Approach Paper

Making Waves: An Evaluation of the World Bank's Support for the Blue Economy (2012–23)

March 13, 2023

1. Background

1.1   Marine and coastal resources are critical for human survival. Oceans provide at least half of the oxygen on Earth. They also regulate the climate by transferring about 10 gigatons of carbon from the atmosphere deep into the oceans each year (Lindsey and Scott 2010). To put that into perspective, an estimated 36.3 gigatons of carbon dioxide were emitted globally in 2021 (IEA 2022). Fish and other aquatic foods account for 17 percent of the average per capita intake of animal protein globally. In many coastal least developed countries and small island developing states (including Bangladesh, Kiribati, Mozambique, and Sierra Leone), aquatic foods contribute no less than 50 percent of total animal protein intake (FAO 2022).

1.2   The economies of many coastal developing countries and small island developing states rely heavily on maritime industries, associated trade, and tourism. Prior to COVID-19, it was estimated that the total export value of ocean-based industries was US$2.5 trillion (UNCTAD 2021a) and that ocean freight transport volumes would quadruple by 2050 (ITF and OECD 2015). Ninety percent of global trade is carried out on oceans, and developing countries account for 60–70 percent of this trade by volume (UNCTAD 2021b). Tourism contributes about 10 percent of global GDP, 80 percent of which includes coastal and marine activities. Coastal and marine tourism is an essential component of many small island developing state economies (OECD 2020).

1.3   In coastal and island developing countries, small-scale fisheries and other ocean sectors support a significant number of jobs and livelihood opportunities**.** Most of the 3 billion people who rely on the sea for their livelihoods reside in developing countries (UN 2015). Forty percent of global fish capture and production is sourced from small-scale fisheries, and more than 90 percent of fishers and fish workers globally are engaged in small-scale production (FAO 2022). As a result, about half a billion people globally depend on small-scale fisheries for their livelihoods and nutrition. Most fishers and fish farmers live in Asia (80 percent), followed by Africa and Latin America and the Caribbean (10 percent and 4 percent, respectively; FAO 2022). Marine and coastal tourism is also an important source of jobs and livelihoods in developing countries. More than 80 percent of the 300 million people working in the tourism industry live in developing countries (WTTC 2022).

1.4   Marine and coastal resources also provide critical ecosystem services on which the ocean economy relies. These services include the existence of biodiversity, coastal protection, and carbon sequestration. Intact coral reefs substantially reduce coastal flooding and erosion by dissipating as much as 97 percent of incident wave energy. Mangroves provide flood protection benefits exceeding US$65 billion in avoided losses per year (Menéndez et al. 2020). Acre by acre, mangroves can also store up to four times as much as terrestrial forests do, while protecting communities from disasters and providing food and livelihoods (Donato et al. 2011). Protecting and effectively managing marine and coastal resources is therefore critical to achieving large economic benefits and livelihood effects.

1.5   Yet historically, ocean-based sectors have expanded without sufficient consideration for sustainability, negatively affecting marine and coastal environments. One million hectares of mangroves were destroyed between 1990 and 2020, mostly because of coastal development, agricultural policies (that is, rice expansion, shrimp farming), tourism, and extraction for local energy needs (FAO 2020; NASA 2020). The share of overfished stocks has tripled since the 1970s, threatening the food security and livelihoods of millions. The annual economic loss due to overfishing is estimated at US$83 billion annually (World Bank 2017). Marine pollution, such as sewage discharge, plastics, household chemicals and drugs, agricultural fertilizers, and petrochemical leakage, degrade the resilience of coastal and marine ecosystems that underpin the blue economy (UNEP 2021). For example, the cumulative mass of plastic pollution added to aquatic systems as a result of plastic mismanagement between 2016 and 2040 is expected to amount to 250 million metric tons (Lau et al. 2020). The economic impact of plastic pollution on marine natural capital is estimated to be a loss of US$330 billion to the global economy each year (UNEP 2022). Increased amounts of litter that make their way into oceans tend to correlate with touristic seasonality (Garcés-Ordóñez et al. 2020; Veiga et al. 2016). Plastics in particular are stressors that may combine with other stressors (for example, climate change or overexploitation of marine resources), resulting in far greater damage than when they are considered in isolation (Backhaus and Wagner 2019).

1.6   Moreover, the negative impacts of climate change are exacerbating the serious threats posed to ocean economies. Although the impacts of climate change on marine environments are complex, higher rates of acidification, sea-level rise, and higher water temperatures are threatening the survival of critical marine biodiversity and the functioning of ecosystem services. More than 90 percent of the warming that has happened on Earth over the past 50 years has occurred in the ocean (Lindsey and Dahlman 2020). A temperature increase of 1.5 degrees Celsius threatens to destroy 70 to 90 percent of coral reefs, and an increase of 2 degrees Celsius could result in a nearly

100 percent loss—a point of no return (WMO 2022). Rising sea levels and temperatures are leading to more frequent and intense hazards from natural disasters, including from storm surges, flooding, erosion, and landslides.

1.7   COVID-19 negatively affected coastal developing countries and small island developing state economies that rely heavily on tourism, and while there were some positive environmental effects, these have been short lived. The COVID-19 crisis has had pervasive effects on the development of maritime sectors such as transport and shipping, cruise tourism, and fisheries. Globally, COVID-19 caused a 70 percent decrease in international tourism, much of which is marine, marking a return to the levels of 30 years ago (Vermeulen-Miltz et al. 2022). However, periods of restricted movement have also resulted in decreased levels of marine pollution and litter on beaches and the regeneration of marine-coastal ecosystems, including increased density of coral reefs and increased fauna diversity in mangroves (Chaudhuri and Bhattacharyya 2021; Lecchini et al. 2021; Mallik et al. 2022; Ormaza-González, Castro-Rodas, and Statham 2021). But contemporary research is showing that these positive impacts are mainly temporary (Silva et al. 2022).

1.8   Critical knowledge and skills gaps undermine the ability of many countries to manage their marine and coastal resources sustainably. Globally, there is inadequate valuation of marine resources and ecosystem services, and many countries do not use coastal and ocean planning tools or are only in the nascent stages of doing so. Compared with terrestrial protected areas, there are relatively few marine protected areas, and they tend to be smaller, lack proper enforcement, and be in conflict with the fishery sector (Grip and Blomqvist 2020). Moreover, only 6 percent of coral reefs are located inside marine protected areas deemed to be effective (Burke et al. 2011).

1.9   Addressing the threats posed to marine and coastal resources is politically challenging because coastal areas attract many competing uses and diverging interests. In an increasingly competitive space, there are multiple dimensions through which divergent interests emerge in the blue economy landscape. These include conflicts between growth and conservation aims and issues of how to determine priorities. For example, an ocean area may have high growth potential associated with multiple economic activities—such as shipping, fishing, aquaculture, tourism, or the development of offshore energy or mining—while also being a biodiversity hotspot. Or the interests of small-scale artisanal fishers, who depend on coastal and marine areas for their livelihoods, may overlap with and compete against the interests of other sectors with higher potential for economic benefits.

