



United Nations
Economic Commission for Africa

Africa's Blue Economy: A policy handbook





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Acronyms and abbreviations

ACPC	African Climate Policy Centre
AEO	African Economic Outlook
AfDB	African Development Bank
AFRODAD	African Forum and Network on Debt and Development
AGEDI	Abu Dhabi Global Environmental Data Initiative
AIMS	Africa's Integrated Maritime Strategy
AMDC	African Minerals Development Centre
AMU	Arab Maghreb Union
AMV	Africa Mining Vision
AU	African Union
AUC	African Union Commission
BAP	Best Available Practice
BAT	Best Available Technology
BBC	British Broadcasting Corporation
BRICS	Brazil, Russia, India, China, and South Africa
CBD	Convention on Biological Diversity
CCEAWM	Continental Conference on the Empowerment of African Women in Maritime
CCTTFA	Central Corridor Transit Transport and Facilitation Agency
CDM	Clean Development Mechanism
CEMAC	Central African Economic and Monetary Community
CEMLAWS	Centre for Maritime Law and Security (Africa)
CENSAD	Community of Sahel-Saharan States
CLCS	Commission on the Limits of the Continental Shelf
COAST	Collaborative Actions for Sustainable Tourism
COMESA	Common Market for Eastern and Southern Africa
COP	Conference of Parties
DPSIR	Drivers-Pressures-State-Impact-Response
DSMP	Deep Sea Minerals Project
DWF	Distant Water Fleet
DWFN	Distant Water Fishing Nation
EAC	East African Community
EC	European Commission
ECA	(United Nations) Economic Commission for Africa
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
EDB	European Development Bank
EDBM	Economic Development Board of Madagascar

Acronyms and abbreviations

EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EU	European Union
FAO	Food and Agriculture Organization
FDI	Foreign Direct Investment
FPA	Fisheries Partnership Arrangement
GDP	Gross Domestic Product
GEF	Global Environment Facility
GNH	Gross National Happiness
GPI	Genuine Progress Indicator
GS	Genuine Savings
HASSMAR	Haute autorité chargée de la coordination de la Sécurité Maritime et de la Sûreté Maritime
HDI	Human Development Index
ICE	Intergovernmental Committee of Experts
ICZM	Integrated Coastal Zone Management
IEA	International Energy Agency
IGAD	Intergovernmental Authority on Development
IGO	Intergovernmental Organization
IMF	International Monetary Fund
IMO	International Maritime Organization
INPOH	Instituto Nacional de Pesquisas Oceânicas e Hidroviárias
IOC	Indian Ocean Commission
IPCC	Intergovernmental Panel on Climate Change
ISA	International Seabed Authority
IUCN	International Union for the Conservation of Nature
IUU	Illegal, Unreported, and Unregulated (fishing)
KPI	Key Performance Indicator
MARPOL	International Convention for the Prevention of Marine Pollution from Ships
M&E	Monitoring and Evaluation
MPA	Marine Protected Area
MSP	Marine Spatial Planning
NAPA	National Adaptation Programme of Action
NCA	Natural Capital Accounting (system)
NCTTCA	Northern Corridor Transit and Transport Coordination Authority
NEPAD	New Partnership for Africa's Development
NGO	Nongovernmental Organization
NSMA	Nauru Seabed Minerals Authority
ODA	Official Development Assistance

PC	Pacific Community
PNA	Parties to the Nauru Agreement
PPP	Public-Private Partnership
REC	Regional Economic Community
REDD	Reducing Emissions from Deforestation and Forest Degradation
REFLECS3	Regional Fusion and Law Enforcement Centre for Safety and Security at Sea
SADC	Southern Africa Development Community
SAMOA	Small Island Developing States Accelerated Modalities of Action
SDG	Sustainable Development Goal
SEA	Strategic Environment Assessment
SID	Special Initiatives Division
SIDS	Small Island Developing States
SRO-EA	Sub-Regional Office for Eastern Africa
STMP	Sustainable Tourism Master Plan
TEEB	The Economics of Ecosystems and Biodiversity
TEST	Transfer of Environmentally Sound Technology
TEUS	Twenty-Foot Equivalent Units
TOWA	TRY Oyster Women's Association
TVET	Technical Vocational Education and Training
UN-Habitat	United Nations Human Settlements Programme
UNCLOS	United Nations Convention on the Law of the Sea
UNCSD	United Nations Conference on Sustainable Development
UNCTAD	United Nations Conference on Trade and Development
UNDOALOS/OLA	United Nations Division of Ocean Affairs and the Law of the Sea/Office of Legal Affairs
UNEP	United Nations Environmental Programme
UNESCO	United Nations Educational, Scientific, and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNGA	United Nations General Assembly
UNIDO	United Nations Industrial Development Organization
UNWTO	United Nations World Tourism Organization
VCS	Verified Carbon Standard
VDS	Vessel Day Scheme
WAVES	Wealth Accounting and Valuation of Ecosystem Services
WBG	World Bank Group
WIO	West Indian Ocean
WTO	World Trade Organization
ZOPACAS	Zone of Peace and Cooperation of the South Atlantic

Foreword

Africa's "Blue word" is made of vast lakes and rivers and an extensive ocean resource base. Thirty-eight of the fifty-four African States are coastal States. More than 90 percent of Africa's imports and exports are conducted by sea and some of the most strategic gateways for international trade are in Africa, underscoring the geopolitical importance of the region. Maritime zones under Africa's jurisdiction total about 13 million square kilometres including territorial seas and approximately 6.5 million square kilometres of the continental shelf. Mauritius with its 1850 square kilometres is one of the smallest countries in Africa and in the world. However, with its territorial waters, it becomes a country with 1.9 million square kilometres, the size of South Africa. Therefore, we have another Africa under the sea. Quite rightly, the African Union call the Blue Economy the "New Frontier of African Renaissance".

Africa's aquatic and marine spaces are an increasingly common topic of political discourse; its natural resources have remained largely underexploited but are now being recognized for their potential contribution to inclusive and sustainable development. This "Blue word" is more than just an economic space— it is part of Africa's rich geographical, social, and cultural canvas. Through a better understanding of the enormous opportunities emerging from investing and reinvesting in Africa's aquatic and marine spaces, the balance can be tipped away from illegal harvesting, degradation, and depletion to a sustainable Blue development paradigm, serving Africa today and tomorrow. If fully exploited and well managed, Africa's Blue Economy can constitute a major source of wealth and catapult the continent's fortunes.

Africa's economies continue to grow at remarkable rates, including through the exploitation of the rich endowment of land-based natural resources and commodity exports. Converting this growth into quality growth, through the generation of inclusive wealth, within environmental limits and respecting the highest social considerations, requires bold new thinking. It also involves the creation of jobs for a population on the rise. The Blue Economy offers that opportunity. For example, the International Energy Agency estimates that ocean renewable energy has a power potential sufficient to provide up to 400% of global current energy demand. Other estimates indicate that in 2010 the total annual economic value of maritime related activities reached 1.5 trillion euro. It is forecasted that by 2020, this figure will reach 2.5 trillion euro per year. Surely, Africa needs holistic and coherent strategies to harness this potential.

All water bodies, including lakes, rivers, and underground water, in addition to seas and the coast are unique resources, yet neglected and often forgotten. The largest sectors of the current African aquatic and ocean-based economy are fisheries, aquaculture, tourism, transport, ports, coastal mining, and energy. Additionally, the Blue Economy approach emphasizes interconnectedness with other sectors, is responsive to emerging and frontier sectors, and supports important social considerations, such as gender mainstreaming, food and water security, poverty alleviation, wealth retention, and jobs creation. The Blue Economy can play a major role in Africa's structural transformation.

