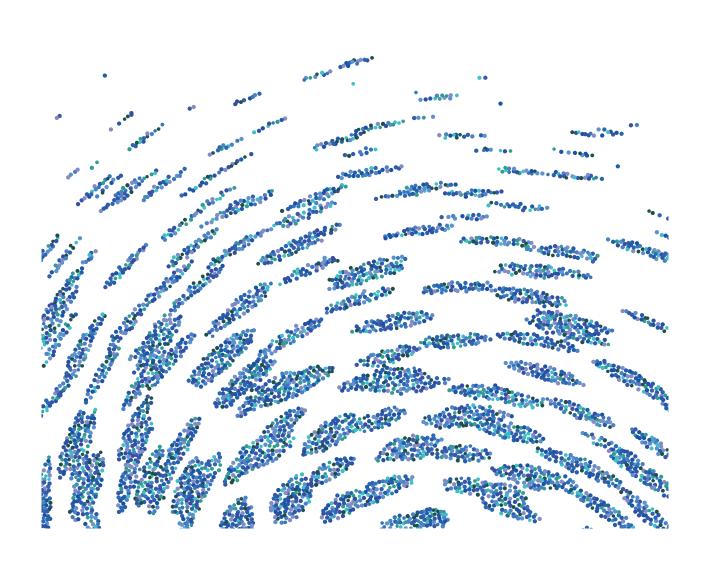




# CAPACITY INDEX OF SUSTAINABLE COASTAL DEVELOPMENT

FOR COUNTRIES ALONG
THE MARITIME SILK ROAD
2023



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

China Oceanic Development Foundation

Fujian Institute for Sustainable Oceans (Xiamen University)

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# **Table of Contents**

| For | word  | 1      |
|-----|---|--------|
|     | bout the Capacity Index of Sustainable Coastal Development for tries Along the Maritime Silk Road | 4      |
|     | desults of the Capacity Assessment on Sustainable Coastal lopment for Countries Along the MSR     | ···· 7 |
| 2.  | Overall Scores and Rankings   | 7      |
| 2.  | Scores and Rankings by Theme  | 11     |
| 2.  | 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 ten 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.

Under the background, the 21<sup>st</sup> 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 2023 Capacity Index of Sustainable Coastal Development for Countries Along the MSR is 2021. 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; for countries that extends less than 100km landward from the coastline, country-level data were extracted). 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. The 2023 edition of the report continues to utilize the more comprehensive, inclusive, and systematic framework of the 2022 edition, with the addition of Timor-Leste and Costa Rica. This brings the total number of assessed countries to 48, and maintains the currency of the data. 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 amalgamates 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 for each theme and subtheme are calculated and aggregated to derive 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 categorized by theme, subtheme, and indicator serve to position the countries between the lowest (10) to the highest (95) levels of sustainability.

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

|             | Population level   | Coastal population density                   |  |  |  |  |  |  |  |
|-------------|--------------------|--|--|--|--|--|--|--|--|
|             | Level of           |  |  |  |  |  |  |  |  |
|             | infrastructure     | Road network density                         |  |  |  |  |  |  |  |
| Social      | development        |  |  |  |  |  |  |  |  |
| Development | Income equality    | Gini coefficient                             |  |  |  |  |  |  |  |
| Bevelopment | meonic equality    | Unemployment, total (% of total labor force) |  |  |  |  |  |  |  |
|             | Standard of living | Average life expectancy                      |  |  |  |  |  |  |  |
|             | Standard of hving  | Engel coefficient                            |  |  |  |  |  |  |  |
|             | Gender equality    | Women business and the law index             |  |  |  |  |  |  |  |
| Economic    | Economic           | Coastal GDP per capita                       |  |  |  |  |  |  |  |
| Development | performance        | January 22. Per Sapita                       |  |  |  |  |  |  |  |
|             | Economic structure | Proportion of marine economy                 |  |  |  |  |  |  |  |

The indicator system integrates the distinctive attributes of each country with its coastal dynamics, offering a comprehensive assessment of both national and regional priorities. These priorities 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).

