iii) Impacts of the atmosphere on the Indian Ocean (including pollution); and (iv) Impacts of ocean biogeochemistry and microbiology on the atmosphere over the Indian Ocean. Each session comprised two talks. A poster session was organised with posters available for comments online before the event and one-minute flash presentations from 21 presenters showing the latest in Indian Ocean research from groups across the world. In addition to the four sessions, two invited keynote talks were presented, with the first giving an overview of the air-sea exchange research in the Indian Ocean, and the second one focusing on the on-going and future activities of the 2nd International Indian Ocean Expedition (IIOE-2) in relation to SOLAS. At the end of the meeting, a panel discussion addressed knowledge gaps and future research needs of SOLAS science in the Indian Ocean.



Figure-1: Snapshot of participants of the SOLAS Indian Ocean meeting on 30 September 2020 (Photo Courtesy: Jessica Gier, SOLAS IPO)

A detailed report – including the main statements and action items resulting from the lively discussions at the meeting and short communications from three early career scientists – is posted as part of the SOLAS event report series under <https://www.solas-int.org/publications/event-reports.html>

[Report Courtesy: Hermann Bange, GEOMAR Helmholtz-Zentrum fuer Ozeanforschung Kiel, Germany
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POSTPONEMENT of International Indian Ocean Science Conference (IIOESC)-2020

In view of the recent outbreak of COVID-19, the safety of delegates is of paramount importance for the conference organisers. Therefore, upon recommendation of UNESCO-IOC amid concerns raised by many delegates spread across the world, the International Indian Ocean Science Conference (IIOESC)-2020 has been postponed till further notice.

More details on the Conference are available at the website <https://iiosc2020.incois.gov.in/>

MESSAGE BOARD

- ✉ IIOESC-2020 Letter to Airlines
- ✉ Instructions for Presenters
- ✉ Allowed Poster size A0 (118 cm height x 84 cm width)



Endorse your projects in IIOE-2

Don't miss the opportunity to network, collaborate, flesh out your research project and participate in IIOE-2 cruises!!

The endorsement of your scientific proposal or a scientific activity focusing on the Indian Ocean region is a recognition of the proposal's or activity's alignment with the mission and objectives of IIOE-2, of its potential for contributing to an increased multi-disciplinary understanding of the dynamics of the Indian Ocean, and of its contribution to the achievement of societal objectives within the Indian Ocean region. Over 42 international, multi-disciplinary scientific projects have already been endorsed to date by the IIOE-2. Yours could be the next one!

Visit <https://iioe-2.incois.gov.in/IIOE-2/EndorsementForm.jsp> for further details and for projects already endorsed by IIOE-2 https://iioe-2.incois.gov.in/IIOE-2/Endorsed_Projects.jsp.

CLIVAR February 2021 Bulletin is available online



The International CLIVAR Project Office distributes a monthly bulletin with announcements, funding opportunities, meeting notifications relevant to the ocean/climate science community.

The latest CLIVAR Bulletin February, 2021 is available at:

<https://mailchi.mp/clivar.org/clivar-february-2021-bulletin>

Call for Contributions

Informal articles/short notes of general interest to the IIOE-2 community are invited for the next (March-end) issue of the IIOE-2 Newsletter. Contributions referring IIOE-2 endorsed projects, cruises, conferences, workshops, "plain language summary" of published papers focused on the Indian Ocean etc. are welcome. Articles may be up to 500 words in length (Word files) accompanied by suitable figures, photos.(separate.jpg files).

Deadline: **25 March, 2021**

The IIOE-2 Newsletter is published online by:



The Indian Ocean Bubble

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