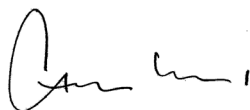
The approach advocated in this Policy Handbook is premised in the sustainable use, management and conservation of aquatic and marine ecosystems and associated resources. It builds on principles of equity, low carbon footprint, resource efficiency, social inclusion and broad-based development, with the jobs agenda at the centre of it all. It is anchored on strong regional cooperation and integration, considers structural transformation as an imperative for Africa's development and advocates for a complete departure from enclave development models. Instead, through better linkages to other sectors of the economy, it situates the aquatic and marine economies as part of integrated ecosystem services based on the harvesting of living and non-living resources, benefitting both coastal, island states and landlocked countries.

Biotic resources allow Africa to expand its fishing, aquaculture, mariculture sectors and foster the emergence of vibrant pharmaceutical, chemical and cosmetics industries. The extraction of mineral resources and the generation of new energy resources provide the feedstock to resource-based industrialisation and places Africa at the centre of global trade in value-added products, no longer a supplier of unprocessed raw materials. Central to this agenda, is the need to modernise Africa's maritime transport and logistics services, its port and railway infrastructure, improve its reliability and efficiency with the view to seamlessly link the continent's economies to national, regional and global value chains as well as facilitate tourism and recreation activities, just to name a few.

Africa has salutary examples of maritime, riparian and river-based cooperation and dispute settlement. This includes examples of maritime and transnational aquatic boundary delimitation and demarcation. A collaborative approach for the development of the Blue Economy will create the foundation for the formulation of shared visions for transformation. The Blue Economy development approach is an integral part of African Agenda 2063. Building on the experience with implementing Green Economy principles for a transition to low-carbon development, we are seeing an increasing number of African

member States formulating Blue Economy strategies to diversify their economic base and catalyze socioeconomic transformation.

This Policy Handbook, offers a step by step guide to help African member States to better mainstream the Blue Economy into their national development plans, strategies, policies and laws. It is a timely contribution to help the continent harness its "New Frontier".



Carlos Lopes

United Nations Under-Secretary-General and
Executive Secretary of ECA

Acknowledgments

This Blue Economy Policy Handbook is the product of the collective and collaborative efforts of African and international experts in the fields of policy, governance, economics, law of the sea, geology and mining, environment, and development drawn from governments, civil society, academia, and African intergovernmental and development entities, along with United Nations entities.

The Sub-Regional Office for Eastern Africa (SRO-EA) of the United Nations Economic Commission for Africa (ECA) led the handbook's production process with the support of the ECA Special Initiatives Division (SID); in particular, the African Minerals Development Centre (AMDC) and the African Climate Policy Centre (ACPC).

This handbook was produced using the Book Sprints method, which allows for the drafting, editing, and publishing of a complete product in five days. A Book Sprint is a facilitated process through which contributors with a wide range of expertise and perspectives come together to write a book collaboratively. The Book Sprints facilitators were Laia Ros and Faith Bosworth; the editor was Teresa Castle; the illustrations were created by Henrik Van Leeuwen and Kristina Thygesen; and the book was designed by Julien Taquet. Clever Mafuta of GRID-Arendal provided the box on Transboundary waters and the Blue Economy.

Using the Book Sprints technique, the contributors worked in Rubavu, Rwanda, from 23 to 27 November 2015. The attending experts were Antonio Pedro (ECA), Daya Bragante (ECA), Frank Rutabingwa (ECA), Geoffrey Manyara (ECA), Iris Monnereau (University of West Indies), Jeff Stark (Consultant), Kaiser Gonçalves de Souza (ECA), Kamal-Deen Ali (CEMLAWS Africa), Kristina Thygesen (GRID-Arendal), Philippe Murcia (Consultant), Lea Brilmayer (Yale University), Samuel Kame-Domguia (African Union Commission), Vita Onwuasoanya (UNDOALOS/OLA), Yannick Beaudoin (GRID-Arendal), and Yohannes G. Hailu (ECA).

This handbook is to be considered a living document. Its implementation will generate further lessons and good practices emerging from countries engaged in the Blue Economy process. It is expected to provide decision makers and other stakeholders with clear and simple guidelines and options for aligning their policies with the Blue Economy concept.

Introduction

Aim of the policy handbook

ECA SRO-EA held its 19th session of the Intergovernmental Committee of Experts (ICE) on 2–5 March 2015, in Antananarivo, Madagascar, on the theme “Harnessing the Blue Economy for the development of Eastern Africa.” The meeting urged States in Africa to mainstream the Blue Economy into their national and regional development plans, where applicable.

The Blue Economy in the African context covers both aquatic and marine spaces, including oceans, seas, coasts, lakes, rivers, and underground water. It encompasses a range of productive sectors, including fisheries, aquaculture, tourism, transport, shipbuilding, energy, bioprospecting, and underwater mining and related activities.

At the March 2015 meeting, States were encouraged to establish the necessary institutions and build the relevant capacities to better harness the potential represented by the Blue Economy. The meeting noted the importance of the AU’s 2050 African Integrated Maritime Strategy (AU 2050 AIMS)¹, including the Maritime Transport Charter. In order to accelerate the implementation of this strategy, as well as increase the level of understanding of other relevant international frameworks, such as the United Nations Convention on the Law of the Sea (UNCLOS) or Montego Bay Convention, the meeting requested ECA SRO-EA to develop a Blue Economy Policy Handbook for Africa.

In line with the decisions of the 19th ICE, the main aim of this handbook is to provide a step-by-step guide on how to mainstream the Blue Economy into continental, subregional, and national policies, plans, laws, regulations, and practices for the development of African sustainable Blue Economy strategies. It targets African States, Regional Economic Communities (RECs), Regional Seas Conventions, and intergovernmental organizations (IGOs). Therefore, the Blue Economy Policy Handbook intends to raise the level of understanding of the Blue Economy concept by all relevant stakeholders, including African island, coastal, and land-locked² States, in pursuit of structural transformation, sustainable economic growth, and enduring societal progress.

1 <http://pages.au.int/maritime/documents/2050-aim-strategy> (accessed 27 November 2015)

2 While land-locked States is the official term used under UNCLOS, in the 2050 AU AIMS, States are designated as “landly connected” States.

It will support the work of the African Climate Policy Centre (ACPC) on *Building Resilience to Climate Change and Securing Development Opportunities in African Small Island Developing States* and the African Minerals Development Centre (AMDC) in the context of the Africa Mining Vision (AMV).

The Policy Handbook comprises an introduction and three parts. These include Part I on Setting the Scene for Policy Development, Part II on Processes and Design Toward an Effective Blue Economy Policy, and Part III on Cross-Cutting Issues.

The Policy Handbook focuses in particular on oceans and seas, related processes, and activities.

The Blue Economy in Africa

Global environment

More than 70 percent of the Earth is covered by water. Water is the starting point for all life. Half of the world's population lives within 60 km of the sea, and three-quarters of all large cities are located on the coast.³

The world's oceans, seas, and rivers remain a major source of wealth, creating trillions of dollars in goods and services. Oceans and freshwater sources provide livelihood and employment to millions of people. The UN Food and Agriculture Organization (FAO) estimates that fish provide more than 4.2 billion people with more than 15 percent of their animal protein intake.⁴ Of the world's international trade, 90 percent is transported by sea.⁵ Oceans also play an important role in regulating climate and the functioning of coastal marine ecosystems, such as mangrove forests, kelp forests, sea grass meadows, and saltwater marshes, as well as in storing and sequestering atmospheric carbon⁶.

