

Capacity Index of Sustainable Coastal Development for Countries Along the Maritime Silk Road

2022



Capacity Index of Sustainable Coastal Development for Countries Along the Maritime Silk Road

China Oceanic Development Foundation

Fujian Institute for Sustainable Oceans (Xiamen University)

October 2022

Advisory Board

DAI Minhan

Academician, Chinese Academy of Sciences

Director, Faculty of Earth Sciences and Technology, Xiamen University

PAN Xinchun

Vice Chairman and Secretary-General, China Oceanic Development Foundation

LU Yonglong

Chair Professor, Xiamen University

GUAN Dabo

Distinguished Professor, Tsinghua University

Expert Group

XUE Xiongzhi

Dean, Fujian Institute for Sustainable Oceans (Xiamen University)

Professor, College of the Environment and Ecology, Xiamen University

** Chief Scientist of this research*

LIN Tao

Researcher, Institute of Urban Environment, Chinese Academy of Sciences

HUANG Jinliang

Professor, College of the Environment and Ecology, Xiamen University

ZHANG Zengkai

Professor, College of the Environment and Ecology, Xiamen University

LI Yangfan

Professor, College of the Environment and Ecology, Xiamen University

CHEN Nengwang

Professor, College of the Environment and Ecology, Xiamen University

ZHANG Caiyun

Associate Professor, College of Ocean and Earth Sciences, Xiamen University

ZHU Xudong

Associate Professor, College of the Environment and Ecology, Xiamen University

Editing Team

Team Leader

FU Yiqiu

Team Members

CHEN Yixuan, XIE Zheyu, WANG Peng, WU Xinyi, LI Zheng, KANG Shuzhen, DONG Siqu, LI Lingling, HUANG Yiyi, LIU Yuqin, DING Qian, CHEN Zilong, ZHANG Yujing, and ZENG Zhiwei

Translator

LUO Shuyu

Table of Contents

Foreword	1
1. About the Capacity Index of Sustainable Coastal Development for Countries Along the Maritime Silk Road	4
2. Results of the Capacity Assessment on Sustainable Coastal Development for Countries Along the MSR.....	7
2.1 Overall Scores and Rankings	7
2.2 Scores and Rankings by Theme.....	11
2.3 Subtheme Scores	15

Foreword

The “Silk Road Economic Belt” and the “21st Century Maritime Silk Road” initiatives were proposed by the Chinese President Xi Jinping during his visits to Central and Southeast Asian countries in 2013. These ideas soon gained widespread worldwide attention. In 2015, the Chinese government issued the *Vision and Actions on Jointly Building Silk Road Economic Belt and 21st Century Maritime Silk Road*, which stated an outlook of strengthened maritime cooperation among countries along the Maritime Silk Road through the construction of three blue economic passages (i.e., China–Indian Ocean–Africa–Mediterranean Sea, China–Oceania–South Pacific, and China–Arctic Ocean–Europe) underpinned by the Chinese coastal economic belt. The *Vision for Maritime Cooperation under the Belt and Road Initiative* jointly released by the National Development and Reform Commission (NDRC) and the then State Oceanic Administration (SOA) in 2017 displayed China’s dedication in building an open and inclusive cooperation platform, establishing constructive Blue Partnership, and forging a “blue engine” for sustainable development. In the past nine years since the Maritime Silk Road Initiative, China has strengthened ties with countries along the Maritime Silk Road in realms of ocean, science and technology, environmental protection, ports and so much more, while advancing cooperation mechanism.

In 2022, the NDRC and a number of departments jointly released a policy document to facilitate green development in countries involved in the Belt and Road Initiative. The document called for construction of supporting systems for green development and more big data service platforms for ecological and environmental protection, to promote

sharing of ecological, environmental and climate change information as well as to strengthen technical cooperation.

Under the background, the 21st Century Maritime Silk Road (hereinafter referred to as “MSR”) Initiative aims to promote the well-being of both the people and the ocean through international cooperation. As part of the endeavors to achieve the *2030 Agenda for Sustainable Development* goals targeting the field of ocean, it focuses on safeguarding marine ecosystems and biodiversity, surveying and evaluating coastal areas, monitoring ocean and coastal blue carbon ecosystems, eliminating poverty, promoting blue economic development, protecting maritime security, advancing research on marine technologies, and fostering stronger blue partnerships. The plan encompasses three dimensions of sustainable development: environment, society, and economy. For countries along the MSR, it provides actionable solutions for their economic challenges and for achieving the 2030 Agenda, as well as a roadmap for ocean and coastal development while supporting overall sustainable development.

However, most countries along the MSR are developing countries and emerging economies that inevitably face pollution and ecological degradation challenges with growing industrialization and urbanization. Other maritime activities provide additional challenges, such as increasing shipping and ports. These maritime activities negatively affect the marine ecosystems, critical habitats, and species, which are detrimental to maintaining regional ocean health and safeguarding marine ecological security.