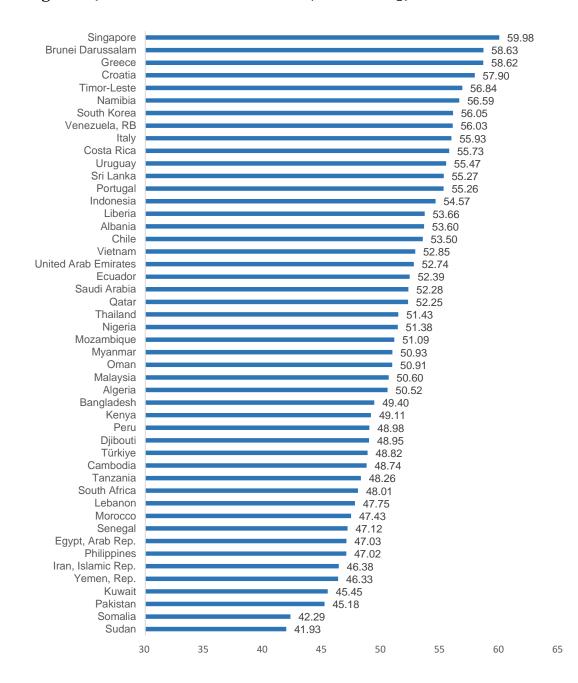


Figure 1 Overall scores and rankings of the capacity index of sustainable coastal development for countries along the MSR

The results reveal the average sustainable coastal development capacity index score of the countries along the MSR was 51.40. Close to half of the countries scored below average; therefore, much remains to be done to enhance the capacity of sustainable coastal development. Singapore topped the list with a higher score of 59.98. Sudan obtained the lowest score of 41.93. The top 10 countries in the comprehensive ranking are, in descending order: Singapore (59.98), Brunei (58.63), Greece (58.62), Croatia (57.90), Timor-Leste (56.84), Namibia (56.59), South Korea (56.05), Venezuela (56.03), Italy (55.93), and Costa Rica (55.73). The geographical distribution of the countries with their overall score is shown in Figure 2.

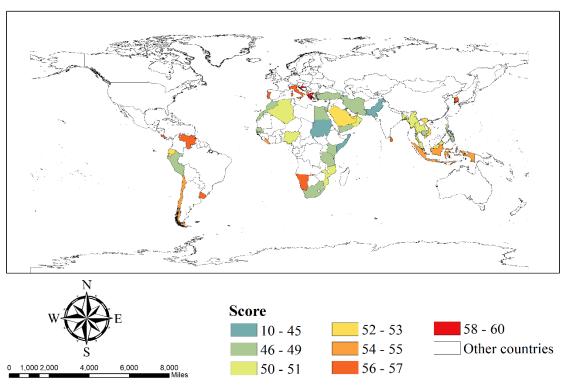


Figure 2 Geographical distribution of the countries with their overall score

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 was largely attributable to its 'social development' and 'freshwater', as well as 'economic development', scoring 86.21 (ranked 1st), 60.19 (3rd), and 85.94 (4th) respectively. Singapore's lowest scores were in 'atmosphere' with 38.33 and 'biodiversity' with 30.29, ranking 41st and 44th. Brunei, ranked and 'economic second overall, excelled in 'land', 'freshwater' development', with 73.74 (ranked 1st), 55.29 (ranked 5th), and 75.99 (ranked 7<sup>th</sup>) respectively. The country performed less favorably in 'ocean' (scoring 52.48 and ranking 45<sup>th</sup>). Greece's strengths laid in 'freshwater', 'economic development' and 'social development', ranking 1st, 2nd and 6th in each theme with 63,90, 87.77 and 71.02, respectively. Attention should be given to its 'biodiversity', which only scored 33.05 (in 40th place). Croatia performed outstandingly in 'biodiversity' (with 56.16, and ranked 4th), 'ocean' (with 67.63, ranking 8th), 'freshwater' (with 48.64, ranking 8th) and 'social development' (with 70.29, ranking 8th), while 'land' (with 45.21 and ranked 38th) required attention. Timor-Leste, ranking 5th overall, demonstrated excellent performance in 'atmosphere', 'land', and 'economic development', with 80.99 (1st place), 66.14 (3rd place), and 73.50 (8th place) respectively, but scored low for 'freshwater' (22.13, ranked 41st) and 'biodiversity' (30.29, ranked 43rd). Namibia excelled in 'biodiversity' (69.48, ranked 1st) and 'economic development' (83.07, ranked 5th), but lagged behind in 'freshwater' (25.22, ranked 37th) and 'social development' (37.20, ranked 47th). South Korea outranked all other countries in 'economic development' with 89.29, and achieved high scores in 'social development' (scoring 75.68 and ranking 3rd) and 'freshwater' (scoring 54.95 and ranking 6th), but received its lowest scores in 'atmosphere' (30.58, ranked 44th) and 'biodiversity' (29.15, ranked 46th). Venezuela obtained high scores in 'land' (65.50, ranked 4th), 'ocean' (71.28, ranked 5<sup>th</sup>) and 'biodiversity' (47.39, ranked 9<sup>th</sup>), but lagged