The global market for marine biotechnology is expected to reach USD 5.9 billion by 2022, driven by increased investments in marine biotechnology research and

3 http://www.unep.org/urban_environment/issues/coastal_zones.asp (accessed 27 November 2015)

4 FAO, 2014. State of the World Fisheries and Aquaculture: Opportunities and Challenges.

5 <http://www.ics-shipping.org/shipping-facts/shipping-and-world-trade> (accessed 27 November 2015)

6 Lutz, S.J., and A.H. Martin, 2014. GRID-Arendal. Fish Carbon: Exploring Marine Vertebrate Carbon Services.

growing demand for natural marine ingredients.⁷ Biotechnology is essential for developing new foods, pharmaceuticals, bioenergy, and cosmetics.

To meet the world's increasing energy demand, oil and gas will continue to be the major source of the world's energy well into the 21st century. Since the 1950s, offshore hydrocarbon extraction has increased tremendously. Currently, approximately 30 percent of world oil and gas production comes from offshore resources, and it is expected to continue to increase in the future.⁸

Continental perspectives

Africa is developing fast and is showing some impressive progress. Over the past decade, Africa has recorded an average of 4 to 5 percent growth in GDP, despite a recent unfavorable international economic and financial environment.⁹ Six of the world's ten fastest-growing economies are in Africa.¹⁰

Despite Africa's rich resource endowments, the continent still suffers from large-scale poverty, with 46 percent of the population living in extreme poverty. Africa will account for much of the exponential growth in the world's population this century, and a quarter of the population on Earth in 2050 will be from Africa.¹¹ Furthermore, growth has generally not been accompanied by broad-based social progress and structural transformation of the economy. While the continent is experiencing a rising middle class, a large part of the population is still unemployed, and populations are suffering from a large unequal distribution of wealth. Around USD 42 billion per year leaves the continent through illegal fishing and illegal logging, among other causes. Tax havens in many jurisdictions are located in island States or territories. Figure 1 depicts financial resources into and out of Africa, including from activities associated with the Blue Economy.

7 <http://www.marketresearchstore.com/report/global-marine-biotechnology-market-outlook-trends-forecast-35868> (accessed 27 November 2015)

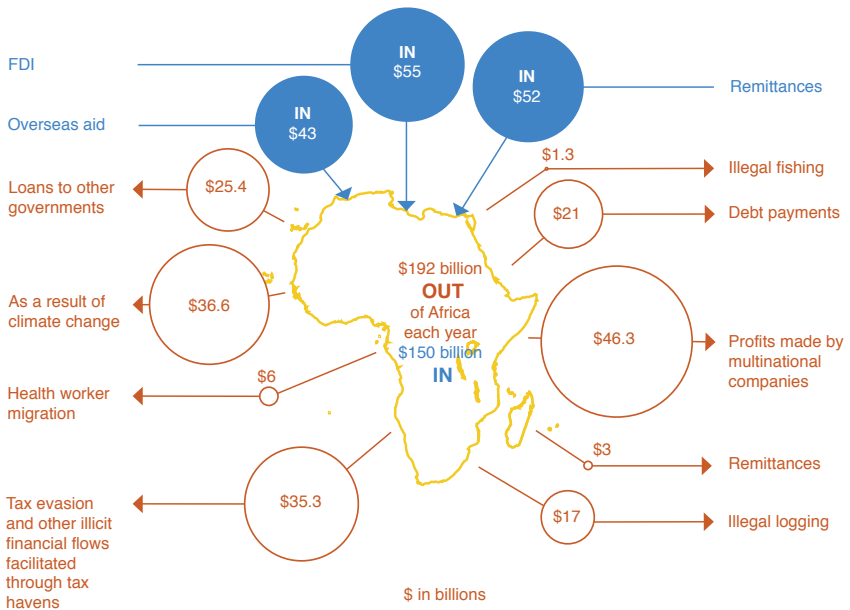
8 http://www.modec.com/about/industry/oil_gas.html (accessed 27 November 2015)

9 ECA, 2015. African Economic Outlook 2015.

10 International Monetary Fund (IMF), 2014. World Economic Outlook Report.

11 AU 2050 AIMS.

Figure 1: Financial resources into and out of Africa in reference to foreign direct investment (FDI), international assistance, and remittances (2010)



Source data from: KPMG, World Bank, British Broadcasting Corporation (BBC) 17/4/13, Health Poverty Action, Jubilee Debt Campaign, World Development Movement, African Forum and Network on Debt and Development (AFRODAD), Friends of the Earth Africa, Tax Justice Network, People’s Health Movement, War on Want, Community Working Group on Health Zimbabwe, Medact, Healthworkers4All Coalition, GroundWork, Friends of the Earth South Africa, Friends of the Earth Mozambique.

Africa is endowed with a variety of natural — living and nonliving — resources, such as water; diverse flora and fauna, including fish stocks; minerals; and hydrocarbons. Additionally, 38 of the 54 African States are coastal States.

Maritime zones under Africa’s jurisdiction total about 13 million square kilometers, including territorial seas and Exclusive Economic Zones (EEZ) and approximately 6.5 million square kilometers for the continental shelf (for which countries have jurisdiction over only the seabed).¹² The continent therefore has a vast ocean resource base that can contribute to sustainable development

¹² GRID-Arendal, 2015. Area coverage of African marine spaces, compiled from unpublished raw data.

of African States. The lacustrine (or lake) zones of Africa cover approximately 240,000 square kilometers.¹³

International trade is important to many African economies, with more than 90 percent of Africa's imports and exports conducted by sea.¹⁴ Freshwater and ocean fish make a vital contribution to the food and nutritional security of over 200 million Africans and provide income for over 10 million.¹⁵

The increasingly intense use of the oceans and seas in several economic sectors, combined with the impacts of climate change, has added to the pressure on the marine environment. In addition, a large part of the African population lives in coastal areas, and with most African coastal countries undergoing rapid population growth, urbanization, coastward migration, and associated socioeconomic growth, countries are experiencing dramatic coastal change, with increased pressure on marine resources. This situation, in combination with advanced technological possibilities, has raised the awareness of various stakeholders of the need to sustainably manage water bodies as “development spaces.” This has led to the concept of the Blue Economy.

Other challenges negatively impact the Blue Economy. These include threats such as piracy and armed robbery, the trafficking of people, illicit narcotics and weapons, as well as “natural” threats from tsunamis and hurricanes, and rising sea levels and ocean acidification. Overfishing caused by illegal, unreported, and unregulated (IUU) fishing and other unsustainable fishing practices also pose a serious problem in the region, along with pollution and habitat destruction.

The Blue Economy concept

As stated earlier, the Blue Economy in Africa covers aquatic and marine spaces, including oceans, seas, coasts, lakes, rivers, and underground water, and it comprises a range of productive sectors, such as fisheries, aquaculture, tourism, transport, shipbuilding, energy, bioprospecting, and underwater mining and related activities (see Table 1).

13 *Ibid.*, 2015. Area coverage of African lacustrine spaces, compiled from unpublished raw data.

14 AU 2050 AIMS.

15 FAO, 2014. The Value of African Fisheries, FAO Fisheries and Aquaculture Circular No. 1093.

Table 1: Key Blue Economy ecosystem services and sectors

Type of ecosystem services	Blue Economy sectors
Harvesting of living aquatic resources (seafood, plant marine organisms, and marine-biotechnological products)	Fishing (inland, coastal, and deep seas) Aquaculture Mariculture Pharmaceuticals, chemicals, cosmetics, genetic research
Extraction of nonliving resources and generation of new energy resources	Deep-sea and seabed mining Offshore oil and gas Renewable energy Marine salt harvesting Coastal mining of sand, gravel, and other construction materials
Commerce and trade in and around the ocean and rivers	Maritime transport and services Port infrastructure Shipbuilding and repairs River transport Tourism and recreation
Protection	Coastal protection Marine ecosystem protection Water resource protection
Cultural and religious values	Cultural and religious practices
Knowledge and information	Biophysical, socioeconomic, and political research

Source: Authors.