Assessing the capacity of sustainable coastal development for countries

along the MSR is an important gateway to addressing these challenges. The assessment will reveal the state of coastal development and identify the advantages and challenges in social, economic, and environmental development in these countries. It will also help extend cooperation and exchange between China and these countries, and inform decision making for domestic sustainable development policies. These assessments should also contribute to blue partnerships and provide the foundations for a maritime community with a shared future.

The benchmark year of the 2022 Capacity Index of Sustainable Coastal Development for Countries Along the MSR is 2020. To make sure the data selected for this research are scientific, effective and operational, the coastal zone is defined as 100 km both landward and seaward from the coastline (excluding the indicators set up based on published statistical data). This research comprises three sections. The first section provides an overview of the capacity indices of sustainable coastal development in countries along the MSR. The second section introduces the methodologies of the capacity assessments of sustainable coastal development, including indicator system construction, data extraction, and data processing. The third section analyzes the results of the capacity assessments and provides conclusions. We encourage our audience to go beyond the overall rankings and focus on the performances and development tracks of the countries on individual themes and indicators.

However, we understand that additional research is necessary. As the program progresses, our team will continue to enhance the system for it to serve as a scientific source to inform national ocean policy. We aim to publish periodic researches which we hope will foster discussion and facilitate collaborations with fellow researchers in this field so that the research can evolve with their valuable insight.

1. About the Capacity Index of Sustainable Coastal Development for Countries Along the Maritime Silk Road

This research collaborates and presents current data on the sustainable coastal development capacity of the countries along the MSR. For the indicator system, we selected seven themes (atmosphere, land, ocean, freshwater, biodiversity, social development, and economic development), 19 subthemes, and 35 indicators (Table 1). The data is classified into sustainable coastal development capacity indices and combined with their rankings, to indicate the capacity of sustainable coastal development in each country.

The Capacity Index of Sustainable Coastal Development for Countries along the Maritime Silk Road provides a comprehensive overview and assessment of the current status of sustainable coastal development capacity in these countries. Scores from each subtheme and theme are calculated and combined to obtain the overall assessment results. Scores from different themes, subthemes, and indicators reveal the strengths and areas requiring improvement for sustainable development. The overall sustainable coastal development capacity index scores and the detailed scores (by theme/subtheme/indicator) are used to calibrate a country's ranking with lowest place (10) and the highest place (95).

The composite index is aggregated at indicator, subtheme, and theme levels. Therefore, we encourage professionals and decision makers to go beyond composite indices and rankings, and focus on the performance of each country at the theme, subtheme, and indicator levels.

Table 1 The indicator system for capacity assessment of sustainable coastal development in countries along the MSR

THEME	SUBTHEME	CORE INDICATOR
Atmosphere	Greenhouse gas	Regional CO ₂ emissions
		CO ₂ emissions per capita
	Air quality	PM2.5 concentration
		Regional SO ₂ emissions
Land	Agriculture	Fertilizer usage
		Sustainable nitrogen management index (SNMI)
	Land use	Land use intensity
		Coastal landscape index
Vegetative cover	Normalized difference vegetation index	
Ocean	Fisheries	Seafood supply
		Artisanal fishing opportunities
		Proportion of overfishing
	Marine environment	Clean waters
		Coastal wastes
	Natural hazards	Coastal protection
Natural hazard risk exposure		
Freshwater	Water quantity	Proportion of freshwater area to coastal land area
		Underground water storage
		Water use intensity
	Water quality	Health risks caused by drinking water
Biodiversity	Species	Red list index
		Marine trophic index
	Ecosystem	Proportion of marine protected area to coastal area
		Proportion of land protected area to coastal land area
		Proportion of coastal wetland area to coastal land area
	Marine net primary production	

Social Development	Population level	Coastal population density
	Level of infrastructure development	Road network density
	Income equality	Gini coefficient
		Unemployment, total (% of total labor force)
	Standard of living	Average life expectancy
		Engel coefficient
Gender equality	Women business and the law index	
Economic Development	Economic performance	Coastal GDP per capita
	Economic structure	Proportion of marine economy

The indicator system combines the characteristics of each country with the coastal features to provide a comprehensive analysis of the national and regional concerns. These concerns are highly relevant to sustainable coastal development and encompass the three pillars of sustainability - social, economic, and environmental, aiming to reflect sustainable development goals and basic human needs.

2. Results of the Capacity Assessment on Sustainable Coastal Development for Countries Along the MSR

2.1 Overall Scores and Rankings

The overall scores and rankings of the capacity index of sustainable coastal development for the countries along the MSR are provided in Figure 1 (for detailed indicator scores, see Table 3).