behind in 'atmosphere' (48.76, ranked 26<sup>th</sup>), 'freshwater' (37.19, ranked 24<sup>th</sup>), and 'economic development' (60.10, ranked 23<sup>rd</sup>). Italy performed well in 'freshwater' (scoring 63.64, 2<sup>nd</sup> place) and 'social development' (scoring 75.51, 4<sup>th</sup> place). It fell behind in 'ocean' (with 57.76 and ranked 36<sup>th</sup>) and 'atmosphere' (with 43.00 and ranked 38<sup>th</sup>). Costa Rica's overall sustainability performance was led by 'atmosphere' (69.25, ranked 4th) and 'land' (62.58, ranked 5th). The country scored low for 'biodiversity' (37.80, ranked 28th).

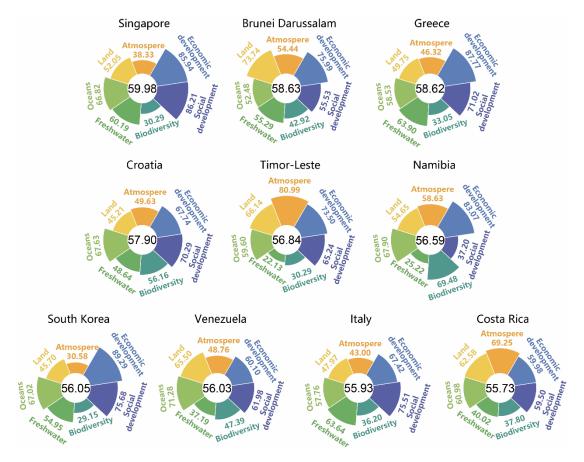


Figure 3 Performance graph by theme for the top 10 countries

## 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 | RANKING |
|-------------------|------------|---------|-------|---------|-------|---------|------------|---------|--------------|---------|--------------------|---------|----------|---------|
| Singapore         | 38.33      | 41      | 52.05 | 23      | 66.82 | 12      | 60.19      | 3       | 30.29        | 44      | 86.21              | 1       | 85.94    | 4       |
| Brunei Darussalam | 54.44      | 16      | 73.74 | 1       | 52.48 | 45      | 55.29      | 5       | 42.92        | 15      | 55.53              | 32      | 75.99    | 7       |
| Greece            | 46.32      | 29      | 49.75 | 27      | 58.53 | 33      | 63.90      | 1       | 33.05        | 40      | 71.02              | 6       | 87.77    | 2       |
| Croatia           | 49.63      | 24      | 45.21 | 38      | 67.63 | 8       | 48.64      | 8       | 56.16        | 4       | 70.29              | 8       | 67.74    | 12      |
| Timor-Leste       | 80.99      | 1       | 66.14 | 3       | 59.60 | 30      | 22.13      | 41      | 30.29        | 43      | 65.24              | 12      | 73.50    | 8       |
| Namibia           | 58.63      | 11      | 54.65 | 17      | 67.90 | 6       | 25.22      | 37      | 69.48        | 1       | 37.20              | 47      | 83.07    | 5       |
| South Korea       | 30.58      | 44      | 45.70 | 36      | 67.02 | 11      | 54.95      | 6       | 29.15        | 46      | 75.68              | 3       | 89.29    | 1       |
| Venezuela, RB     | 48.76      | 26      | 65.50 | 4       | 71.28 | 5       | 37.19      | 24      | 47.39        | 9       | 61.98              | 20      | 60.10    | 23      |
| Italy             | 43.00      | 38      | 47.97 | 31      | 57.76 | 36      | 63.64      | 2       | 36.20        | 31      | 75.51              | 4       | 67.42    | 14      |
| Costa Rica        | 69.25      | 4       | 62.58 | 5       | 60.98 | 25      | 40.02      | 17      | 37.80        | 28      | 59.50              | 21      | 59.98    | 24      |
| Uruguay           | 62.68      | 8       | 46.90 | 33      | 55.26 | 41      | 44.21      | 10      | 58.85        | 2       | 64.69              | 14      | 55.72    | 29      |
| Sri Lanka         | 53.91      | 17      | 58.88 | 13      | 63.67 | 20      | 36.41      | 26      | 20.17        | 47      | 66.40              | 11      | 87.43    | 3       |