The Blue Economy

1.10   Since the United Nations Conference on Sustainable Development (known as Rio+20) in 2012, the international community has been advancing the notion of a blue economy that puts marine and coastal health, sustainable growth, and social inclusion on an equal footing. Although there is no single definition of the blue economy, it is widely accepted that it must achieve triple bottom-line objectives (financial, social, and environmental). These objectives include (i) ecosystem health in terms of species, ecological functions, and water quality; (ii) economic growth (revenues and jobs), which require ecosystem health; and (iii) equitable benefits to front-line coastal communities and vulnerable populations (Cisneros-Montemayor et al. 2021).

1.11   Although there is consensus on the three objectives, varying narratives are used by different stakeholder groups that favor particular interpretations of the blue economy definition in line with their interests. A review of emerging narratives about the blue economy concept summarized them in relation to four main lenses (Voyer et al. 2018): (i) oceans as natural capital (the focus of groups such as the World Wildlife Fund); (ii) oceans as sources of livelihoods (the focus of the Food and Agriculture Organization and the United Nations Sustainable Development Goals); (iii) oceans as good business (the focus of the Economic Commission and the Organisation for Economic Co-operation and Development, for example); and (iv) oceans as a driver of innovation.

1.12   The blue economy comprises the range of economic sectors and policies that promote the sustainable and inclusive use of oceanic resources. It includes traditional ocean industries such as fisheries, tourism, and maritime transport, and emerging activities, such as offshore renewable energy, aquaculture, and seabed extractive activities. It also comprises several services provided by ocean ecosystems for which markets do not exist, such as carbon sequestration, coastal protection, waste disposal, and the existence of biodiversity (World Bank and UN DESA 2017). At its core, the blue economy approach pivots away from sector-led interventions toward a holistic approach focused on sustainable growth.

2. Role of the World Bank

2.1   The World Bank has been shifting its support for marine and coastal development by adopting a blue economy approach. Since the launch of the Blue Agenda at Rio+20 in 2012, it became apparent that the sustainable development of ocean and coastal resources would require collaboration across nation states, sectors and industry areas, and public-private actors on a larger scale than previously achieved. At that conference, the World Bank launched the Global Partnership for Oceans and subsequently hosted the secretariat until 2015. The partnership focused on the

sustainable economic development of ocean resources, including by supporting the implementation of projects designed to promote sustainable fishing, the protection of coastal and ocean habitats and biodiversity, and the reduction of marine pollution. Trust funds such as PROFISH helped enable the implementation of this portfolio. In 2016, the World Bank launched its Blue Economy Development Framework that promotes an even more integrated approach for the sustainable development of marine and coastal areas. It differs from previous approaches in that it explicitly seeks to achieve a triple bottom line. This aim is enshrined in the definition put forth by the Blue Economy Development Framework. In that framework, the blue economy is defined as the "sustainable use of ocean resources for economic growth, improved livelihoods, and job creation while preserving the health of ocean ecosystems." The framework includes a set of analytical tools and technical assistance to help countries define a road map to a diversified and sustainable maritime economy, while building resilience to climate change. These tools include support for marine spatial planning, integrated coastal zone management, blue public expenditure reviews, value chain assessments, and natural capital accounting.

2.2   The recognition of the need for a more integrated approach to marine and coastal development is enshrined further in the joint World Bank–United Nations action plan, *The Potential of the Blue Economy* (World Bank and UN DESA 2017). That plan states the following:

> Central to a transformational response to decades of overfishing, marine pollution, and unplanned coastal development is the need to move from purely sectoral marine and coastal management to a joined approach that incorporates and integrates the seemingly competing interests for oceans and coastal resources with space from different ministries and other stakeholders, within a robust ecosystem approach framework and through a spatial planning perspective, which is key to ensuring equitable access among diverse interests and users"(World Bank and UN DESA 2017, 23.)

2.3   The World Bank's support for the blue economy aligns with its commitments to support the Sustainable Development Goals and to address the negative impacts of climate change. The World Bank is committed to helping countries achieve their Sustainable Development Goals, including SDG 14: "Life Below Water: Conserve and sustainably use the oceans, seas, and marine resources for sustainable development," which includes targets for ocean and coastal conservation, reduction of overfishing and marine pollution, and so on. There has also been increasing recognition of the opportunities afforded by oceans for achieving climate change goals, as progressively reflected in the World Bank Group's Climate Change Action Plans I and II. The Bank Group's evolving commitments are depicted in figure 2.1.

Figure 2.1. The World Bank's Evolving Commitments to the Blue Economy

2016: Blue Economy Development Framework launched

2016: World Bank Group Climate Change Action Plan I (FY16–20)

2017: World Bank's ASA "The Potential of the Blue Economy"

2021: World Bank's ASA "Riding the Blue Wave"

2021: World Bank Group Climate Change Action Plan II (FY21–25)

2012: Rio+20 and World Bank Group's Environmental Strategy (FY12–22)

2019: Environment and Natural Resources GP changes name to Environment, Natural Resources and Blue Economy GP

2015: Sustainable Development Goals

2018: PROBLUE created

2019: World Bank Group Climate Change Adaptation and Resilience Plan

Source: Independent Evaluation Group.
Note: ASA = advisory services and analytics; FY = fiscal year; GP = Global Practice.

2.4   The World Bank seeks to contribute to sustainable and inclusive growth of the blue economy through a range of services and instruments and along with many other actors. These offerings include analytical services, policy dialogue, and financing (including the PROBLUE trust fund launched in 2018 that finances analytical and advisory work and preparatory work for investment operations), and supporting activities related to more efficient use of resources. The World Bank works with many other actors in the marine and coastal space, including (among others) the United Nations, international and local nongovernmental organizations, and community-based organizations.