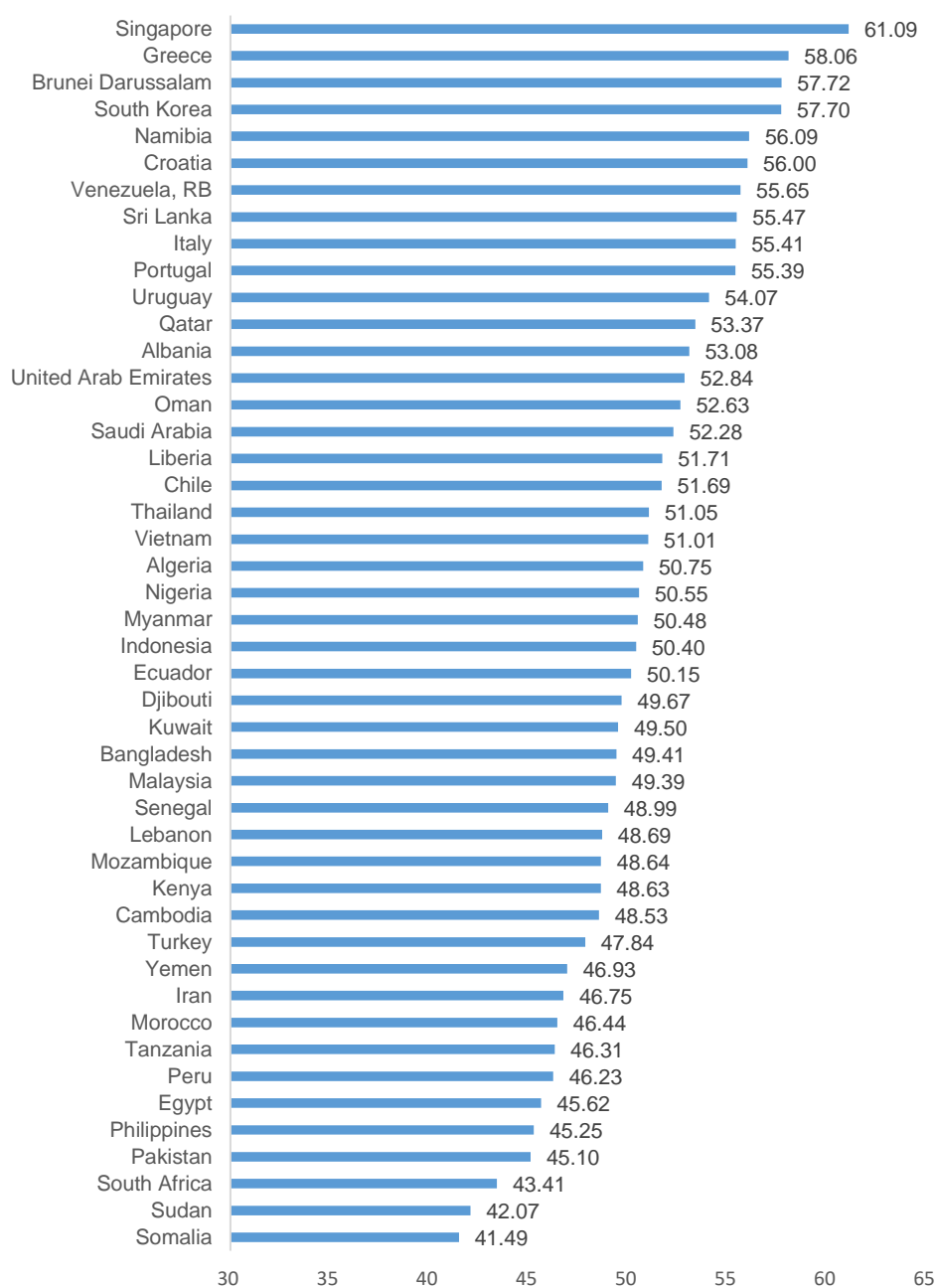


Figure 1 Overall scores and rankings of the capacity index of sustainable coastal development for countries along the MSR

The results reveal the average sustainable coastal development capacity index score of the countries along the MSR was 50.64. More than half of the countries scored below average therefore, much remains to be done to strengthen the capacity of sustainable coastal development. Singapore had a much higher score than any other country with 61.09. Somalia obtained the lowest score of 41.49. The top 10 countries were Singapore (61.09), Greece (58.06), Brunei (57.72), South Korea (57.70), Namibia (56.09), Croatia (56.00), Venezuela (55.65), Sri Lanka (55.47), Italy (55.41), and Portugal (55.39). The geographical distribution of the countries with their overall score is shown in Figure 2.