The Blue Economy concept includes recognition that the productivity of healthy freshwater and ocean ecosystems is a pathway for aquatic and maritime-based economies and can ensure that islands and other coastal countries, as well as land-locked States, benefit from their resources. It also requires an integrated, holistic and participatory approach that includes sustainable use and management of Blue Economy resources for societal progress in a diverse Africa. The Blue Economy framework is therefore intended to move from the current sectoral approach to a multisectoral, integrated, and participatory approach at multiple levels.

Figure 2 illustrates the prevailing Blue Economy approach in many jurisdictions, whereas Figure 3 shows the desirable Blue Economy framework. The existing Blue Economy framework encompasses a linear, compartmentalized, and sectoral approach with weak connections, linkages, and synergies between various scales of intervention (global, international, and national) as well as

among the sectors concerned. The new Blue Economy framework offers an integrated, systemic, dynamic, inclusive, participatory, and ecosystem-based approach in which sectoral barriers are minimized at the activity and governance level, and environmental, social, and economic dimensions are intertwined and pursued for all Blue Economy activities.

The Blue Economy builds on Integrated Coastal Zone Management (ICZM). This centers on the ecosystem and embeds the principles of the *Green Economy in a Blue World* report and sustainable development, taking into account the three pillars of environmental, economic, and social sustainability, as highlighted in the 2012 Rio+20 outcome document, *The Future We Want*, and the United Nations five-year Action Agenda 2012–2016.¹⁶

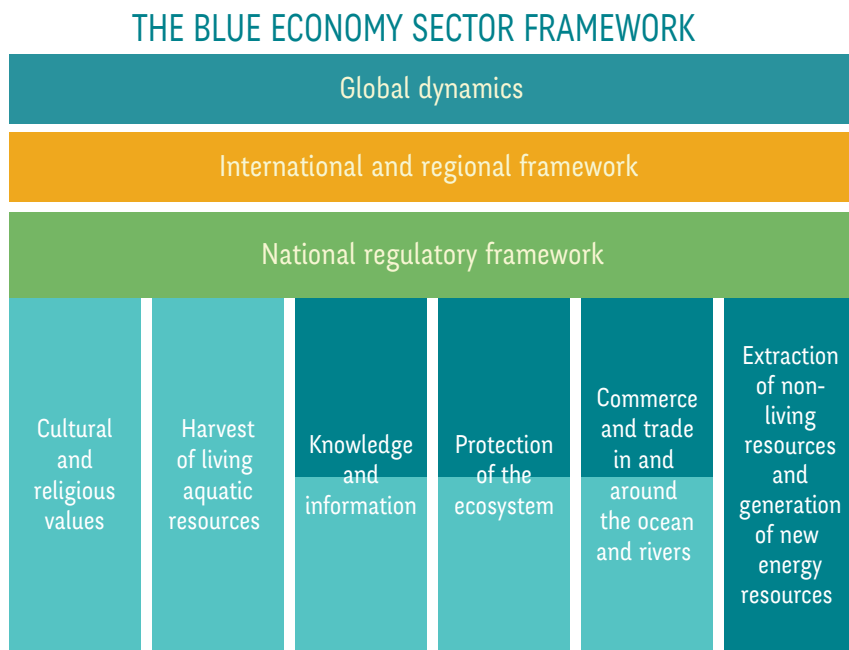
The Blue Economy promotes the conservation of aquatic and marine ecosystems and sustainable use and management of associated resources and builds on principles of equity, low carbon development, resource efficiency, and social inclusion. The concept integrates the Blue Economy sectors through a socially inclusive process aimed at triggering Africa's structural transformation, promoting integrated development, and improved regional cooperation and coordination.

The AU plays a crucial role in developing and implementing the Blue Economy policy and strategy in the African region. Over the past decade, the African Union Commission (AUC) has built an enlarged Africa-wide consensus regarding the critical role that the Blue Economy could play in fostering structural transformation in Africa during the next decade. This is encapsulated in the African Union's 2050 Africa's Integrated Maritime Strategy (AU 2050 AIMS), which describes the Blue Economy as the "new frontier of African Renaissance." In addition, the Blue Economy is at the center of the AU's Agenda 2063, at which it was unanimously declared to be "Africa's future" and recognized as a catalyst for socioeconomic transformation. In July 2015, the African Union launched the African Day (25 July) and Decade of Seas and Oceans 2015–2025 to rally action on the Blue Economy.¹⁷

16 <http://www.unep.org/greeneconomy/AboutGEI/WhatisGEI/tabid/29784/Default.asp> (accessed 27 November 2015)

17 Decision Document (Assembly/AU/16(XXII) Add. 1), 22nd Ordinary Session of AU Heads of State and Governments on the adoption and implementation of the AU 2050 AIMS. See: http://www.au.int/en/sites/default/files/decisions/9659-assembly_au_dec_490-516_xxii_e.pdf (accessed 27 November 2015)

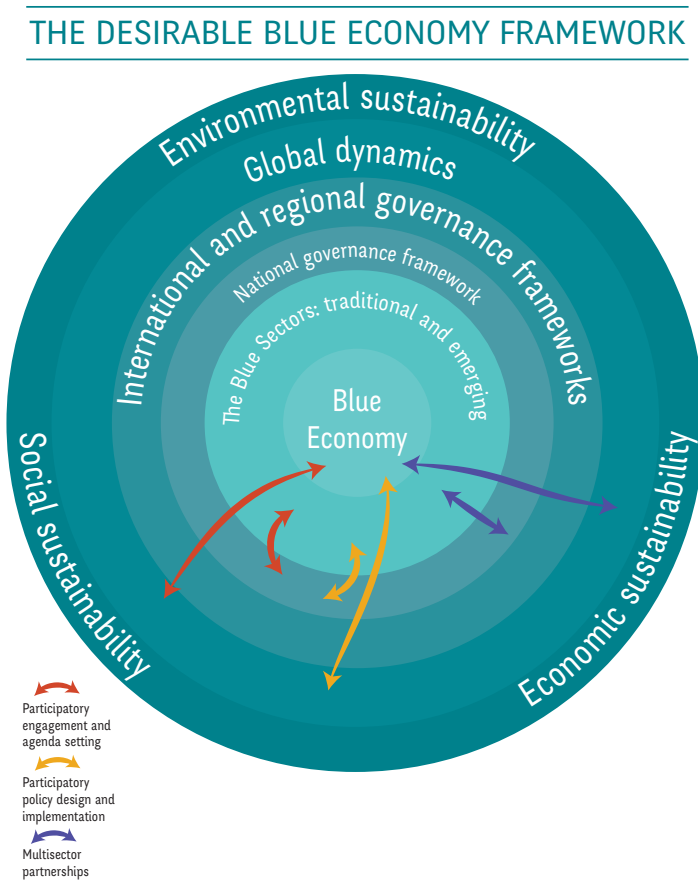
Figure 2: *The prevailing Blue Economy framework*



Source: Authors

RECs, IGOs, and States are starting to recognize the importance of the Blue Economy, and some are developing Blue Economy strategies. For example, the Indian Ocean Commission (IOC), which includes four African States, is developing a Blue Economy Action Plan for its members. At the country level, Blue Economy strategies are being pursued, albeit only in a few countries in Africa. Mauritius and the Seychelles have advanced Blue Economy policies and institutional frameworks, and South Africa is developing its Blue Economy strategy.