3. Evaluation Purpose and Scope

3.1   The purpose of this evaluation is to assess how well the World Bank is supporting the sustainable and inclusive development of ocean and coastal economies to inform the future development of the blue economy approach. This evaluation was requested by the Board of Executive Directors' Committee on Development Effectiveness and by the World Bank. Noting that the blue economy agenda is an evolving approach, the World Bank explicitly requested a forward-looking evaluation. To date, World Bank efforts have focused on concretizing the blue economy approach and managing countries to transition to this newer concept. More recently, the World Bank has begun to operationalize a more holistic approach focused on integrated and sustainable growth. The evaluation is therefore designed to capture lessons relevant to the rollout of the blue economy agenda at three levels—corporate, country, and portfolio—to inform its future development.
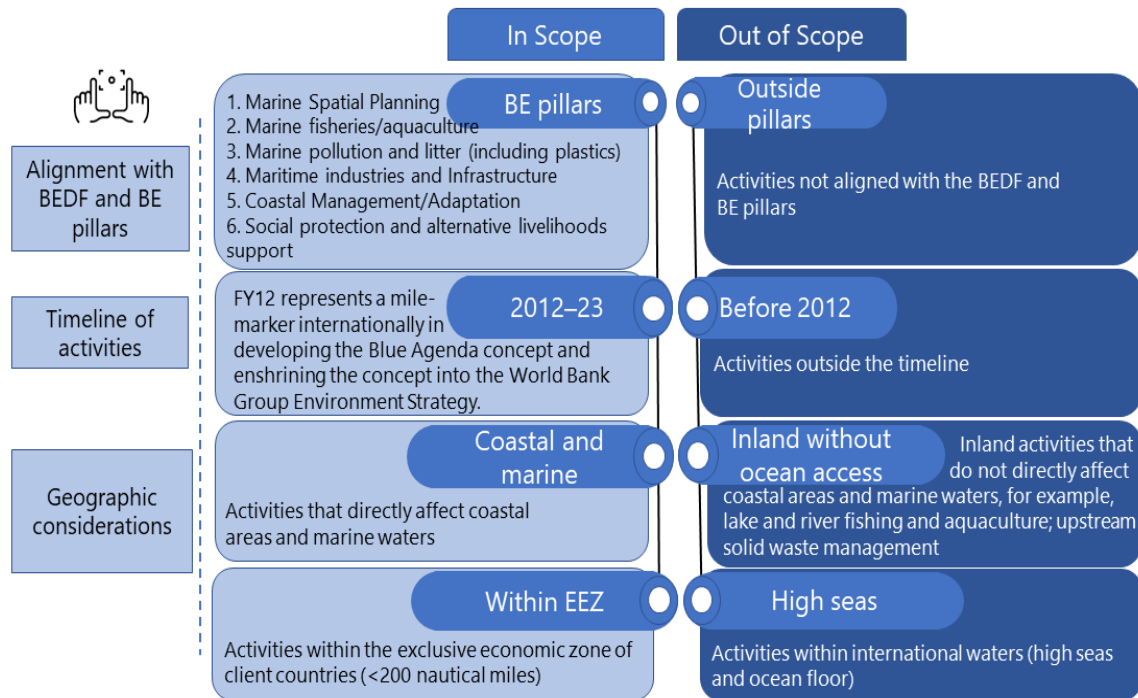
3.2   The evaluation was included in the work program of the Independent Evaluation Group (IEG) as a World Bank–only evaluation. When analyzing the role of the private

sector, the International Finance Corporation will be considered, among other key actors, in relation to the World Bank's goal of achieving blue economy aims. IEG plans to cover the relevance and effectiveness of International Finance Corporation interventions related to the blue economy in a future IEG work program.

3.3 The evaluation scope consists of three parameters: timing, geographic considerations, and types of activities. Figure 3.1 depicts the evaluation's scoping criteria. On timing, the evaluation covers the period between FY12 and FY23. We chose this time frame to enable an analysis of the evolving integration of blue economy concepts into projects over time (see also methods in 6.3). On the geographic scope, the evaluation has been delimited to include only countries that have a coastline or any form of ocean access (that is, landlocked countries are excluded). It also includes activities in countries' exclusive economic zones (within 200 nautical miles of their shoreline) but excludes activities in international waters. On the type of activities, the portfolio is scoped to include lending and nonlending activities aligned with PROBLUE pillars and the Blue Economy Development Framework. As also depicted in figure 3.1, these activities include (i) marine spatial planning, and management and governance of marine and coastal areas; (ii) marine fisheries and aquaculture; (iii) marine pollution and litter (including plastics); (iv) maritime industries and infrastructure (for example, shipping, tourism, offshore energy, ports); (v) coastal adaptation (for example, mangroves, flood protection); and (vi) social protection and alternative livelihoods support (see appendix B for the extended description of the portfolio selection).

3.4 The evaluation contributes to IEG's work streams on climate change and environmental sustainability and on jobs, growth, and shared prosperity and builds on relevant past evaluation findings. Although this is the first IEG evaluation to assess the World Bank's support for the blue economy, several other evaluations have yielded findings relevant to the evaluation scope that will inform this evaluation. These past evaluations include *Transitioning to a Circular Economy: An Evaluation of the World Bank Group's Support for Municipal Solid Waste Management (2010–20)*, which covered aspects of marine pollution and litter, including plastics; *The Natural Resource Degradation and Vulnerability Nexus: An Evaluation of the World Bank's Support for Sustainable and Inclusive Natural Resource Management (2009–19)*, which covered small-scale fisheries; *Reducing Disaster Risks from Natural Hazards: An Evaluation of the World Bank's Support, Fiscal Years 2010–20*, which covered nature-based solutions and other resilience activities; *Toward a Clean World for All: An IEG Evaluation of the World Bank Group's Support to Pollution Management*, which included some analyses of wastewater; and *World Bank Group Approaches to Mobilize Private Capital for Development*.