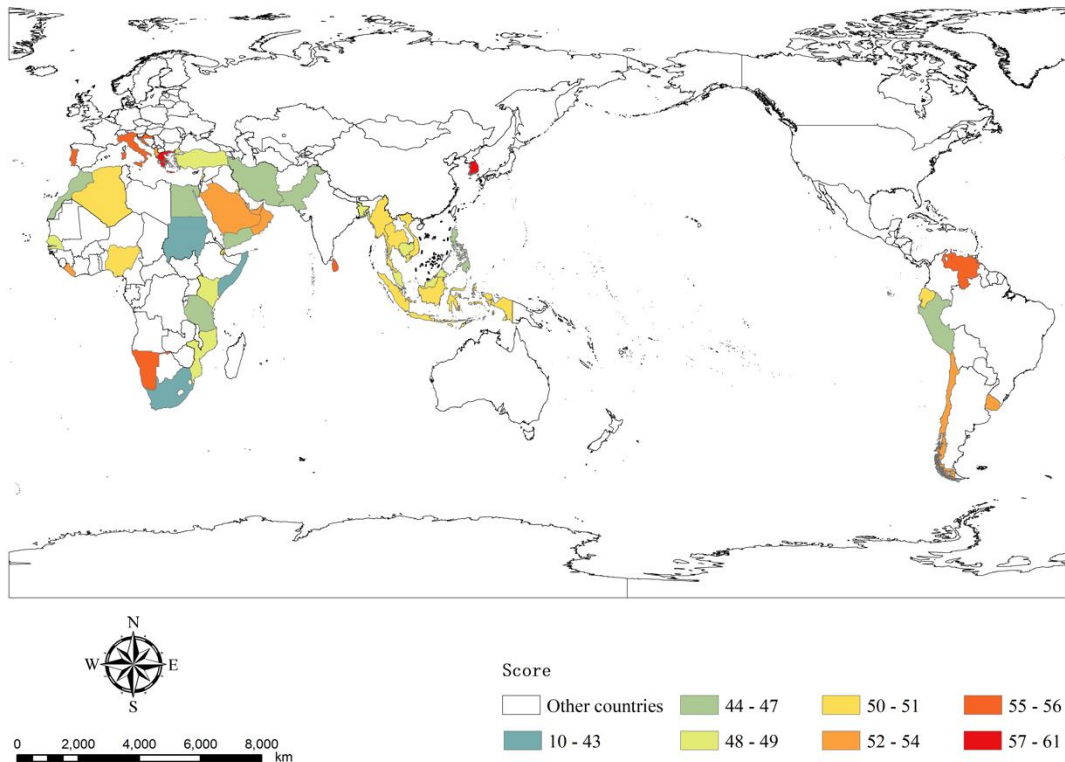


Figure 2 Geographical distribution of the countries with their overall score

The performance results of the top ten countries were further analyzed by theme, and the data was converted into graphs to better illustrate their strengths and areas requiring improvement (Figure 3).

The sustainability of Singapore's coastal development is largely attributable to its social and economic development, as well as freshwater, scoring 86.58 (ranked 1st), 85.94 (4th), and 60.52 (3rd) respectively. Singapore's lowest score was 'atmosphere' with 37.01 and 'biodiversity' with 29.13, ranking 33rd and 44th. Greece was second in the overall rankings and performed well in the same three categories: 'freshwater' with 66.94 (ranked 1st), 'economic development' with 87.77 (ranked 2nd), and 'social development' with 72.34 (ranked 5th). The country scored low in 'biodiversity' (scoring 32.57 and ranking 40th). Brunei's best performance was in 'land', 'freshwater' and 'economic development', ranking 1st, 5th and 7th in each theme with 73.96, 58.33 and 75.99, respectively. Attention should be drawn to its 'ocean', which only scored 53.09 (in 40th place). South Korea outranked all other countries in 'economic development' with 89.29, and obtained high scores in 'social development' (scoring 76.24 and ranking 4th) and 'freshwater' (scoring 55.44 and ranking 6th). However, it obtained its lowest score in 'biodiversity', ranking 42nd with 30.30. Namibia ranked 5th in the overall ranking and performed best in 'biodiversity' and 'economic development' with 69.4 (ranked 1st) and 83.07 (ranked 5th), respectively. It lagged behind in 'freshwater' and 'social development', with 26.48 (ranked 37th) and 37.72 (ranked 45th) for each theme. Croatia performed outstandingly in 'biodiversity' (with 56.06, and ranked 4th), 'freshwater' (with 51.22, ranking 7th) and 'social development' (with 69.95, ranking 7th), while 'atmosphere' (with 38.71 and ranked 29th) and 'land' (with 46.73 and ranked 31st) required attention. Venezuela obtained high scores in 'land' (with 60.50 and ranked 4th), 'ocean' (with 68.39 and ranked 7th) and 'biodiversity' (46.68 and ranked 9th). It lagged behind in 'economic development' (60.10 and ranked 22nd). Sri Lanka's overall sustainability performance was led by 'economic development' (with 87.43 and ranked

3rd) and ‘atmosphere’ (with 58.43 and ranked 4th). The country scored low for ‘biodiversity’ (with only 19.66 and ranked 46th). Italy scored well in ‘social development’ (scoring 77.42) and ‘freshwater’ (scoring 63.94), both ranking 2nd. It fell behind in ‘biodiversity’ (with 36.08 and ranked 31st) and ‘atmosphere’ (with 35.46 and ranked 35th). Portugal scored high in ‘social development’ (with 77.20 and ranked 3rd) and ‘freshwater’ (60.18 and ranked 4th), and lowest in ‘biodiversity’ (with 36.53 and ranked 28th) and ‘economic development’ (with 52.59 and ranked 32nd).