Figure 3: Blue Economy conceptual framework



Source: Authors

The United Nations has adopted ocean development as part of its Sustainable Development Goals (SDGs). In particular, SDG 14 refers to “Conserve and sustainably use the oceans, seas, and marine resources for sustainable development.” In addition, the Blue Economy is interlinked with the majority of the SDGs in a variety of ways. Aquatic and marine resources play a crucial role in supporting an array of economic sectors that provide livelihoods and employment opportunities to end poverty (SDG 1). Figure 4 (see page 10) is a non-exhaustive list of linkages between Blue Economy development and the 17 SDGs.

Figure 4: Linkages between development of the Blue Economy and SDGs

Potential POSITIVES of proper development of the Blue Economy	SDG Goals	Potential NEGATIVES of improper development of the Blue Economy
Improved livelihoods and employment Investment in enterprises	1 NO POVERTY 	Space conflicts Marginalization
Enhanced sustainable food production Improved food distribution	2 ZERO HUNGER 	Increased food waste Harmful commoditization of food
Improved water quality Increased funding to health services Improved occupational safety of seafarers	3 GOOD HEALTH AND WELL-BEING 	Pollution Weak revenue capture at national level
Enhanced knowledge infrastructure Increased funding for the education sector Skill development	4 QUALITY EDUCATION 	Outsourcing of skilled labor Unwillingness to invest in local training and education Brain drain
Increased equal rights to economic resources Increased participation in decision making	5 GENDER EQUALITY 	Increased gender disparity in wages Proliferation of income gap
Increased funding for access to clean water and sanitation Investments in nature-based water provision services	6 CLEAN WATER AND SANITATION 	Water pollution Destruction of nature-based water provision services
Enhanced access to renewable energy Improved knowledge base to build and maintain infrastructure	7 AFFORDABLE AND CLEAN ENERGY 	Continued incinertization of carbon-based energy Population displacement Environmental impacts
Job creation Economic diversification	8 DECENT WORK AND ECONOMIC GROWTH 	Wealth concentration Over-reliance on quantitative growth
Increased and improved infrastructure Technological progress	9 INDUSTRY, INNOVATION AND INFRASTRUCTURE 	Environmental impacts High dependency on technology
Enhanced benefit distribution Enhanced participatory engagement of all stakeholders	10 REDUCED INEQUALITIES 	Business as usual Concentration of influence
Improved cycling, harvesting, and use of water Cities have access to clean renewable energy	11 SUSTAINABLE CITIES AND COMMUNITIES 	Increased pressure on freshwater resources Pollution
Removal of inefficient fossil-fuel subsidies Promotion of more equitable trade of goods and services	12 RESPONSIBLE CONSUMPTION AND PRODUCTION 	Unsustainable production practices Increased waste flows
Transition to low-carbon economies Resilience to uncertain climate future	13 CLIMATE ACTION 	Increased carbon intensity Coastal degradation leading to climate vulnerability
Enhanced health of aquatic and marine ecosystems Increased stock abundance supporting sustainable fisheries	14 LIFE BELOW WATER 	Overexploitation of aquatic and marine resources Environmental degradation
Increased water security Enhanced sustainable transboundary water sharing	15 LIFE ON LAND 	Nutrient pollution Biodiversity loss
Improved governance Promotion of continental peace and security	16 PEACE, JUSTICE AND STRONG INSTITUTIONS 	Resource conflicts Failure to implement and enforce laws and regulations Dutch disease and resource curse
Improved partnerships between public, private, and civil society actors Strengthened continental cooperation	17 PARTNERSHIPS FOR THE GOALS 	Insufficient partnerships Bureaucratic complexity

Source: Authors. SDG icons from <https://sustainabledevelopment.un.org>

ECA has started to provide support to RECs, IGOs, and States on developing Blue Economies, and it is working with other partners, including the AU, the United Nations Environment Programme (UNEP), and the African Development Bank (AfDB), which are putting the Blue Economy at the forefront of discussions on the continent's economic future.

The steps taken in Africa to adopt a Blue Economy approach reflect a wider appreciation of its importance at the global level. This provides an opportunity to establish international, regional, and bilateral cooperation and collaboration, including public, private, and public-private partnerships (PPPs).

PART I: SETTING THE SCENE FOR POLICY DEVELOPMENT

Sustainable development and well-being in Africa: Changing the paradigms

Situation statement

The African continent presently sits at a crossroads of opportunity to re-evaluate its development pathway within the context of the Blue Economy, taking into account socioeconomic, political, and environmental considerations. Societies that are dependent on aquatic and marine resources and ecosystems should get ready to embark on a developmental trajectory focused on human and ecosystem well-being. Yet, within the context of the Blue Economy, there are limited innovations, experiences, and practices that can be used to lead this transition. In order to carve its path, Africa needs to define its own understanding of prosperity and progress, while promoting innovative thinking and practices that will enhance human and ecological well-being.

Against this backdrop and in line with the AU Agenda 2063, there is an emerging opportunity to develop an African Blue Economy narrative that better reflects the kinds of development goals, partnerships, and forms of social reciprocity that African societies need as they move further into the 21st century. Creating a aquatic and marine-centered African vision within which new forms of knowledge and social narratives will be expressed would offer much to both Africa and the global community. In the Blue Economy context, Africa could contribute a strong pool of scientists, activists, policymakers, and business leaders genuinely dedicated to exploring, promoting, and practicing innovative ways to achieve sustainable development.

Challenges

Growth and progress

Since the 1930s, GDP has become the most widely accepted measure of a country's economic progress and the most dominant government decision-making tool. Although GDP has made it relatively simple for countries to

measure a specific, physical element of their economy, societies at large have struggled to achieve general well-being, which is an increasingly critical measure of economic performance. GDP is an estimate of market throughput, adding together the value of all final goods and services that are produced and traded for money within a given period of time.¹⁸

This thinking established a growth-based economic and societal model that fails to recognize the physical limits of natural and social systems. It also fails to account for the costs of natural degradation or social conditions that may be affected by unconstrained consumption of resources. Africa would be better served by a sustainability approach for the development of the Blue Economy, which goes beyond a narrow focus on increasing national wealth and focuses more directly on the achievement of inclusive growth, social inclusion, environmental conservation, and protection of ecosystem services. Sustainable economic progress will require societies to create the conditions that allow people to have quality jobs that stimulate the economy while not undermining environmental sustainability and social cohesion. Job opportunities and decent working conditions are also required for the whole working-age population, taking into account the need for gender equality and opportunities for youth.

Sectoral thinking

While currently there are policies and strategies regarding Blue Economy sectors, such as fisheries, transportation, energy, mining, and tourism, they are developed with limited consideration of the inherent interconnections across sectors that share a common space. For example, in the case of energy development, opportunities emanating from ocean and sea energy are largely not considered, planned for, or reflected in current policies related to sectors such as tourism and transport. Frequently, the most progressive energy policies in Africa reflect the possibilities of integrating nuclear energy for developing future energy, yet the great potential from the oceans and seas are largely not examined or considered in planning. A multisectoral and land-sea holistic approach would help enable the realization of a myriad of opportunities.

Awareness of the Blue Economy within the context of development policy is limited and requires awareness and knowledge-broadening efforts at policy scale. A strategic and integrative framework necessitates a new way of thinking about new sources of development opportunities. This requires transformative policy thinking and creative and workable policy instruments. Raising awareness

18 The World Bank, 2011. The Changing Wealth of Nations.

and addressing knowledge gaps will enhance the vision and strategy for Blue Economy-driven socioeconomic transformative processes.

There is also the challenge of outlining the Blue Economy in the context of the Green Economy, a concept now widely understood and whose inherent value is recognized. Despite the distinctive spatial focus of the Blue Economy, important synergies exist between these conceptual frameworks, and they need to be recognized.