Figure 3.1. Evaluation Scoping Criteria
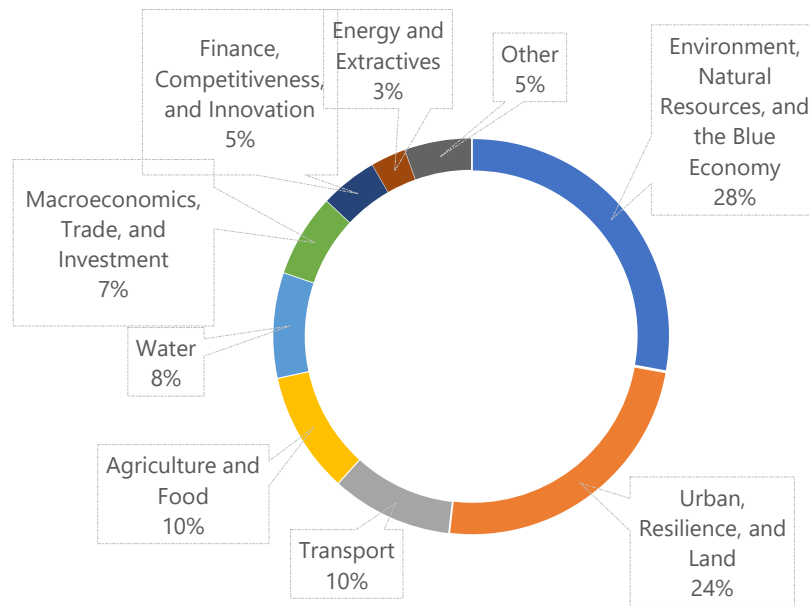

Source: Independent Evaluation Group.
Note: BE = blue economy; BEDF = Blue Economy Development Framework; EEZ = exclusive economic zone; FY = fiscal year; SWM = solid waste management.
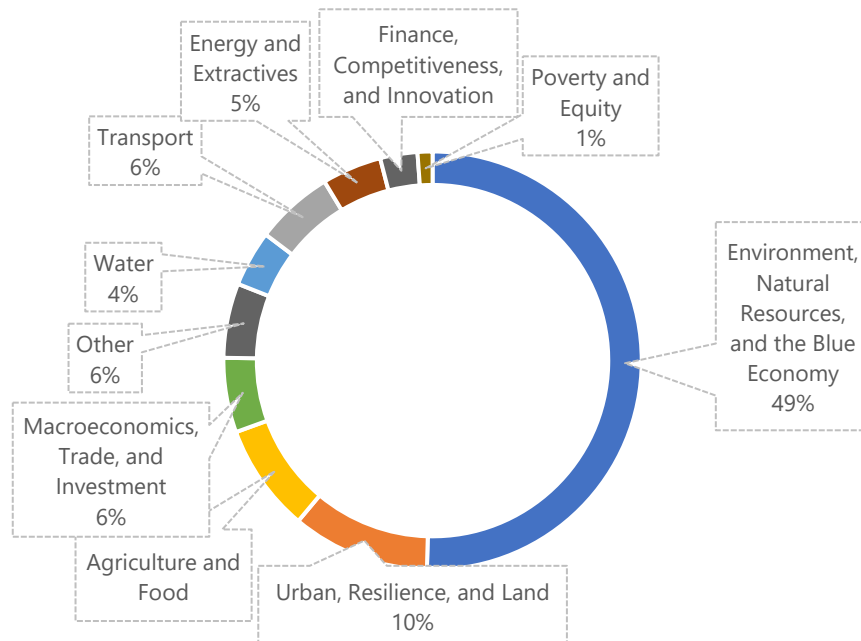
4. Portfolio

4.1   The evaluation covers World Bank projects (lending and nonlending) approved between FY12 and FY23 that have activities aligned with the PROBLUE pillars and blue economy evaluation theory of action. Based on the scoping criteria, the approach has preliminarily identified 384 World Bank lending operations in 77 countries with a total commitment of US$29.53 billion and 356 World Bank analytics. Fifty-two percent of the lending and nonlending portfolio is mapped to the Environment, Natural Resources, and Blue Economy Global Practice and the Urban, Disaster Risk Management, Resilience, and Land Global Practice (see figure 4.1).

Figure 4.1. Preliminary Evaluation Portfolio by Global Practice

a. World Bank lending by Global Practice (*n* = 384)

b. World Bank advisory services and analytics by Global Practice (*n* = 356)
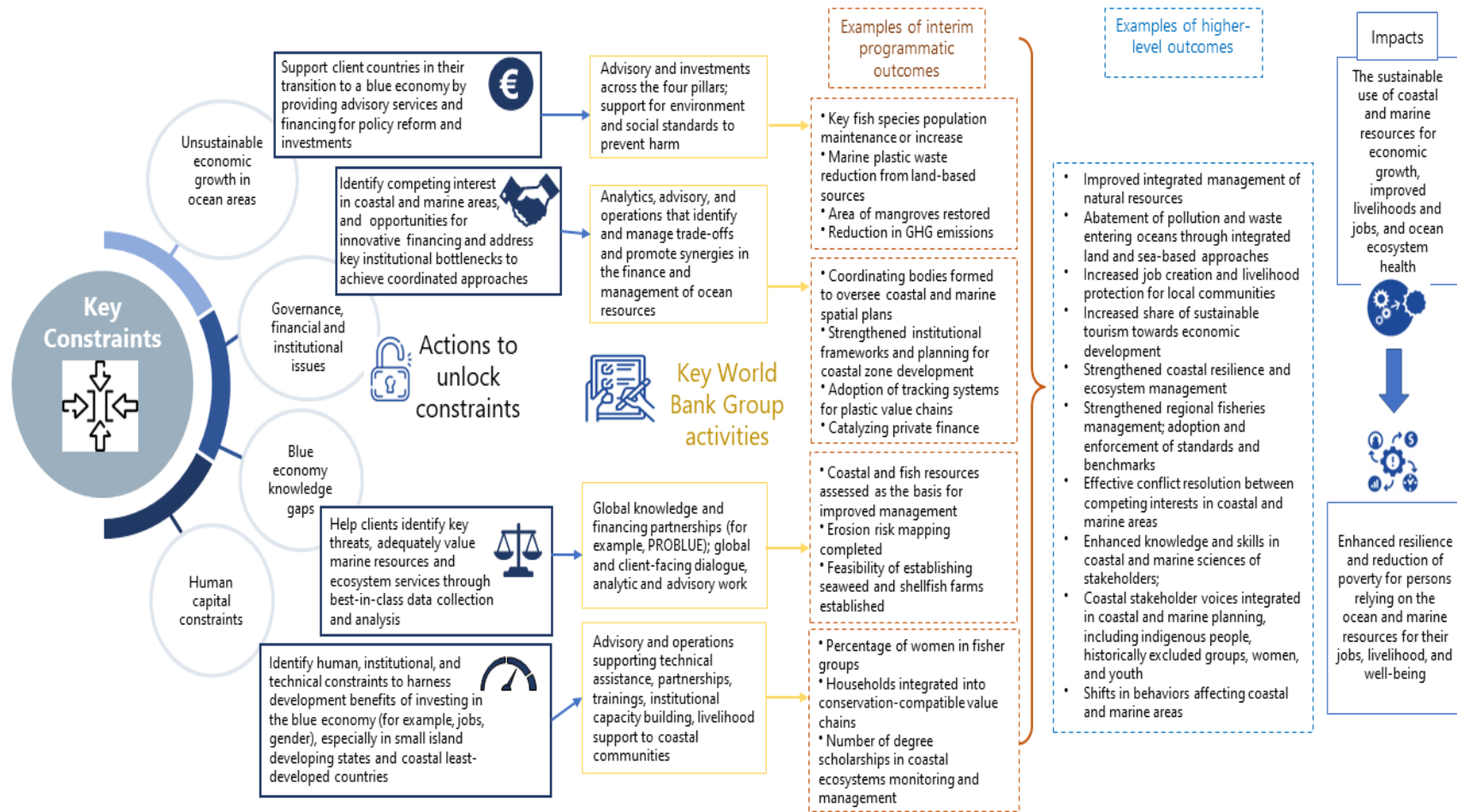

Source: Independent Evaluation Group.

5. Theory of Action

5.1   The evaluation approach includes a preliminary theory of action showcasing the main activities and examples of outcomes associated with blue economy aims. The

theory of action (figure 5.1) is anchored in a bundle of constraints—and actions anticipated to unlock those constraints—articulated in key World Bank advisory services and analytics: the Blue Economy Development Framework (World Bank 2016), the potential of the blue economy (World Bank 2017), and riding the blue wave (World Bank 2021). The theory of action then proceeds to map key World Bank activities to these proposed actions by using portfolio data. Illustrative interim programmatic and higher order outcomes are drawn from a review of indicators in the portfolio. These activities and outcomes are anticipated to lead to the sustainable use of coastal and marine resources for economic growth, improved livelihoods, and jobs and necessarily, ocean ecosystem health. Ultimately, the sustainable use of coastal and marine resources should support enhanced resilience and poverty reduction, in line with Bank Group goals.

Figure 5.1. Theory of Action

Source: Independent Evaluation Group.
Note: GHG = greenhouse gas.

6. Evaluation Questions, Design, and Methods

6.1 In this evaluation, we ask the following overarching question: How well is the World Bank supporting the sustainable and inclusive development of ocean and coastal economies? To answer this question, we include three subquestions that, together with the proposed methods, are listed next and are depicted in figure 6.1 (and table A.1). To answer the overarching question, the evaluation will use triangulated evidence gathered across the different methods.