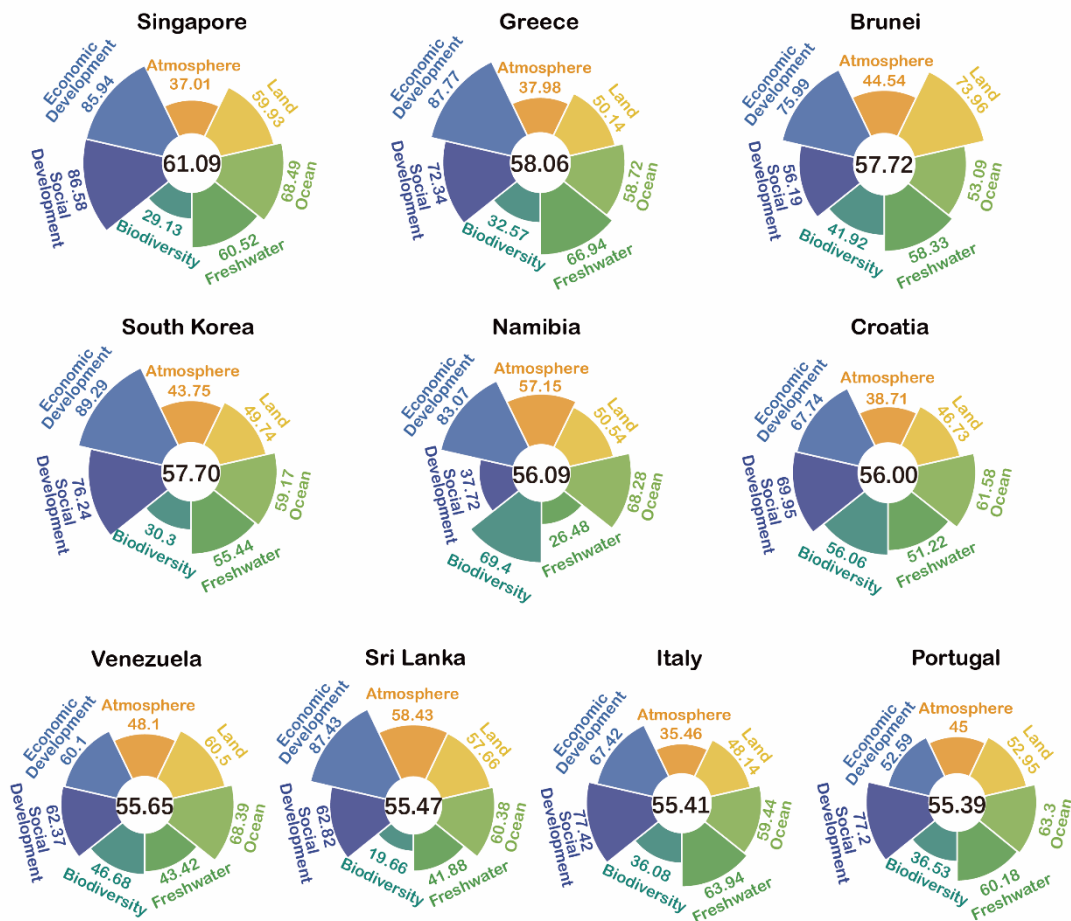


Figure 3 Performance graph by theme for the top 10 countries

2.2 Scores and Rankings by Theme

The scores and rankings by theme in the capacity assessment of sustainable coastal development for countries along the MSR are listed in Table 2 (for detailed indicator scores, see Table 3).

**Table 2 Sustainable coastal development capacity scores and rankings by theme
for countries along the MSR**

COUNTRY	ATMOSPHERE	RANKING	LAND	RANKING	OCEAN	RANKING	FRESHWATER	RANKING	BIODIVERSITY	RANKING	SOCIAL DEVELOPMENT	RANKING	ECONOMIC DEVELOPMENT	RANKING
Singapore	37.01	33	59.93	6	68.49	6	60.52	3	29.13	44	86.58	1	85.94	4
Greece	37.98	32	50.14	25	58.72	31	66.94	1	32.57	40	72.34	5	87.77	2
Brunei Darussalam	44.54	18	73.96	1	53.09	40	58.33	5	41.92	17	56.19	27	75.99	7
South Korea	43.75	20	49.74	27	59.17	27	55.44	6	30.30	42	76.24	4	89.29	1
Namibia	57.15	7	50.54	23	68.28	8	26.48	37	69.40	1	37.72	45	83.07	5
Croatia	38.71	29	46.73	31	61.58	20	51.22	7	56.06	4	69.95	7	67.74	11
Venezuela	48.10	14	60.50	4	68.39	7	43.42	16	46.68	9	62.37	17	60.10	22
Sri Lanka	58.43	4	57.66	12	60.38	23	41.88	21	19.66	46	62.82	16	87.43	3
Italy	35.46	35	48.14	29	59.44	26	63.94	2	36.08	31	77.42	2	67.42	13
Portugal	45.00	17	52.95	17	63.30	17	60.18	4	36.53	28	77.20	3	52.59	32
Uruguay	50.77	12	44.61	36	52.30	42	50.44	8	58.85	2	65.82	13	55.72	27
Qatar	33.88	39	43.41	37	79.78	3	48.16	12	47.51	7	64.59	15	56.28	26