| Portugal             | 49.38 | 25 | 53.60 | 18 | 62.38 | 22 | 55.97 | 4  | 37.04 | 29 | 75.87 | 2  | 52.59 | 34 |
|----------------------|-------|----|-------|----|-------|----|-------|----|-------|----|-------|----|-------|----|
| Indonesia            | 49.76 | 23 | 59.87 | 11 | 60.05 | 29 | 39.11 | 21 | 42.48 | 16 | 57.32 | 27 | 73.42 | 9  |
| Liberia              | 63.10 | 7  | 71.83 | 2  | 57.82 | 35 | 19.49 | 45 | 39.40 | 24 | 56.25 | 29 | 67.74 | 13 |
| Albania              | 55.28 | 15 | 49.16 | 29 | 65.90 | 16 | 38.77 | 22 | 29.64 | 45 | 70.95 | 7  | 65.53 | 16 |
| Chile                | 51.22 | 21 | 53.03 | 19 | 52.71 | 44 | 52.81 | 7  | 44.77 | 13 | 53.89 | 35 | 66.08 | 15 |
| Vietnam              | 43.41 | 37 | 52.93 | 20 | 59.56 | 31 | 42.42 | 12 | 44.95 | 12 | 68.98 | 9  | 57.72 | 27 |
| United Arab Emirates | 28.50 | 46 | 46.83 | 34 | 76.68 | 3  | 41.92 | 14 | 41.71 | 20 | 72.49 | 5  | 61.07 | 20 |
| Ecuador              | 56.09 | 14 | 57.70 | 15 | 66.24 | 14 | 37.64 | 23 | 32.81 | 42 | 65.03 | 13 | 51.21 | 37 |
| Saudi Arabia         | 27.43 | 47 | 37.88 | 48 | 73.41 | 4  | 39.99 | 18 | 46.83 | 10 | 62.61 | 18 | 77.80 | 6  |
| Qatar                | 30.06 | 45 | 43.69 | 41 | 77.64 | 2  | 46.73 | 9  | 47.53 | 6  | 63.83 | 17 | 56.28 | 28 |
| Thailand             | 44.69 | 34 | 62.15 | 6  | 57.36 | 37 | 39.80 | 19 | 33.06 | 39 | 68.59 | 10 | 54.31 | 32 |
| Nigeria              | 48.13 | 27 | 61.62 | 7  | 58.32 | 34 | 21.27 | 44 | 57.02 | 3  | 50.61 | 42 | 62.70 | 19 |
| Mozambique           | 66.46 | 6  | 60.88 | 8  | 67.66 | 7  | 23.37 | 39 | 36.91 | 30 | 51.88 | 39 | 50.49 | 39 |
| Myanmar              | 50.60 | 22 | 58.76 | 14 | 59.12 | 32 | 33.50 | 29 | 41.13 | 21 | 52.34 | 38 | 61.03 | 21 |
| Oman                 | 31.92 | 43 | 42.81 | 43 | 77.69 | 1  | 37.06 | 25 | 43.40 | 14 | 51.72 | 40 | 71.78 | 10 |
| Malaysia             | 45.71 | 31 | 52.70 | 21 | 63.99 | 19 | 42.38 | 13 | 39.20 | 26 | 55.14 | 33 | 55.12 | 31 |
| Algeria              | 43.46 | 36 | 45.84 | 35 | 61.74 | 24 | 36.30 | 27 | 38.80 | 27 | 57.48 | 26 | 70.03 | 11 |
| Bangladesh           | 46.79 | 28 | 51.09 | 24 | 51.55 | 46 | 40.27 | 16 | 34.81 | 35 | 58.04 | 24 | 63.21 | 17 |
| Kenya                | 66.62 | 5  | 50.02 | 26 | 60.49 | 27 | 21.83 | 42 | 47.39 | 8  | 51.69 | 41 | 45.73 | 43 |
| Peru                 | 53.66 | 18 | 47.77 | 32 | 67.37 | 10 | 31.92 | 30 | 39.88 | 23 | 56.15 | 30 | 46.09 | 42 |