Limitations of conventional thinking

Traditional top-down approaches do not allow for locally-based and contextually-sensitive responses, and could thus be less sustainable. They do not allow for adequate stakeholder participation and therefore may decrease a sense of ownership. There has been a growing recognition among those seeking to effect transformative ecological and social change that traditional change initiatives suffer from a number of limitations, including that:

- They often do not build local capability to name and frame complex challenges or design appropriate interventions to address them, contributing to an implementation gap.
- They seldom pay sufficient attention to opportunities for authentic co-design and co-creation of the initiative and therefore stifle real innovation.
- They often ignore the complexities, competing interests and power relationships involved in successful implementation.¹⁹
- They are seldom systemically conceived and therefore fail to address the key underlying conditions that have produced the symptoms that the initiative is seeking to address.²⁰

Opportunities

The Blue Economy as a mechanism to support and sustain rapid and sustainable development in Africa is timely and deserving of appropriate policy attention. Through the Blue Economy framework, both coastal and land-locked States can harness opportunities, which could yield mutual benefits, including the

19 Seneque, M., and C. Bon. *European Business Review*. Vol. 24, Issue 5, 425-443, 2012. Working with the complexities of transformational change in a society in transition: A South African perspective.

20 Scharmer, O., and K. Kaufer. Berrett-Koehler Publishers, 2013. *Leading from the Emerging Future: From Ego-System to Eco-System Economies*.

provision of efficient and coordinated services to each other as well as access to resources.

The opportunities to promote innovation in policy formulation and implementation in the Blue Economy can arise from global shifts, innovative multisectoral and multi-stakeholder policy processes for change, and innovating how we measure progress.

Global shifts

- The global impetus to meet the growing demand for resources, particularly oil and gas as well as minerals, highlights the need to put in place adequate policy frameworks that can simultaneously address concerns about access, security, supply, and sustainability of resources. In most jurisdictions, these have been formulated from a sectoral perspective. The Blue Economy framework provides an opportunity to develop an integrated approach to the utilization and management of these resources.
- The existing large share of global trade through maritime transportation (>90 percent) offers a unique opportunity to put in place relevant policies and strategies to maximize benefits from this sector.
- Globalization of finance, investment, and pursuit of high return opportunities in the Blue Economy, if coupled with proper investment policies and frameworks, offers an opportunity to attract global capital in key resource sectors to accelerate development.

Innovative multisectoral and multi-stakeholder policy processes for change

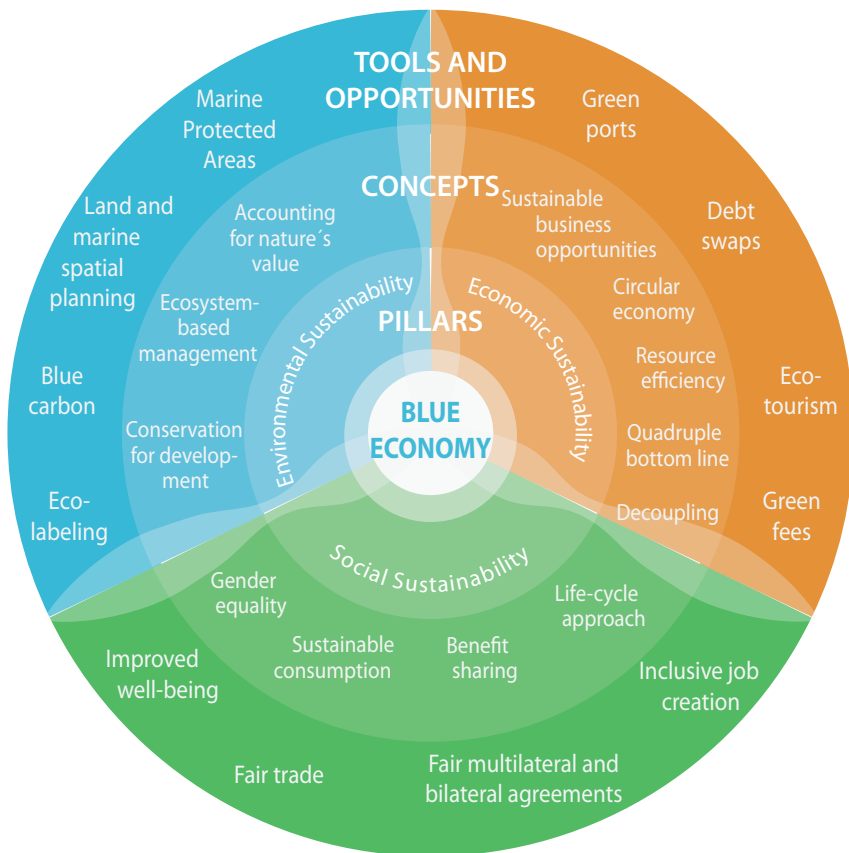
- The multisectoral approach of the Blue Economy is an ideal framework to design incentives or other policy instruments that can guide various sectors through a common policy building on trade-offs and synergies.
- The framework can provide opportunities for PPPs supporting social inclusiveness, sustainable use, and conservation and preservation of aquatic and marine resources.

The need for personal and collective ownership and collaborative decision-making is important. There is a particular need to bring in the voices of those traditionally marginalized groups that are often not included in knowledge creation and decision-making processes, such as the extreme poor, women, and youth.

As an example, African countries have the opportunity to utilize and apply Marine Spatial Planning (MSP), which is an integrative, adaptive, and participatory process that brings together multiple users of the ocean at various levels — including energy, industry, fisheries, oil and gas, government, conservation, and recreation — to make informed and coordinated decisions about how to use marine resources sustainably. MSP generally makes use of maps to create a more comprehensive picture of a marine area, identifying where and how an ocean area is being used and what natural resources and habitats exist. It aims to achieve ecological, economic, and social objectives that usually have been specified through a political process. MSP is thus essential for the Blue Economy.

Figure 5 (see page 20) depicts what the Blue Economy framework could look like. An integrated, holistic, intersectoral-linked development space anchored on a quadruple-bottom line approach, where development success is measured in economic terms as well as on the basis of environmental and material stewardship, social responsibility, and governance/transparency standing.

Figure 5: Tools, concepts, and pillars of the Blue Economy



Source: Authors

Innovating how we measure progress

It is important to measure real economic progress as part of a Blue Economy strategy. Africa is uniquely placed to evolve and innovate economic metrics in order to provide decision-makers with a more complete picture of the health of the whole economy, rather than the narrow picture provided by GDP alone. A commonly desired outcome expressed by countries working toward establishing a sustainable Blue Economy involves a desire for increased human well-being and the maintenance or enhancement of environmental

and ecological health. These elements are inherently *qualitative* rather than purely *quantitative* and, therefore, require a rethinking of which economic tools we include in our economic toolkit. Examples of existing alternative economic metrics (acknowledging that countries would likely innovate and customize their own, based on their respective realities) include:²¹

- Index of Sustainable Economic Welfare (Genuine Progress Indicator, or GPI): This is a measure that uses GDP as a foundation; it accounts for both current environmental issues and long-term sustainable use of natural ecosystems and resources. While GDP is a measure of current income, GPI is designed to measure the sustainability of that income.
- Green GDP: This is a tool designed to factor into GDP environmental degradation and depletion of natural resources in the national income accounts.
- Genuine Savings (GS): This is defined as “the true level of saving in a country after depreciation of produced capital; investments in human capital (as measured by education expenditures); depletion of minerals, energy, and forests; and damages from local and global air pollutants are taken into account.”²² This includes the value of global damages from carbon emissions. GS measures the built, natural, and intangible capital that is required for human society to exist and to thrive.
- Gross National Happiness (GNH):²³ This index mainly consists of a cutoff identification method that identifies sufficiency, in terms of achievements in relation to and among the following: psychological well-being, health, time use, education, cultural diversity and resilience, good governance, community vitality, ecological diversity and resilience, and living standard.
- The Human Development Index (HDI): Although not an economic metric *per se*, HDI is a composite statistic of health, education, and income per capita indicators. These indicators have the explicit purpose of shifting the focus of development economics from national income accounting to people-centered policies. The HDI, however, is still based on quantitative indicators and not qualitative.