Albania	47.36	15	50.69	22	64.91	16	42.98	18	29.47	43	70.58	6	65.53	15
United Arab Emirates	30.78	44	46.28	32	79.83	2	42.83	19	41.71	19	67.37	9	61.07	19
Oman	34.95	36	42.57	39	85.96	1	37.20	27	42.49	14	53.48	34	71.78	9
Saudi Arabia	32.70	41	37.54	45	71.56	5	40.26	25	46.29	10	59.80	20	77.80	6
Liberia	62.01	2	70.02	2	43.37	46	23.21	41	38.05	27	57.60	24	67.74	12
Chile	39.22	28	57.61	13	56.83	36	46.81	13	45.81	11	49.44	40	66.08	14
Thailand	33.47	40	60.53	3	57.70	34	49.09	10	32.74	38	69.49	8	54.31	30
Vietnam	31.71	42	51.51	20	55.62	38	48.85	11	44.37	13	67.28	10	57.72	25
Algeria	42.37	23	45.99	34	66.43	11	36.83	28	38.19	26	55.41	30	70.03	10
Nigeria	41.72	24	59.16	11	58.19	32	24.70	39	57.57	3	49.80	39	62.70	18
Myanmar	42.38	22	56.06	16	58.03	33	40.99	23	41.62	20	53.28	35	61.03	20
Indonesia	29.50	46	59.51	10	60.20	25	28.89	33	42.35	15	58.93	22	73.42	8
Ecuador	44.35	19	56.58	15	58.92	30	43.27	17	31.22	41	65.52	14	51.21	35
Djibouti	57.90	5	50.01	26	65.19	14	27.94	34	40.54	22	45.44	42	60.68	21
Kuwait	38.29	30	39.16	44	77.65	4	44.23	15	33.70	36	55.57	28	57.91	24
Bangladesh	35.91	34	50.42	24	51.81	43	50.20	9	36.11	30	58.20	23	63.21	16
Malaysia	30.86	43	52.26	19	68.23	9	44.76	14	39.04	25	55.43	29	55.12	29
Senegal	57.37	6	47.73	30	55.01	39	23.19	42	55.29	5	59.88	19	44.49	42
Lebanon	46.87	16	41.33	42	60.26	24	38.95	26	35.92	32	66.20	11	51.32	34
Mozambique	51.20	11	59.59	8	65.65	12	24.58	40	36.33	29	52.63	36	50.49	37

Kenya	56.94	8	57.14	14	56.91	35	22.83	43	47.02	8	53.81	33	45.73	41
Cambodia	43.00	21	59.89	7	61.06	22	42.36	20	35.00	34	56.32	26	42.10	43
Turkey	34.33	38	46.15	33	61.71	19	41.13	22	35.74	33	65.98	12	49.85	38
Yemen	53.04	10	49.63	28	65.56	13	21.98	44	42.16	16	41.02	43	55.14	28
Iran	34.48	37	45.85	35	66.88	10	40.42	24	45.67	12	46.26	41	47.68	39
Morocco	40.49	26	42.08	40	61.92	18	29.47	32	41.04	21	59.02	21	51.05	36
Tanzania	55.77	9	60.02	5	53.05	41	25.09	38	32.64	39	57.43	25	40.18	44
Peru	48.12	13	42.98	38	65.10	15	32.07	29	39.27	23	50.00	37	46.09	40
Egypt	39.24	27	41.41	41	61.07	21	27.46	35	47.75	6	49.93	38	52.50	33
Philippines	40.97	25	59.53	9	49.59	45	31.70	30	19.90	45	62.22	18	52.87	31
Pakistan	38.18	31	40.03	43	59.01	29	27.31	36	33.88	35	54.45	31	62.86	17
South Africa	29.68	45	36.14	46	59.15	28	31.66	31	33.61	37	54.17	32	59.43	23
Sudan	61.13	3	51.32	21	49.63	44	21.17	45	39.19	24	33.11	46	38.96	45
Somalia	71.83	1	52.31	18	55.72	37	11.31	46	41.72	18	39.29	44	18.26	46

2.3 Subtheme Scores

The subtheme scores for the capacity assessment of sustainable coastal development in countries along the MSR are provided in Table 3.

Table 3 Sustainable coastal development capacity scores by subthemes for countries along the MSR