| Djibouti           | 56.59 | 13 | 49.73 | 28 | 65.18 | 18 | 27.88 | 36 | 39.90 | 22 | 42.68 | 44 | 60.68 | 22 |
|--------------------|-------|----|-------|----|-------|----|-------|----|-------|----|-------|----|-------|----|
| Türkiye            | 42.79 | 39 | 45.42 | 37 | 62.24 | 23 | 40.97 | 15 | 36.01 | 32 | 64.47 | 15 | 49.85 | 40 |
| Cambodia           | 59.74 | 10 | 60.69 | 9  | 57.14 | 39 | 30.00 | 33 | 35.38 | 34 | 56.10 | 31 | 42.10 | 45 |
| Tanzania           | 69.95 | 3  | 59.70 | 12 | 54.39 | 42 | 22.47 | 40 | 32.86 | 41 | 58.24 | 23 | 40.18 | 46 |
| South Africa       | 57.54 | 12 | 43.06 | 42 | 60.35 | 28 | 28.23 | 35 | 34.31 | 37 | 53.17 | 36 | 59.43 | 25 |
| Lebanon            | 45.02 | 33 | 42.46 | 44 | 60.56 | 26 | 34.71 | 28 | 35.83 | 33 | 64.37 | 16 | 51.32 | 36 |
| Morocco            | 43.71 | 35 | 43.80 | 40 | 63.09 | 21 | 30.54 | 32 | 42.00 | 18 | 57.80 | 25 | 51.05 | 38 |
| Senegal            | 45.24 | 32 | 51.00 | 25 | 56.29 | 40 | 19.43 | 46 | 54.25 | 5  | 59.17 | 22 | 44.49 | 44 |
| Egypt, Arab Rep.   | 39.93 | 40 | 41.89 | 45 | 65.19 | 17 | 29.14 | 34 | 47.48 | 7  | 53.11 | 37 | 52.50 | 35 |
| Philippines        | 53.03 | 19 | 60.21 | 10 | 49.40 | 48 | 31.63 | 31 | 19.68 | 48 | 62.28 | 19 | 52.87 | 33 |
| Iran, Islamic Rep. | 34.72 | 42 | 44.68 | 39 | 66.29 | 13 | 39.65 | 20 | 46.24 | 11 | 45.43 | 43 | 47.68 | 41 |
| Yemen, Rep.        | 52.08 | 20 | 48.52 | 30 | 65.97 | 15 | 21.77 | 43 | 41.78 | 19 | 39.03 | 45 | 55.14 | 30 |
| Kuwait             | 19.59 | 48 | 39.31 | 47 | 67.38 | 9  | 43.55 | 11 | 34.01 | 38 | 56.42 | 28 | 57.91 | 26 |
| Pakistan           | 45.76 | 30 | 40.30 | 46 | 53.06 | 43 | 24.86 | 38 | 34.39 | 36 | 55.03 | 34 | 62.86 | 18 |
| Somalia            | 73.11 | 2  | 54.89 | 16 | 57.18 | 38 | 12.40 | 48 | 42.04 | 17 | 38.12 | 46 | 18.26 | 48 |
| Sudan              | 61.99 | 9  | 52.25 | 22 | 50.17 | 47 | 18.25 | 47 | 39.28 | 25 | 32.62 | 48 | 38.96 | 47 |

# 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

|                   | ATMOS          | SPHERE      |             | LAND     |                  |           | OCEAN              |                 | FRESH          | WATER         | BIODIVERSITY |           |                  | SOCIAL                              | . DEVELO        | PMENT              |                 | ECONOMIC DEVELOPMENT |                    |
|-------------------|----------------|-------------|-------------|----------|------------------|-----------|--------------------|-----------------|----------------|---------------|--------------|-----------|------------------|-------------------------------------|-----------------|--------------------|-----------------|----------------------|--------------------|