6.2 **Question 1.** How well is the World Bank articulating and operationalizing blue economy aims, including in relation to other actors?

6.3 The first evaluation question seeks to assess how well the World Bank is articulating and operationalizing blue economy aims and how well the World Bank aligns with partners. Key to this question is our assessment of whether the World Bank's approach to achieving blue economy aims is fit for purpose—that is, whether its commitments, institutional and financing arrangements, and partnership efforts are adequate to achieve blue economy aims. To do this, we will undertake several activities. First, we will review strategies, commitments, and relevant documentation and conduct stakeholder interviews. Second, we will assess the integration of blue economy concepts into projects of various Global Practices over time (lending and nonlending), including through a review of project objectives, theories, design, and monitoring and evaluation of projects supporting the development of marine and coastal areas. Third, we will undertake deep dives on PROBLUE and marine pollution. We will also consider how the World Bank views and articulates its role in the blue economy space (for example, as a convenor or financier) in relation to other actors, and how other actors perceive the role of the World Bank.

6.4 **Question 2.** How well is the World Bank supporting country clients to achieve synergies while managing trade-offs in line with the blue economy's triple bottom line of marine and coastal health, sustainable growth, and social aims?
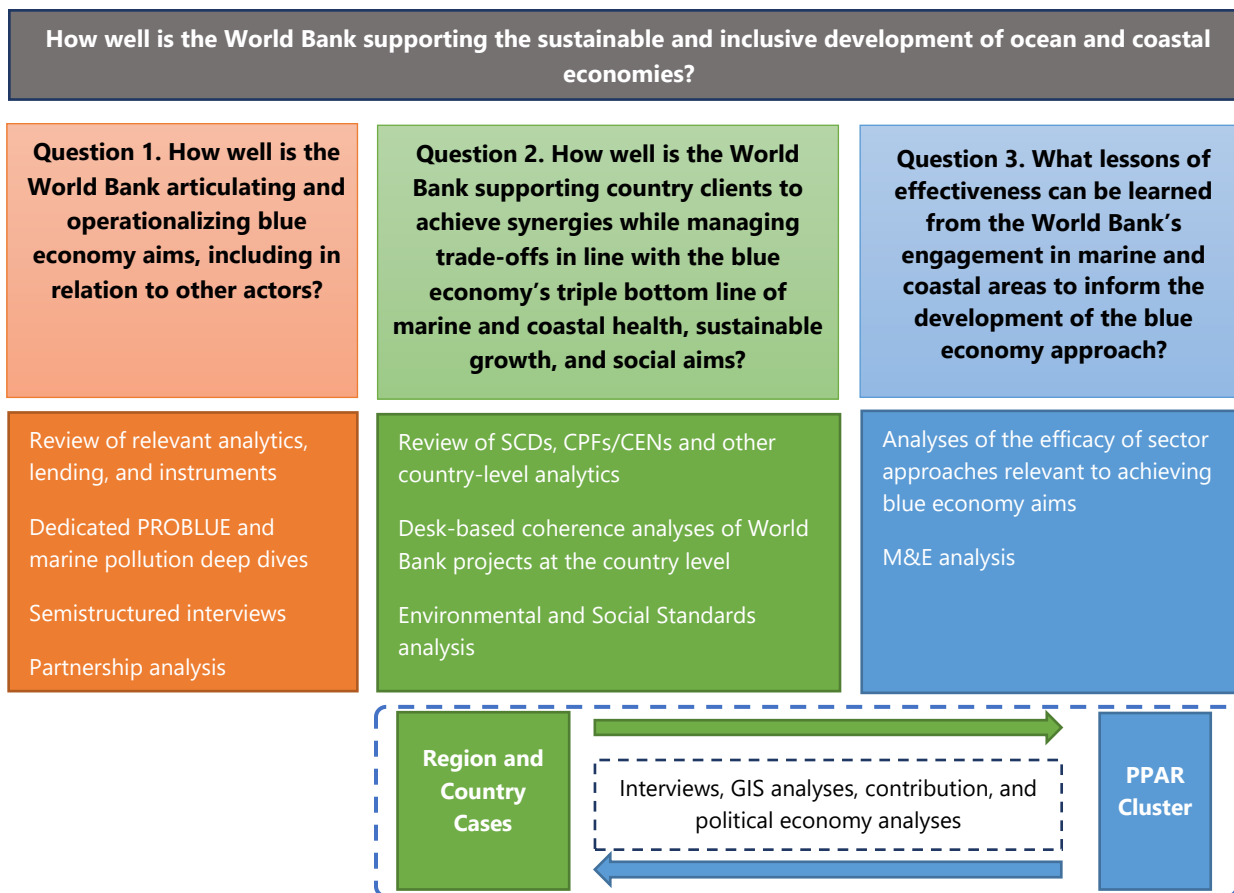
6.5 Although the adoption of a blue economy approach brings with it many development opportunities in coastal and marine areas, it also requires actions to reconcile divergent interests across sectors and stakeholders. This evaluation question will be answered through: (i) a review of Systematic Country Diagnostics, Country Partnership Frameworks and Country Engagement Notes, and other country-level analytics (Country Economic Memorandums, Country Environment Analysis, and Country Climate and Development Reports); (ii) desk-based country coherence analyses of World Bank projects to map the extent to which the World Bank is pursuing integrated approaches among different sectors (in line with the blue economy concept); (iii) country case field assessments and in some cases regional analyses (that is, in the

Caribbean and Pacific or along key coastlines) to investigate the trade-offs among the blue economy's triple bottom line. Country case field selection will be determined based on the portfolio (including the subset of PROBLUE projects; see appendix B), the Blue Economy Development Framework pilot countries, and in dialogue with key World Bank counterparts. We anticipate that the country case analysis will require interviews, geographic information system analyses, contribution analysis, and political economy analysis, among other methods. Although lessons may not be germane to all countries, we anticipate that cross-cutting lessons derived from the cases will be at least partially generalizable, including at the regional level. We will also consider how the application of World Bank environmental and social standards are helping teams to identify and navigate complex environmental and social issues and trade-offs in contributing to blue economy aims.

6.6   **Question 3.** What lessons of effectiveness can be learned from the World Bank's engagement in marine and coastal areas to inform the development of the blue economy approach?

6.7   To answer question 3, the evaluation will draw out evaluative lessons from sector approaches used in closed and mature operations located in coastal and marine areas that are relevant for achieving blue economy aims. Such approaches include marine spatial planning or integrated coastal zone management, sustainable fisheries management, the development of alternative livelihoods, marine pollution, and so on. We will also conduct a Project Performance Assessment Report cluster to support granular data collection on these approaches in closed and evaluated projects in key countries where blue economy approaches have been launched. We will also conduct an analysis of program theories and monitoring and evaluation.

Figure 6.1. Evaluation Design Schematic

How well is the World Bank supporting the sustainable and inclusive development of ocean and coastal economies?