COUNTRY	ATMOSPHERE		LAND			OCEAN			FRESHWATER		BIODIVERSITY		SOCIAL DEVELOPMENT					ECONOMIC DEVELOPMENT	
	GREENHOUSE GAS	AIR QUALITY	AGRICULTURE	LAND USE	VEGETATIVE COVER	FISHERIES	MARINE ENVIRONMENT	NATURAL HAZARDS	WATER QUANTITY	WATER QUALITY	SPECIES	ECOSYSTEM	POPULATION LEVEL	LEVEL OF INFRASTRUCTURE DEVELOPMENT	INCOME EQUALITY	STANDARD OF LIVING	GENDER EQUALITY	ECONOMIC PERFORMANCE	ECONOMIC STRUCTURE
Albania	43.46	51.26	49.24	36.61	66.23	42.69	88.75	63.30	36.87	49.09	41.21	17.73	53.71	76.41	66.13	69.11	87.54	82.21	48.85
Algeria	39.36	45.38	51.23	42.39	44.35	72.12	44.69	82.47	25.59	48.07	63.40	12.98	63.14	51.22	55.07	60.32	47.28	69.66	70.39
Bangladesh	44.63	27.20	33.27	43.17	74.84	55.75	25.44	74.24	71.14	29.25	41.64	30.57	71.39	71.85	69.28	40.88	37.59	68.43	58.00
Brunei Darussalam	30.62	58.46	67.45	59.43	95.00	45.23	61.53	52.50	42.53	74.13	63.62	20.22	46.39	44.09	73.12	75.31	42.06	91.99	59.99
Cambodia	39.04	46.95	40.11	53.24	86.32	63.64	58.62	60.91	50.04	34.69	41.15	28.84	38.99	47.98	80.62	45.87	68.16	71.44	12.77
Chile	39.68	38.76	39.25	63.58	70.00	50.55	81.71	38.23	30.56	63.06	49.34	42.27	15.66	24.32	53.59	82.48	71.14	84.91	47.25

Croatia	34.57	42.85	26.08	40.83	73.28	67.07	53.97	63.72	42.38	60.06	86.88	25.24	40.92	64.15	81.23	72.90	90.53	86.48	49.00
Djibouti	60.89	54.92	72.35	62.71	14.97	74.17	46.27	75.11	34.02	21.86	68.08	13.00	33.75	54.26	32.80	46.42	59.96	77.22	44.13
Ecuador	43.39	45.32	44.54	44.42	80.79	51.27	59.13	66.37	40.53	46.01	33.62	28.82	52.17	62.73	57.80	69.56	85.31	74.84	27.58
Egypt	36.84	41.65	28.20	78.86	17.18	55.78	41.33	86.11	17.37	37.55	73.81	21.70	58.55	48.65	53.73	56.33	32.37	79.04	25.96
Greece	33.22	42.74	36.47	46.99	66.96	48.72	54.00	73.43	38.87	95.00	39.89	25.25	49.86	69.91	64.19	82.74	95.00	88.50	87.03
Indonesia	39.77	19.23	33.79	52.29	92.46	64.31	48.77	67.52	30.23	27.55	65.85	18.86	55.62	52.06	74.29	57.20	55.48	77.28	69.56
Iran	34.11	34.85	53.31	58.80	25.44	65.73	63.89	71.02	33.02	47.83	73.07	18.26	47.45	42.73	57.51	67.67	15.96	85.35	10.00
Italy	34.46	36.46	34.08	41.97	68.36	55.78	56.37	66.17	38.60	89.28	46.33	25.83	58.40	73.56	73.18	86.95	95.00	93.14	41.71
Kenya	57.85	56.04	57.98	44.50	68.94	68.62	34.30	67.82	27.58	18.08	76.41	17.62	48.15	47.25	66.00	32.76	74.87	70.56	20.90
Kuwait	25.39	51.18	29.58	77.10	10.79	67.69	79.31	85.96	33.55	54.90	47.76	19.65	63.95	45.79	85.26	72.86	10.00	93.18	22.64
Lebanon	34.20	59.54	43.29	38.30	42.41	63.20	51.27	66.32	31.82	46.08	60.27	11.56	71.04	73.91	68.05	76.69	41.32	76.24	26.40
Liberia	73.77	50.25	71.70	52.08	86.30	47.55	39.52	43.02	31.89	14.54	61.31	14.80	47.34	56.53	77.01	31.50	75.61	59.53	75.95
Malaysia	29.94	31.79	14.78	48.31	93.70	64.84	67.02	72.81	42.20	47.31	57.73	20.35	51.86	48.73	66.19	72.04	38.33	86.16	24.08
Morocco	41.99	38.99	47.78	55.84	22.61	53.34	45.73	86.68	21.38	37.56	62.49	19.60	51.99	45.86	65.53	62.82	68.90	72.01	30.10
Mozambique	62.57	39.83	63.21	48.26	67.28	67.08	53.06	76.82	28.72	20.44	46.59	26.06	45.74	42.22	71.10	27.01	77.11	54.97	46.00
Myanmar	53.32	31.44	41.28	49.15	77.74	62.99	32.21	78.88	50.11	31.87	63.10	20.14	52.94	46.58	87.46	30.62	48.77	64.85	57.22
Namibia	59.70	54.60	69.57	70.93	11.13	42.38	75.28	87.17	30.47	22.49	85.73	53.06	10.00	24.55	25.01	47.44	81.58	82.96	83.17
Nigeria	47.86	35.58	54.99	50.65	71.83	71.30	22.35	80.91	39.29	10.12	73.38	41.76	68.05	48.07	68.88	10.00	53.99	75.93	49.48
Oman	30.65	39.25	32.92	81.16	13.62	84.99	85.08	87.80	28.60	45.80	65.77	19.22	40.28	45.18	87.01	73.75	21.18	88.76	54.81
Pakistan	36.71	39.65	46.01	59.46	14.60	75.14	50.83	51.07	35.23	19.39	44.62	23.15	59.62	42.89	84.18	44.23	41.32	69.51	56.20