| COUNTRY           | 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           | 53.78          | 56.77       | 47.98       | 36.61    | 62.89            | 42.78     | 88.63              | 66.29           | 28.44          | 49.09         | 41.20        | 18.07     | 50.89            | 76.41                               | 71.85           | 70.77              | 84.83           | 82.21                | 48.85              |
| Algeria           | 40.56          | 46.35       | 52.77       | 42.39    | 42.36            | 62.59     | 39.88              | 82.76           | 24.53          | 48.07         | 63.41        | 14.19     | 60.19            | 51.22                               | 69.48           | 60.91              | 45.60           | 69.66                | 70.39              |
| Bangladesh        | 56.23          | 37.36       | 32.87       | 43.17    | 77.23            | 56.34     | 23.53              | 74.79           | 51.29          | 29.25         | 40.72        | 28.89     | 70.23            | 71.85                               | 69.58           | 42.40              | 36.15           | 68.43                | 58.00              |
| Brunei Darussalam | 34.16          | 74.72       | 67.10       | 59.43    | 94.70            | 57.58     | 61.63              | 38.24           | 36.45          | 74.13         | 63.64        | 22.21     | 44.27            | 44.09                               | 73.38           | 75.40              | 40.51           | 91.99                | 59.99              |
| Cambodia          | 54.55          | 64.93       | 39.38       | 53.24    | 89.45            | 55.28     | 56.76              | 59.37           | 25.31          | 34.69         | 41.05        | 29.71     | 38.99            | 47.98                               | 80.60           | 46.97              | 65.94           | 71.44                | 12.77              |
| Chile             | 48.17          | 54.27       | 39.06       | 63.58    | 56.45            | 52.74     | 60.57              | 44.81           | 42.56          | 63.06         | 48.85        | 40.69     | 37.20            | 24.32                               | 56.02           | 80.18              | 71.75           | 84.91                | 47.25              |
| Costa Rica        | 54.99          | 83.51       | 48.46       | 45.29    | 94.01            | 67.09     | 72.94              | 42.92           | 26.74          | 53.30         | 45.84        | 29.76     | 50.11            | 59.48                               | 42.32           | 66.56              | 79.02           | 78.41                | 41.55              |
| Croatia           | 43.53          | 55.74       | 27.24       | 40.83    | 67.56            | 60.79     | 74.79              | 67.29           | 37.22          | 60.06         | 86.90        | 25.41     | 44.49            | 64.15                               | 79.25           | 75.81              | 87.74           | 86.48                | 49.00              |