Question 1. How well is the World Bank articulating and operationalizing blue economy aims, including in relation to other actors?	Question 2. How well is the World Bank supporting country clients to achieve synergies while managing trade-offs in line with the blue economy's triple bottom line of marine and coastal health, sustainable growth, and social aims?	Question 3. What lessons of effectiveness can be learned from the World Bank's engagement in marine and coastal areas to inform the development of the blue economy approach?
Review of relevant analytics, lending, and instruments Dedicated PROBLUE and marine pollution deep dives Semistructured interviews Partnership analysis	Review of SCDs, CPFs/CENs and other country-level analytics Desk-based coherence analyses of World Bank projects at the country level Environmental and Social Standards analysis	Analyses of the efficacy of sector approaches relevant to achieving blue economy aims M&E analysis

Region and Country Cases	Interviews, GIS analyses, contribution, and political economy analyses	PPAR Cluster

Source: Independent Evaluation Group.

Note: CPF = Country Partnership Framework; CEN = Country Engagement Note; GIS = geographic information system; M&E = monitoring and evaluation; PPAR = Project Performance Assessment Report; PPAR = Project Performance Assessment Report; SCD = Systematic Country Diagnostic.

7. Quality Assurance Process

7.1   The Approach Paper and evaluation will undergo standard IEG quality assurance processes, including internal IEG and World Bank management review and external peer review. This evaluation will be peer reviewed by the following experts on blue economy issues.

7.2   Philip Karp, former World Bank staff. Phil Karp is an independent citizen scientist and ocean advocate, formerly with the World Bank as the lead knowledge management officer in the Social, Urban, Rural, and Resilience Global Practice. He focuses on the interface between marine ecosystem conservation and the livelihoods of coastal communities.

7.3   Chamberlain Emmanuel, Organization of Eastern Caribbean States Commission. Chamberlain Emmanuel is the head of the Environmental Sustainability Cluster at the Organization of Eastern Caribbean States Commission. His portfolio includes oversight of programs and projects spanning climate change and disaster resilience; biodiversity and ecosystems; land and water resources; ocean governance and fisheries; sustainable energy; and chemicals, waste, and pollution management.

7.4   Melissa Garren, Working Oceans Strategies. Melissa Garren is founder and chief executive officer of Working Ocean Strategies, a firm dedicated to advancing social, financial, and ecological sustainability in the ocean space. She holds a PhD in marine biology from Scripps Institution of Oceanography with a completed postdoctoral fellowship in the Department of Civil and Environmental Engineering at the Massachusetts Institute of Technology, and has more than 20 years of experience underwater as a Professional Association of Diving Instructors certified scuba divemaster. Melissa Garren brings substantial expertise to the intersection of technology and marine conservation.

8. Expected Outputs, Outreach, and Learning

8.1   **Expected outputs.** The main output will be an evaluation report that will be delivered to the Board's Committee on Development Effectiveness after integrating feedback from World Bank management. The evaluation will also produce intermediate outputs to discuss emerging findings with key counterparts.

8.2   **Engagement.** The evaluation will be conducted in close collaboration with internal stakeholders. While developing the Approach Paper, the evaluation team consulted with Bank Group management and technical staff to inform the proposed

scope and approach. We will continue to engage with counterparts (for example, Global Practices, country teams) throughout the evaluation process.

8.3   **Audience.** The primary audience for this evaluation is the Board and Bank Group management and staff working in coastal and marine areas. The primary institutional counterpart for this evaluation is the Sustainable Development Practice Group (including the Environment, Natural Resources, and Blue Economy Global Practice and the Urban, Disaster Risk Management, Resilience, and Land Global Practice) and the Climate Change Group at the World Bank. Our findings will also be relevant to a broader audience, including government officials, multilateral (United Nations agencies, multilateral development banks) and bilateral agencies, donors, private sector actors, nongovernmental organizations, civil society, academia, and so on.

8.4   **Resources.** This evaluation will be task managed by Lauren Kelly, lead evaluation officer, under the guidance of Marialisa Motta, manager of the Finance, Private Sector, Infrastructure, and Sustainable Development Unit; and Carmen Nonay, director of the Finance, Private Sector, and Sustainable Development Department. The evaluation will be prepared by a team comprising Ridwan Bolaji Bello, Joy Kaarina Butscher, Alvina Elisabeth Erman, Arjun Kaushik, Xiaoyi Lu, and Sanittawan Nikki Tan, among others. The evaluation team will also work closely with IEG's Methods Advisory Function team to ensure fit-for-purpose implementation of the evaluation design. Expertise in blue economy issues will be leveraged as needed. Steve Fletcher, professor of ocean policy and economy at the University of Portsmouth; and Antaya March, senior research associate at the University of Portsmouth will advise and support the evaluation team on various work streams. Disha Zaidi, gender specialist, will advise on relevant gender issues. Other consultants with relevant expertise related to the blue economy will be brought onto the evaluation as needed.

8.5   **Budget and timing.** The evaluation will be e-submitted to the Committee on Development Effectiveness by the end of the second quarter of fiscal year 2024 (see table 8.1). The total estimated budget is US$961,000, including US$50,000 for outreach and learning.

Table 8.1. Timeline

Event	Date
Approach Paper circulated to CODE	March 2023
Report sent to CODE	December 2023

Source: Independent Evaluation Group.
Note: CODE = Committee on Development Effectiveness.

8.6   **Outreach and learning.** A communications and influence strategy, including both internal and external forums, will be developed with IEG's Knowledge and

Communications Department. This strategy will include launching and disseminating the evaluation once it is disclosed and publicizing intermittent outputs. Formal venues will be sought to engage relevant actors to encourage uptake of evaluation products and findings. For example, key conferences and events that could be targeted for wider outreach include the United Nations Climate Change Conferences (COP 28 and COP 29), the Preparatory Meeting for the third United Nations Oceans Conference in 2024, the World Small-Scale Fisheries Congress 2024, the ninth Our Ocean Conference in 2024, the World Ocean Summit 2024, the sixth International Marine Protected Areas Congress, and OCEANS 2024. The evaluation peer reviewers will also help develop outreach suggestions as part of their wider networks. The communications and influence strategy will include detailed indicators to track the report's influence.

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Appendix A. Evaluation Design Matrix

Table A.1 shows the key questions, sources, and data collection and analysis methods, along with the strengths and limitations associated with them.