Peru	53.68	42.57	46.04	69.39	13.50	80.32	57.81	57.17	21.48	42.67	52.02	26.53	17.93	10.00	60.93	69.13	92.02	59.42	32.77
Philippines	42.50	39.44	40.23	49.82	88.54	50.94	39.25	58.57	27.77	35.63	22.61	17.18	62.67	57.95	69.77	48.08	72.63	73.01	32.74
Portugal	36.65	53.34	52.30	40.06	66.48	38.25	65.25	86.40	41.33	79.03	43.31	29.75	56.89	72.78	78.39	82.94	95.00	88.47	16.72
Qatar	19.35	48.42	48.63	71.60	10.00	86.58	58.66	94.11	41.60	54.71	72.37	22.66	59.86	68.75	95.00	85.59	13.73	88.79	23.77
Saudi Arabia	29.28	36.13	32.25	67.68	12.70	66.81	73.08	74.79	30.87	49.66	72.89	19.70	47.52	43.47	73.80	71.26	62.94	89.76	65.84
Senegal	50.48	64.25	54.58	50.81	37.80	53.62	39.90	71.49	28.91	17.46	61.19	49.40	61.24	68.51	73.78	41.12	54.74	60.57	28.42
Singapore	13.98	60.04	83.28	32.75	63.77	80.09	58.37	67.01	39.30	81.73	40.07	18.20	95.00	95.00	70.80	95.00	77.11	95.00	76.89
Somalia	95.00	48.65	68.01	52.97	35.96	72.64	53.17	41.36	12.61	10.00	70.74	12.69	40.31	55.66	51.94	13.96	34.61	10.00	26.51
South Africa	25.38	33.99	38.73	21.20	48.48	61.32	58.18	57.94	37.05	26.26	32.11	35.11	59.83	62.73	10.00	54.47	83.82	75.76	43.11
South Korea	45.06	42.44	31.37	52.30	65.55	63.09	50.95	63.47	32.77	78.12	34.85	25.74	58.74	70.21	83.25	88.89	80.09	88.60	89.97
Sri Lanka	47.39	69.47	47.83	42.37	82.80	62.00	49.20	69.96	37.74	46.02	17.75	21.57	61.01	75.52	52.65	67.98	56.97	79.85	95.00
Sudan	69.97	52.29	67.72	74.13	12.11	44.41	32.67	71.80	16.74	25.60	59.70	18.69	34.46	28.72	55.53	33.14	13.73	67.58	10.34
Tanzania	60.45	51.09	53.14	46.85	80.07	74.00	19.46	65.70	28.18	22.01	43.91	21.38	53.99	38.27	72.17	47.08	75.61	59.43	20.92
Thailand	35.24	31.70	47.51	50.66	83.43	52.86	46.51	73.72	55.57	42.61	44.96	20.53	59.74	62.81	81.64	71.36	71.89	81.03	27.59
Turkey	33.66	34.99	34.72	43.56	60.16	56.64	61.86	66.64	36.00	46.27	59.20	12.29	55.61	70.22	52.78	74.20	77.11	87.76	11.94
United Arab Emirates	21.78	39.77	50.13	76.63	12.08	89.38	74.74	75.36	35.39	50.28	58.91	24.52	56.61	58.96	90.64	81.10	49.52	92.15	29.99
Uruguay	47.55	53.99	22.77	40.11	70.95	54.55	60.27	42.07	42.11	58.76	76.09	41.60	40.72	65.71	61.11	77.01	84.56	84.85	26.59
Venezuela	39.91	56.28	52.62	52.45	76.42	73.87	58.02	73.29	43.45	43.40	48.76	44.60	48.78	54.75	60.40	67.83	80.09	56.83	63.38
Vietnam	31.94	31.47	31.56	45.53	77.45	73.46	35.95	57.44	48.14	49.55	67.19	21.54	63.13	65.03	78.81	56.81	72.63	73.60	41.84
Yemen	61.97	44.11	65.74	63.22	19.92	82.68	43.23	70.76	20.50	23.46	69.72	14.59	51.84	45.93	58.93	37.64	10.75	61.38	48.90



地址/Add.: 北京市西城区西单大木仓胡同33号院
No. 33 Damucang Hutong, Xidan, Xicheng District, Beijing, China
电话/Tel.: +86-010-66518560
邮箱/Email: codfsecretariat@gmail.com
网站/Website: www.cfocean.org



地址/Add.: 福建省厦门市厦门大学翔安校区金泉楼
Jinquan Building, Xiamen University Xiang'an Campus, Xiamen, Fujian, China
电话/Tel.: +86-592-2183833
邮箱/Email: fiso@xmu.edu.cn
网站/Website: fiso.xmu.edu.cn