Examples of applied new economic thinking in practice are provided in Box 1.

21 Costanza, R., M. Hart, S. Posner, J. Talberth (eds.). Boston University Creative Services. The Pardee Papers No. 4, p. 46, 2009. Beyond GDP: The need for new measures of progress.

22 *Ibid.*

23 <http://www.grossnationalhappiness.com/>

Box 1

Innovative economic measuring tools

The Economics of Ecosystems and Biodiversity (TEEB)

In March 2007, environment ministers from the G8+5 countries meeting in Potsdam, Germany, agreed to initiate a process of analyzing the global economic benefit of biological diversity and ecosystem services, the costs of the degradation of ecosystems, and the failure to take protective measures against the costs of effective conservation. A global study was initiated the same year by the German Federal Ministry for the Environment and the European Commission (EC), with the support of an advisory board. The Economics of Ecosystems and Biodiversity (TEEB) is a global initiative focused on drawing attention to the economic benefits of biodiversity. Its objective is to highlight the growing cost of biodiversity loss and ecosystem degradation. TEEB presents an overarching approach that can help decision makers recognize, demonstrate, and capture the values of ecosystems and biodiversity, including how to incorporate these values into decision making.¹

WAVES (Wealth Accounting and Valuation of Ecosystem Services partnership)²

For every country, wealth is what underpins the income that the country generates. It includes buildings; manufactured assets, such as the machinery used in factories; infrastructure, such as highways and ports; and natural assets, such as land, forests, fish, minerals, and energy; as well as human and social capital. Wealth accounting measures these assets and capital goods that are inputs to our economic well-being.

The World Bank Group (WBG) leads a partnership to advance natural capital accounting internationally which includes: Botswana, Colombia, Costa Rica, Guatemala, Indonesia, Madagascar, the Philippines, and Rwanda. WAVES partnership aims to promote sustainable development by ensuring that natural resources are mainstreamed into development planning and national economic accounts. WAVES has the following objectives:

- Help countries adopt and implement accounts that are relevant for policies and compile a body of experience.
- Develop an ecosystem accounting methodology.
- Establish a global platform for training and knowledge sharing.
- Build international consensus around natural capital accounting.

1 <http://www.teebweb.org>

2 <http://www.wavespartnership.org>

Policy guidance

Principles

Our lived experience of an economy is inherently affected by cultural and other societal factors. A key opportunity offered by the planning for a Blue Economy in Africa is the possibility of transitioning from unsustainable growth approaches to a sustainability-based model. To help achieve such a transition, countries have access to a range of innovative approaches.

The Blue Economy facilitates the design and implementation of processes that integrate science, awareness, and social change and lead to real improvement in environmental and ecological health and social well-being. Moving into more collaborative and inclusive patterns of work by harnessing the full potential of all actors becomes essential.

All stakeholders can engage in integrative strategic thinking and build sustainable alternative practices in government, business, civil society, and communities. Continental universities, think tanks, private companies, civil society organizations, and communities are in a position to generate homegrown knowledge, experiences, and practices that can respond to the specific challenges and objectives of the people.

The Blue Economy policy formulation process could provide opportunities for inquiry, experimentation, and policy innovation around four key objectives:

1. Exploring individual and collective leadership challenges

The Blue Economy policy formulation process would seek to foster transformative forms of leadership to create the enabling conditions for collaboration and societal transformation. This will stimulate a collective conversation, providing an opportunity for the exchange of ideas considering different cultural paradigms.

2. Encouraging multisectoral collaboration toward joint transformation action

The policy formulation process could provide an opportunity to develop and consolidate links among all stakeholders committed to a social and economic transition in Africa. Enhancing such links can strengthen the Blue Economy framework with evidence, new data, pilot initiatives, and widespread applications, thus overcoming the implementation gap in some of the current approaches to economic transition.

3. Producing prototypes of transformative actions

The policy formulation process could provide opportunities to merge research and practice with a view to generating innovations for a Blue Economy, resulting in the development of prototypes. These prototypes should be concrete in nature, involving different sectors and actors, as well as producing evidence for change. Some of them may be small-scale while others may span across countries.

4. Stimulating a network of change agents

Through its research-action orientation, the policy formulation process could contribute to the development of a continent-wide network of change agents. It could also help establish an Africa Blue Economy community of practice.

Furthermore, the Blue Economy policy formulation process should take into consideration the following key principles:

1. Sustainable use and sound management of aquatic and marine resources and ecosystems
2. Shared benefits and prosperity for all through a progress-based development paradigm
3. Value-based conservation and protection of aquatic and marine ecosystems
4. Coherence with SDGs
5. Systems thinking, lifecycle analysis, and value chain approaches
6. Participatory, inclusive, broad-based and multi-stakeholder-based approach to policy formulation
7. Intersectoral and holistic design and coordination
8. Policy coherence at multiple levels
9. Cooperation at all levels

Geopolitical considerations

Situation statement

The opportunities to harness the Blue Economy are conditioned by complex national and international interests, which can either favor partnership building and collaborative engagement or create tensions between interested parties. Peace and prosperity across boundaries is influenced by each country's unique societal and cultural realities as well as by the different pathways they may choose to enable the realization of national goals. There are a number of threats that may undermine the pursuit of peace and prosperity. Examples include piracy and other criminal activities at sea as well as competing uses and scarcity of water and other natural resources.

A number of maritime and transnational aquatic boundaries are not formally delimited. The uncertainty created by undemarcated borders can lead to explosive tension between neighboring countries. Additionally, this uncertainty may discourage investment and leave countries reticent to move forward with cooperation or joint development activities. A collaborative approach to the development of the Blue Economy helps to avoid potential conflicts and facilitates a focus on shared opportunities.

Collaboration catalyzes dialogue and creates the foundation for the formulation of shared visions for inclusive and transformative development. Addressing long-standing issues through this new context could form a solid starting point from which new thinking could lead to the desired outcomes.

Challenges

Climate vulnerability, maritime insecurity, and inadequate access to shared resources are among some of the most vexing challenges that can hinder the effective realization of the benefits of the Blue Economy. They can exacerbate conflicts and worsen poverty.

Criminal activities such as IUU fishing; piracy and armed robbery at sea; illicit trafficking of goods and people; and environmental crimes also pose an acute threat to the sustainable use of Blue Economy resources and have a negative impact on security, social development, and economic growth of the continent. An added complexity is the fact that trafficking, for example,

is usually an intertwined activity, linking networks and groups that include socially and economically marginalized people. Weak fiscal structures and legislative vacuums have also resulted in illicit financial flows that allow for the perpetuation of these activities, shrinking the stream of benefits that could flow to host countries. Such activities also contribute to the erosion of the social and cultural fabric in affected countries and communities.

Terrorism is also increasingly a central part of political concerns at the international and regional level. It represents a security challenge that can only be addressed effectively through enhanced cooperation and collaboration at all levels. Socially and spatially safe spaces are a prerequisite to achieving the best possible Blue Economy outcomes.

Disputes with regard to boundary delimitations and the different and sometimes competing uses of natural resources are also a concern in the African context. However, with regard to conflicts in marine, riparian, and lacustrine environments, there is a capacity gap caused by insufficient awareness of the applicable legal frameworks and dispute resolution mechanisms, as well as the ways in which States can use them.