Table A.1. Evaluation Design Matrix

Evaluation Questions	Level of Analyses	Methods	Data and Information	Data Gaps and Risk Mitigation Plans
Question 1. How well is the World Bank articulating and operationalizing blue economy aims, including in relation to other actors?	Global	• Literature review • Review of corporate commitments and reporting • Interviews • Institutional and partnership analysis (financing, partnerships, cross-support) • PROBLUE trust fund analysis • Portfolio review and analysis: lending operations and ASA	Corporate commitments in strategy documents and reports to the Board of Executive Directors; ASA and operations data; staff data	The blue economy is a relatively young agenda, with key global ASA produced over the past few years and much country ASA underway. The evaluation will mitigate risks by recognizing that the blue economy is an evolving approach as part of its portfolio analysis.
Question 2. How well is the World Bank supporting country clients to achieve synergies while managing trade-offs in line with the blue economy's triple bottom line of marine and coastal health, sustainable growth, and social aims?	Regional, country	• Review of SCDs, CPF/CENs, CEM, CEA, and CCDRs • Desk-based coherence analyses of World Bank projects at the country level • Region/country cases and PPAR cluster, which include interviews, GIS analysis, contribution analysis, and political economy analysis • ESF standards analysis	Portfolio data; primary and secondary data; record of World Bank engagement dialogue with country or region, information on capacity and skill-building efforts, technical assistance, advisory. Field-based data collection (with firms); ESF data.	Assessing influence is complicated and involves untangling the World Bank's contribution from that of others. There is a lack of benchmarks for what a balanced approach looks like, especially in areas where spatial planning is missing. For the World Bank, ESF reform is just beginning to yield results. Methodology will need to incorporate analysis from the old system and emerging ESF data.
Question 3. What lessons of effectiveness can be learned from the World Bank's engagement in marine and coastal areas to inform the development of the blue economy approach?	Country, subnational, and coastal	• Typical approach analysis • M&E analysis • PPAR cluster • Interviews	Global portfolio and project data, project documentation, results frameworks, indicator databases, spatial data: NASA mangroves data (NASA 2020); Allen Coral Atlas, (Allen Coral Atlas 2022); WRI *Reefs*	The effectiveness analyses go beyond PDOs, requiring a systematic way of understanding sustainability, inclusion, and application to the blue economy. Selection bias due to selective data availability.

Evaluation Questions	Level of Analyses	Methods	Data and Information	Data Gaps and Risk Mitigation Plans
			at Risk (Burke et al. 2011).	
			Field-based data collection (with firms).	

Appendix B. Preliminary Portfolio Review

We conducted a preliminary portfolio review and analysis to (i) identify the relevant portfolio based on Blue Economy Pillars and the definition and theory of the blue economy as articulated by the Blue Economy Development Framework; (ii) understand the range of blue economy activities supported by the World Bank; (iii) assess their general theories and components; and (iv) take stock of indicators and monitoring and evaluation frameworks (including to understand the level of outcome orientation in the portfolio). We used this preliminary review to determine the evaluation scope, develop the evaluation theory of action, and inform the evaluation questions and methodological design.

Portfolio Identification

To identify the relevant World Bank lending and nonlending portfolio, we used several methods and means of verification, starting with the PROBLUE blue economy portfolio, manual screening, and verification. Based on this portfolio, we used theme and sector data and text analysis of operational data to identify projects in the categories funded by PROBLUE to build out the portfolio. Building out the portfolio is necessary to track integration of blue economy approaches over time and to assess and derive lessons from typical approaches.

First portfolio identification method: PROBLUE. The starting point for identifying the lending portfolio was a review done by the World Bank's flagship umbrella multidonor trust fund PROBLUE, with the purpose of identifying the blue economy portfolio at the World Bank, along with a list of lending projects that had been supported by PROBLUE-financed advisory services and analytics. For nonlending, the starting point was all PROBLUE-financed advisory services and analytics. The PROBLUE portfolio review covers fiscal year (FY)17 to FY21 and includes 193 lending projects, and PROBLUE-financed advisory services and analytics covers 79 nonlending activities. All activities are categorized according to the four PROBLUE pillars: Fisheries and Aquaculture, Marine Pollution, Oceanic Sectors, and Seascape Management.[1] We then screened these projects manually to confirm overall pertinence and validate pillar categorization.

Second portfolio identification method: Thematic and sector coding, and text analytics. To ensure comprehensiveness, we expanded the search to cover a longer time frame (FY12–23) and used World Bank thematic and sector theme codes in addition to text analytics to capture more potentially pertinent projects. We identified relevant World

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[1] Read more about the PROBLUE pillars at
https://www.worldbank.org/en/programs/problue/pillars.

Bank operational sector and theme codes (table B.1), and projects tagged to each were captured in the search. We then used text analysis to supplement the sector and theme code search. First, we created a blue economy text taxonomy, drawn from the taxonomy used by PROBLUE: a list of keywords and phrases that frequently occur in the blue economy space, such as the names of activities related to specific marine life (shrimp, crab, lobster, tuna, and so on) or activities related to oceans and seas (marine tourism, sailing, yachting, dive tourism, whale watching, shipping, ship building, and so on). We performed the search in key parts of project descriptions (for example, abstracts of project documents, project development objectives, project descriptions, activity summaries, component titles, and indicator titles). Second, we developed inclusion criteria based on a combination of keywords, phrases, themes, and sectors (table B.2). This generated an expanded list of 603 lending and 417 nonlending activities. We established alignment of each project with PROBLUE pillars based on what approach (keywords, phrases, themes, and sectors) had captured the project.

Table B.1. Sector and Themes Relevant to the Evaluation, Used for Portfolio Identification

Code/No.	Theme/Sector	Description
AF	Fisheries	Increasing the economic, social, and environmental benefits of capture fisheries and aquaculture through sustainable approaches
YT	Tourism	Business or industry that provides information, accommodation, transportation, and other services to tourists; activities that support the design and implementation of sustainable tourism value chain strategies and capital investments at the national and subnational levels
TP	Ports/Waterways	Ports are towns or cities with a harbor where ships load or unload, especially one where customs officers are stationed. Although a waterway is any navigable body of water, a shipping route consists of one or several waterways. Waterways can include rivers, lakes, seas, oceans, and canals.
		Ports and waterways in projects include components or activities that focus on infrastructure, services, technologies, and administration for maritime or inland water transport, including harbors, ports, harbor guidance systems, shipping, and river and other inland water transport.
LU	Renewable Energy Solar	Solar energy is a renewable free source of energy that is sustainable and totally inexhaustible, unlike fossil fuels, which are finite. It is also a nonpolluting source of energy, and it does not emit any greenhouse gases when producing electricity.
LW	Renewable Energy Generation– Wind	Wind is a source of energy that is nonpolluting and renewable. Wind turbines create power without using fossil fuels and without producing greenhouse gases or radioactive or toxic waste.
836	Coastal Zone Management	Support to development of integrated coastal zone management practices, with a particular emphasis on adaptation to the impacts of climate change and disaster risk management
833	Oceans	Activities that promote development of a new, integrated approach to the blue economy, with a view to encouraging the sustainable management of all ocean-related economic activities, and with an emphasis on avoiding conflicts among users

Code/No.	Theme/Sector	Description
832	Fisheries Policies and Institutions	Improving global fisheries management (both capture fisheries and aquaculture) with a view to increasing their economic, social, and environmental benefits through sustainable approaches
221	Job Creation	Projects with interventions that relate to the creation of more direct, indirect, and inclusive jobs for project target beneficiaries, whether short or long term

Source: World Bank Theme Taxonomy and Definitions; World Bank Sector Taxonomy and Definitions.