|                    |       | l     | 1     | 1     |       |       | l     | l     |       |       | l     | l     |       | l     | l     |       |       | 1     | 1     |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Djibouti           | 63.94 | 49.25 | 71.15 | 62.71 | 15.34 | 72.28 | 47.20 | 76.06 | 33.90 | 21.86 | 67.60 | 12.21 | 30.69 | 54.26 | 32.80 | 34.05 | 61.58 | 77.22 | 44.13 |
| Ecuador            | 51.24 | 60.94 | 45.47 | 44.42 | 83.22 | 65.64 | 64.42 | 68.66 | 29.28 | 46.01 | 33.33 | 32.30 | 51.40 | 62.73 | 62.02 | 66.36 | 82.65 | 74.84 | 27.58 |
| Egypt, Arab Rep.   | 43.11 | 36.75 | 28.99 | 78.86 | 17.80 | 59.51 | 48.88 | 87.17 | 20.72 | 37.55 | 73.28 | 21.69 | 57.35 | 48.65 | 76.35 | 52.15 | 31.07 | 79.04 | 25.96 |
| Greece             | 44.93 | 47.72 | 36.75 | 46.99 | 65.49 | 44.44 | 56.42 | 74.73 | 32.79 | 95.00 | 39.83 | 26.27 | 47.26 | 69.91 | 63.20 | 82.61 | 92.09 | 88.50 | 87.03 |
| Indonesia          | 49.50 | 50.03 | 33.60 | 52.29 | 93.72 | 60.60 | 50.26 | 69.28 | 50.68 | 27.55 | 65.58 | 19.38 | 55.74 | 52.06 | 73.61 | 51.63 | 53.59 | 77.28 | 69.56 |
| Iran, Islamic Rep. | 37.03 | 32.41 | 52.50 | 58.80 | 22.73 | 66.02 | 61.24 | 71.61 | 31.47 | 47.83 | 73.08 | 19.40 | 45.49 | 42.73 | 59.20 | 64.64 | 15.09 | 85.35 | 10.00 |
| Italy              | 39.19 | 46.82 | 34.93 | 41.97 | 67.02 | 50.21 | 53.91 | 69.16 | 38.00 | 89.28 | 46.23 | 26.17 | 55.07 | 73.56 | 68.80 | 88.00 | 92.09 | 93.14 | 41.71 |
| Kenya              | 66.45 | 66.79 | 51.94 | 44.50 | 53.62 | 68.55 | 40.16 | 72.75 | 25.59 | 18.08 | 76.19 | 18.59 | 48.26 | 47.25 | 65.95 | 24.52 | 72.48 | 70.56 | 20.90 |
| Kuwait             | 21.89 | 17.29 | 29.14 | 77.10 | 11.68 | 69.91 | 45.78 | 86.46 | 32.20 | 54.90 | 47.22 | 20.80 | 57.89 | 45.79 | 87.13 | 79.11 | 12.18 | 93.18 | 22.64 |
| Lebanon            | 37.53 | 52.50 | 47.94 | 38.30 | 41.14 | 59.28 | 52.83 | 69.56 | 23.35 | 46.08 | 60.27 | 11.38 | 66.56 | 73.91 | 68.91 | 72.70 | 39.79 | 76.24 | 26.40 |
| Liberia            | 72.79 | 53.41 | 70.85 | 52.08 | 92.57 | 49.15 | 39.65 | 84.65 | 24.44 | 14.54 | 61.28 | 17.51 | 46.27 | 56.53 | 77.33 | 27.93 | 73.21 | 59.53 | 75.95 |
| Malaysia           | 37.35 | 54.07 | 14.78 | 48.31 | 95.00 | 61.68 | 58.59 | 71.70 | 37.45 | 47.31 | 57.41 | 20.98 | 54.17 | 48.73 | 68.86 | 67.05 | 36.88 | 86.16 | 24.08 |
| Morocco            | 54.12 | 33.29 | 50.68 | 55.84 | 24.88 | 52.25 | 50.38 | 86.64 | 23.52 | 37.56 | 62.47 | 21.52 | 49.42 | 45.86 | 66.58 | 60.48 | 66.67 | 72.01 | 30.10 |
| Mozambique         | 70.53 | 62.39 | 61.88 | 48.26 | 72.49 | 79.03 | 53.39 | 70.56 | 26.29 | 20.44 | 46.05 | 27.77 | 45.76 | 42.22 | 70.76 | 25.97 | 74.66 | 54.97 | 46.00 |
| Myanmar            | 53.61 | 47.60 | 43.95 | 49.15 | 83.19 | 61.73 | 33.22 | 82.41 | 35.12 | 31.87 | 62.95 | 19.31 | 52.45 | 46.58 | 85.72 | 29.90 | 47.05 | 64.85 | 57.22 |
| Namibia            | 61.87 | 55.39 | 81.52 | 70.93 | 11.49 | 41.94 | 74.51 | 87.25 | 27.96 | 22.49 | 85.73 | 53.23 | 10.00 | 24.55 | 24.77 | 47.67 | 79.02 | 82.96 | 83.17 |
| Nigeria            | 56.98 | 39.29 | 56.85 | 50.65 | 77.35 | 69.86 | 28.57 | 76.52 | 32.42 | 10.12 | 73.33 | 40.71 | 68.61 | 48.07 | 74.23 | 10.00 | 52.14 | 75.93 | 49.48 |
| Oman               | 31.97 | 31.87 | 33.41 | 81.16 | 13.88 | 80.32 | 64.04 | 88.72 | 28.31 | 45.80 | 65.48 | 21.33 | 37.30 | 45.18 | 88.04 | 67.93 | 20.17 | 88.76 | 54.81 |
| Pakistan           | 57.77 | 33.74 | 46.88 | 59.46 | 14.57 | 74.60 | 40.32 | 44.27 | 30.32 | 19.39 | 43.64 | 25.14 | 63.02 | 42.89 | 81.00 | 44.80 | 43.42 | 69.51 | 56.20 |
| Peru               | 53.02 | 54.30 | 47.69 | 69.39 | 26.22 | 85.15 | 55.50 | 61.46 | 21.17 | 42.67 | 52.06 | 27.70 | 48.60 | 10.00 | 68.64 | 64.33 | 89.19 | 59.42 | 32.77 |

