

ELEMENTS OF
BLUE ECONOMY

V/ADMIRAL

IFTIKHAR AHMED RAO (RETD)



IPS Press is the publishing arm of Institute of Policy Studies, Islamabad – an independent think tank dedicated to promote policy-oriented research. Pakistan Affairs, International Relations and Faith and Society are some of the major study areas at IPS.

© IPS Press 2020

Title: Elements of Blue Economy

Author: V/Admiral Iftikhar Ahmed Rao (Retd)

ISBN: 978-969-448-787-8

Edition: First Edition

All rights reserved. No part of this publication may be reproduced, translated, stored in a retrieval system, or transmitted, in any form or by any means, without the prior permission in writing of Institute of Policy Studies, Islamabad.

Enquiries concerning reproduction should be sent to IPS Press at the contact details given above.

IPS Press
Institute of Policy Studies
Nasr Chambers, 1, MPCHS Commercial Centre, E-11/3,
Islamabad – Pakistan
Tel: +92 51 8438391-3 Fax: +92 51 8438390
Email: publications@ips.net.pk URL: www.ips.org.pk

Title Designing: Asif Taimuri
Layout Formatting: Ehsan Ullah

Printed by
Galaxy Printers, Lahore

Table of Contents

	From the Publisher's Desk	ix
	Foreword	xiii
	Preface	xv
	Acronyms	xvii
1	A Blue Vision	1
	International Organizations' View of Blue Economy	1
	Economy and Environment	2
	Sustainable Use and Development	4
	Contribution to Trade, Commerce and Resources	5
	Integration of Cultures/Spread of Religions	5
	Importance of Seas in Quran	6
	Composition of Maritime Sector	7
	Scope for Pakistan	9
	Conclusion	9
2	Geography of Oceans and Seas	13
	Physical and Human Elements	14
	Significance of Seas for Mankind	14
	Important Aspects of the Seas	16
	Waterway Systems	18
	Some Well-known Water Bodies	25
	Pakistan's Coastal Geography	26
3	Trade and Commerce	29
	Development of Seaborne Trade	29
	Alternate Maritime Route for East-West Trade	30
	Increase in Seaborne Trade	32
	Shipping – A Global Economic Sector	37
	Pakistan's Seaborne Trade	39
4	Waterway Systems	43
	Categories of Waterway Systems	43
	Some Important Waterways for Seaborne Trade	45
	Northern Sea Route	59

	Other Possible Waterways	60
	Comparison of Traffic Through Some Waterways	60
	Conclusion	60
5	Inland Waterways	63
	Major Rivers of Europe	63
	Four Inland Waterway Corridors	70
	Volga River System	72
	Inland Waterways Transportation System of Europe	75
	China's River System	76
	North American Waterways	80
	South American Waterways	84
	Pakistan's Inland Waterways	86
6	Ships and Shipping	91
	Historical Evolution of Ships	91
	Seafaring Today	92
	Parts of Ships	93
	Categories of Commercial Ships	94
	Description of Various Types of Ships	96
	Seaborne Trade and Maritime Security Post 9/11	106
	Future Possibilities	121
7	Shipbuilding Industry	125
	History of Shipbuilding	125
	Modern Shipbuilding Manufacturing Techniques	125
	Development of Worldwide Shipbuilding Industry	127
	Ship Repair Industry	129
	Pakistan's Shipbuilding Industry	130
8	Ports and Harbors	141
	Difference Between Harbors and Ports	141
	Ancient Harbors	141
	Importance of Ports	143
	Strengths, Weaknesses, Opportunities and Threats (SWOT)	149

	Impact of Containerization on Ports	149
	International Terminal Operators	152
	Ports of Pakistan	160
	Conclusion	169
9	Fishing and Other Marine Resources	165
	Fishery – Capture and Aquaculture	166
	Threats to Fisheries	168
	Regulations	168
	Fishery Industry in Pakistan	169
10	Seabed Resources	175
	Prospects for Deep Seabed Mining	177
	Offshore Gas and Oil Industry	181
	Pakistan – More Efforts Needed	183
11	Marine and Coastal Tourism	187
	Expansion of Tourism	188
	Tourism in Pakistan	188
	Ramsar Sites	190
	Conclusion	207
12	Laws and Conventions	209
	Treaty of Tordesillas	210
	Freedom of Navigation and Common Heritage of Mankind	212
	Extension of National Claims over Adjacent Seas	213
	United Nations Conventions on the Law of the Sea (UNCLOS)	213
	Maritime Transport Regulations	221
	Maritime Security	228
	Pakistan’s Maritime Areas	229
13	CPEC – A Game Changer	239
	Long Road to Gwadar	239
	Gwadar and Regional Ports	240
	Growth Prospects of Regional Ports	245
	Gwadar Port Master Plan	247
	China Eyes New Oil Routes	251

	Fulcrum of Seaborne Trade	253
	CPEC and International Stakeholders	256
14	Marine Spatial Planning	259
	Increased Activities in Marine Space	259
	Integrated Coastal Zone Management	259
	Marine Protected Areas	260
	Ecosystem-Based Management	260
	Marine Spatial Planning	260
	Pakistan Needs Comprehensive Legislation	263
	Description of Terms	267
	Bibliography	269
	Index	283