Table B.2. Inclusion Criteria Used for Text Analytics

Topic	Sectors	Themes	Key Words/ Phrases	Key Words/ Phrases	Key Words/ Phrases	Key Words/ Phrases	Key Words/ Phrases	Key Words/ Phrases
	Primary Criteria			**Secondary Criteria (At Least One Should Be Met)**				
Marine Resource Management		Coastal Zone Management						
Marine Resource Management		Oceans						
Marine Resource Management			coastal zone					
Marine Resource Management			management of coast					
Marine Resource Management			coastal management					
Marine Resource Management			oceanscape					
Sustainable Fisheries and Aquaculture	Fisheries							
Sustainable Fisheries and Aquaculture		Fisheries Policies and Institutions						
Sustainable Fisheries and Aquaculture			fish					
Sustainable Fisheries and Aquaculture			aquacult					
Sustainable Fisheries and Aquaculture			shrimp					
Sustainable Fisheries and Aquaculture			crab					
Sustainable Fisheries and Aquaculture			lobster					
Oceanic Sectors	Tourism			coast	ocean	sea	island	beach
Oceanic Sectors	Ports/Waterways							
Oceanic Sectors			offshore wind					

Topic	Primary Criteria			Secondary Criteria (At Least One Should Be Met)					
	Sectors	Themes	Key Words/Phrases	Key Words/Phrases	Key Words/Phrases	Key Words/Phrases	Key Words/Phrases	Key Words/Phrases	
Oceanic Sectors			seabed mining					
Oceanic Sectors			ocean	mining				
Marine Pollution			marine	pollut	plastic	waste		
Marine Pollution			ocean	pollut	plastic	waste		
Marine Pollution			sea	pollut	plastic	waste		
Marine Pollution			coast	pollut	plastic	waste		
Experimental keywords		Job Creation		coast	ocean			
Experimental keywords	Renewable energy solar			sea	offshore	ocean		
Experimental keywords	Renewable energy wind			sea	offshore	ocean		
Experimental keywords			Nutrient	runoff	waste	pollution		

Source: Independent Evaluation Group.

We then screened the expanded list of projects (603 lending and 417 nonlending) using the following portfolio identification methods.
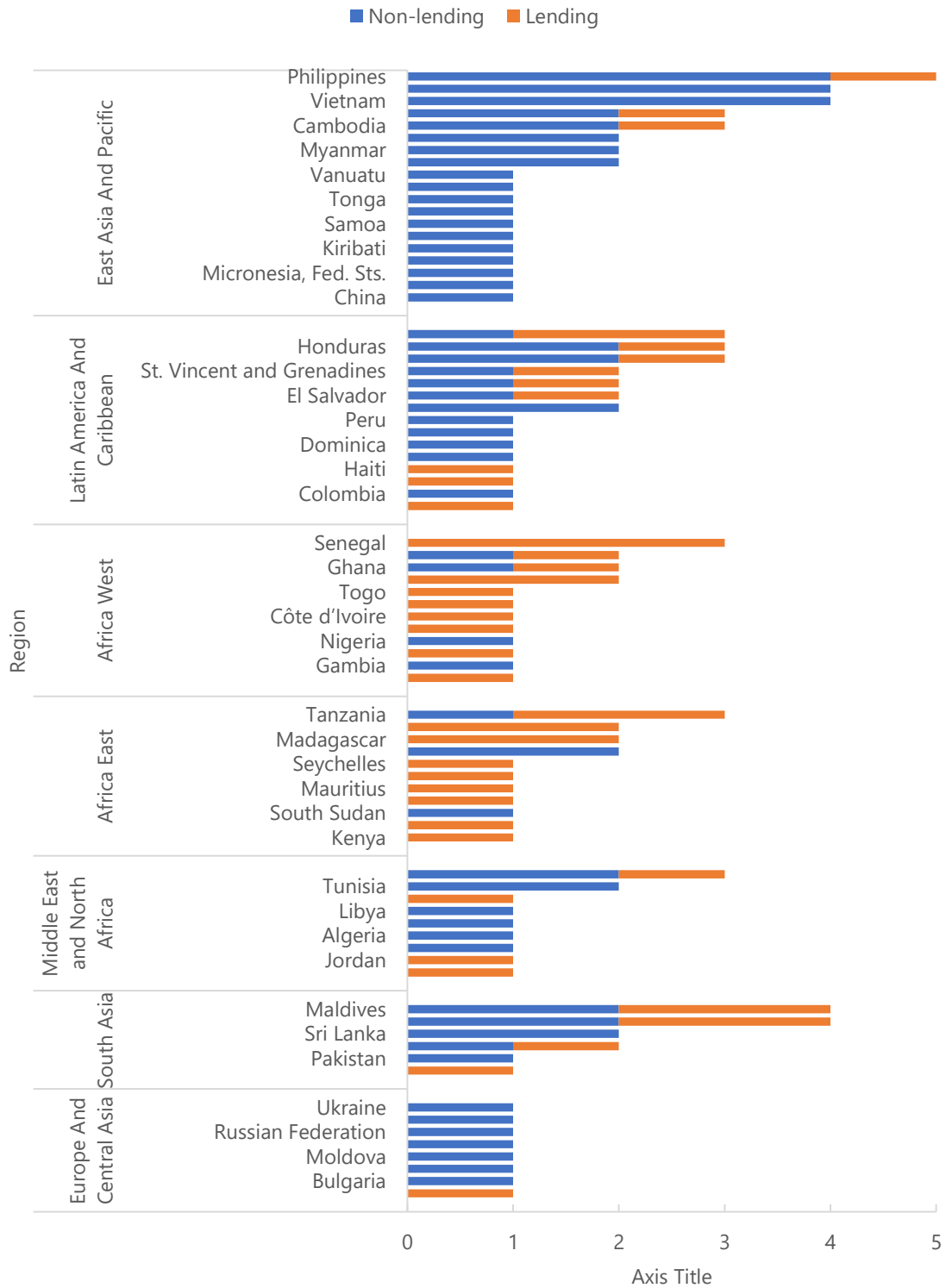
Third portfolio identification method: Geographic filter. We employed a geoscreening tool to exclude activities carried out in landlocked countries and areas located far from the coast.

Fourth portfolio identification method: Manual verification. All activities identified through the previous methods were subsequently screened manually to verify their relevance to the evaluation scope (see inclusion scope in figure B.2). Project development objectives, component titles, project abstracts, and key performance indicators were screened during this process. Additionally, for all development policy operations, we screened the prior actions database. Projects outside the evaluation scope and false positives (for example, projects with phrases such as "inland aquaculture") were either added to the compendium on inland rivers and lakes or eliminated. Finally, the preliminary portfolio consisted of 384 lending and 356 nonlending activities.

Case Selection

Country case and regional analyses (that is, in the Caribbean and Pacific or along key coastlines) will be conducted to answer evaluation questions 2 and 3. Case selection criteria includes the presence of a portfolio, including PROBLUE-financed advisory services and analytics or lending (see figure B.1.), the Blue Economy Development Framework pilot countries, and in dialogue with key World Bank counterparts.

Figure B.1. PROBLUE Projects (Includes Regional and Country-Specific Projects)

Source: Independent Evaluation Group.
Note: Regional projects have been added in those countries where they are being implemented.