| <b>-</b>             |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Philippines          | 51.12 | 54.94 | 39.28 | 49.82 | 91.54 | 54.17 | 33.80 | 60.24 | 27.63 | 35.63 | 22.03 | 17.33 | 61.49 | 57.95 | 71.63 | 50.01 | 70.30 | 73.01 | 32.74 |
| Portugal             | 43.93 | 54.82 | 53.85 | 40.06 | 66.90 | 35.86 | 64.74 | 86.54 | 32.92 | 79.03 | 43.32 | 30.77 | 53.78 | 72.78 | 73.81 | 83.98 | 95.00 | 88.47 | 16.72 |
| Qatar                | 26.70 | 33.41 | 49.48 | 71.60 | 10.00 | 91.29 | 47.37 | 94.24 | 38.76 | 54.71 | 71.64 | 23.42 | 56.66 | 68.75 | 95.00 | 85.85 | 12.91 | 88.79 | 23.77 |
| Saudi Arabia         | 30.83 | 24.03 | 32.86 | 67.68 | 13.10 | 64.42 | 77.97 | 77.84 | 30.32 | 49.66 | 72.81 | 20.85 | 46.52 | 43.47 | 75.62 | 75.69 | 71.75 | 89.76 | 65.84 |
| Senegal              | 57.03 | 33.44 | 61.14 | 50.81 | 41.04 | 57.62 | 34.71 | 76.53 | 21.41 | 17.46 | 61.13 | 47.37 | 59.05 | 68.51 | 73.83 | 37.97 | 56.50 | 60.57 | 28.42 |
| Singapore            | 19.51 | 57.15 | 56.71 | 32.75 | 66.69 | 77.87 | 51.94 | 70.66 | 38.64 | 81.73 | 39.49 | 21.09 | 95.00 | 95.00 | 71.49 | 94.88 | 74.66 | 95.00 | 76.89 |
| Somalia              | 95.00 | 51.22 | 79.55 | 52.97 | 32.15 | 72.13 | 53.54 | 45.86 | 14.80 | 10.00 | 70.29 | 13.79 | 36.94 | 55.66 | 51.16 | 13.59 | 33.25 | 10.00 | 26.51 |
| South Africa         | 55.15 | 59.93 | 37.78 | 21.20 | 70.19 | 58.83 | 59.92 | 62.30 | 30.21 | 26.26 | 31.87 | 36.74 | 56.95 | 62.73 | 10.00 | 54.97 | 81.20 | 75.76 | 43.11 |
| South Korea          | 20.30 | 40.86 | 33.62 | 52.30 | 51.19 | 63.35 | 70.62 | 67.10 | 31.79 | 78.12 | 34.43 | 23.86 | 55.84 | 70.21 | 83.54 | 91.26 | 77.56 | 88.60 | 89.97 |
| Sri Lanka            | 54.46 | 53.36 | 48.16 | 42.37 | 86.11 | 61.51 | 56.58 | 72.92 | 26.79 | 46.02 | 17.75 | 22.58 | 60.74 | 75.52 | 71.78 | 68.94 | 55.04 | 79.85 | 95.00 |
| Sudan                | 80.74 | 43.24 | 70.50 | 74.13 | 12.13 | 42.95 | 33.97 | 73.59 | 10.90 | 25.60 | 59.58 | 18.98 | 31.37 | 28.72 | 55.95 | 34.16 | 12.91 | 67.58 | 10.34 |
| Tanzania             | 70.13 | 69.78 | 57.68 | 46.85 | 74.56 | 76.32 | 20.15 | 66.71 | 22.94 | 22.01 | 43.46 | 22.25 | 52.83 | 38.27 | 71.74 | 55.18 | 73.21 | 59.43 | 20.92 |
| Thailand             | 41.46 | 47.92 | 48.83 | 50.66 | 86.98 | 49.26 | 45.20 | 77.62 | 37.00 | 42.61 | 44.48 | 21.64 | 57.40 | 62.81 | 81.58 | 71.61 | 69.57 | 81.03 | 27.59 |
| Timor-Leste          | 70.27 | 91.71 | 74.22 | 39.03 | 85.17 | 65.71 | 50.00 | 63.11 | 15.60 | 28.67 | 48.46 | 12.12 | 48.86 | 72.56 | 84.24 | 41.53 | 79.02 | 82.94 | 64.06 |
| Türkiye              | 38.63 | 46.96 | 34.78 | 43.56 | 57.93 | 53.69 | 63.51 | 69.52 | 35.68 | 46.27 | 59.27 | 12.74 | 52.52 | 70.22 | 56.13 | 68.82 | 74.66 | 87.76 | 11.94 |
| United Arab Emirates | 26.01 | 31.00 | 51.57 | 76.63 | 12.30 | 86.66 | 65.98 | 77.40 | 33.56 | 50.28 | 58.60 | 24.83 | 54.24 | 58.96 | 90.63 | 83.96 | 74.66 | 92.15 | 29.99 |
| Uruguay              | 57.28 | 68.08 | 23.57 | 40.11 | 77.01 | 54.52 | 64.65 | 46.61 | 29.66 | 58.76 | 76.09 | 41.60 | 39.12 | 65.71 | 61.61 | 75.08 | 81.92 | 84.85 | 26.59 |
| Venezuela, RB        | 47.24 | 50.28 | 60.73 | 52.45 | 83.31 | 71.27 | 61.20 | 81.38 | 30.99 | 43.40 | 48.67 | 46.11 | 48.60 | 54.75 | 60.43 | 68.53 | 77.56 | 56.83 | 63.38 |
| Vietnam              | 41.06 | 45.77 | 32.00 | 45.53 | 81.26 | 65.62 | 47.65 | 65.43 | 35.29 | 49.55 | 66.96 | 22.93 | 62.89 | 65.03 | 77.24 | 62.19 | 77.56 | 73.60 | 41.84 |
| Yemen, Rep.          | 67.49 | 36.67 | 62.56 | 63.22 | 19.77 | 80.98 | 43.68 | 73.26 | 20.09 | 23.46 | 69.36 | 14.21 | 49.10 | 45.93 | 57.86 | 32.24 | 10.00 | 61.38 | 48.90 |



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