Opportunities

The Blue Economy provides an opportunity for strengthened partnerships which build on existing maritime, riparian, lacustrine, and river basin cooperation mechanisms. When fully realized, the partnerships can produce a quantum leap forward in the economic development of individual States and the expansion of progress, peace, and prosperity across the continent. They can also create economies of scale to help address inherent financial, technical, and infrastructure gaps of individual States that prevent the realization of the full potential of their aquatic and marine resources.

The delimitation of maritime boundaries is an important factor in the realization of the full benefits of the Blue Economy. States are encouraged to resolve their disputes by using existing instruments, including third-party dispute settlement procedures, such as international courts or tribunals. Case study 1 on the delimitation of maritime boundaries between Eritrea and Yemen or case study 2 on the joint resource development between Senegal and Guinea Bissau; and Mauritius and Seychelles are illustrative of what can be achieved through cooperation. Enhanced security could then serve as a catalyst for higher levels of investment and attract new business opportunities to propel key sectors of the Blue Economy forward. More rapid economic progress could also create

employment possibilities, especially for youth, that would add to national security and stability and reduce the “push” factors for economic migration.

Case study 1

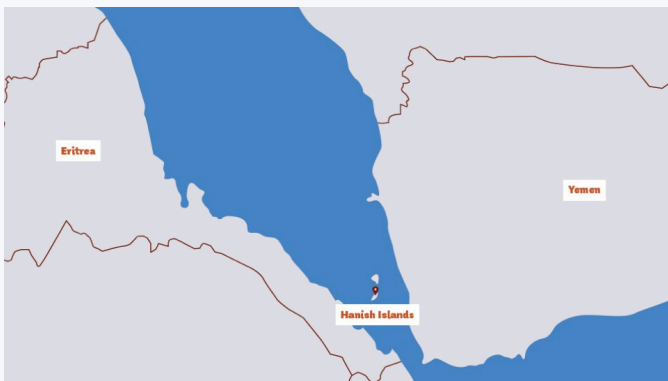
Example of the delimitation of maritime boundaries: Eritrea-Yemen arbitration¹

The maritime environment is a complex space with extended State sovereignty that could be prone to conflicts over issues such as marine resources and boundaries, as well as various regional and international interests. Shaping a harmonious and peaceful balance of all these issues is essential.

The Eritrea-Yemen maritime arbitration and subsequent delimitation is an example of the peaceful settlement of a maritime boundary dispute. In 1995, Eritrea and Yemen contested the ownership of the Hanish Islands in the Red Sea, which are located midway between the two States (see Figure 6). The claim and contested sovereignty led to territorial disputes between the two countries.

The two States agreed to legally resolve their territorial claims and submitted the case to the Permanent Court of Arbitration, which delivered the first award on 9 October 1998, recognizing Eritrea’s territorial sovereignty over a number of islands and Yemen’s sovereignty over the remaining islands. The second award, which was delivered on 17 December 1999, determined the maritime boundary between the two countries (see Figure 7). This legal process has brought to a close maritime and territorial disputes between the two countries, paving the way for future good relations.

Figure 6: Location of Hanish Islands between Eritrea and Yemen



Source: Google Maps (2015).

1 http://www.pca-cpa.org/showpage6e71.html?pag_id=1160 (accessed 27 November 2015)

Case study 1 (cntd.)

Figure 7: The maritime boundary between Yemen and Eritrea



Source: http://www.pca-cpa.org/chart31353.gif?fil_id=462 (accessed 27 November 2015) (map replicated from original court award)

Lesson

The Eritrea-Yemen case illustrates the importance of a commitment to applying international law mechanisms to peacefully resolve maritime disputes, as well as the importance of the political will to implement court decisions. The Eritrea-Yemen case demonstrates that States with maritime territorial claims can resolve any dispute they may have through cooperative, legal, and peaceful approaches.

Case study 2

Examples of joint development

Senegal and Guinea-Bissau are neighboring States with different colonial histories. In 1985, the two States disputed maritime boundaries, resulting in a submission of the matter to the International Court of Justice.¹ The court ruled in favor of Senegal in 1990 and 1991; however, the legal resolution still did not enhance cooperation between the States. In 1993, the two States decided to put aside their differences over the legal outcome in favor of joint development of resources, which created an enabling platform for improved cooperation.

Mauritius and Seychelles made a joint submission to the Commission on the Limits of the Continental Shelf (CLCS) in 2008, concerning the Mascarene Plateau, which is an extended continental shelf of around 396,000 square kilometers.² In 2012, the two countries entered into a Joint Management Agreement for joint exploitation of the resources of the area (“Treaty concerning the Joint Management of the Continental Shelf in the Mascarene Plateau Region”). The agreement provides that the two States shall exercise sovereign rights jointly for the purpose of exploring the continental shelf and exploiting its natural resources in the “Joint Zone.” It covers matters of environmental protection, exploration, and marine resources management, including fisheries and hydrocarbons, and the sharing of resources in the zone on a 50-50 basis. Through a jointly managed authority that oversees the activities in the area, Seychelles and Mauritius plan to issue licenses for oil exploration and exploitation. This approach has enabled the two countries to leverage their respective resources for economic growth, job creation, and international trade.

Lesson

The above cases demonstrate that joint development of ocean resources and cooperation mechanisms can enhance peace and development in the maritime space, as well as information sharing, and that joint management approaches could enhance security in the maritime space.

1 <http://www.icj-cij.org/docket/index.php?p1=3&p2=3&k=73&case=82&code=gbs&p3=5> (accessed 27 November 2015)

2 <http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/STATEFILES/MUS.htm> (accessed 27 November 2015)

The international community has been addressing piracy and armed robbery through close cooperation between and among all key stakeholders, including States, international and regional intergovernmental organizations, the maritime industry, the private sector, and civil society. Such cooperation has led to the development and implementation of practical solutions, such as naval and operational coordination, prosecutions, self-protection measures for the

shipping industry, and public diplomacy. African States have played a key role in this endeavor. Moving forward within the Blue Economy, African States would have the opportunity to play an increasingly leading role in addressing threats to maritime security, taking into account the specific situation, vulnerabilities, and aspirations of the continent. The role of regional and subregional bodies, such as the AU and the RECs, would be relevant, as would that of other regional cooperation mechanisms.

Case study 3 is reflective of what can be achieved when States join efforts to address common security concerns.

Equally useful is the Zone of Peace and Cooperation of the South Atlantic (ZOPACAS) experience (see Case study 4) which grouped together 24 countries bordering the South Atlantic in a collaborative framework covering economic, trade, technical, diplomatic, and political interests.

Case study 3

An example of regional cooperation to address maritime threats-REFLECS3¹

The Regional Fusion and Law Enforcement Centre for Safety and Security at Sea (REFLECS3), originally known as the Regional Anti-Piracy Prosecution and Intelligence Coordination Centre, was established in 2012 as a joint initiative by the United Kingdom and the Seychelles governments. Its overarching strategic objective is to “create a multidisciplinary and multinational centre for law enforcement cooperation in partnership with Seychelles, wider Indian Ocean nations, and international partners to combat the threat from regional piracy and maritime-linked transnational organized crime. The intention is to create sustainable regional capability and to undermine the piracy business model by bringing pirate leaders, financiers, and enablers to justice and depriving them of the proceeds and benefits of their crimes.” The center has strengthened regional cooperation through a joint intelligence task force comprised of the Seychelles, Tanzania, and Kenya. The center has successfully contributed to the prosecution of suspected pirates.

Lesson

The REFLECS3 presents a model for cooperation that could be followed by other States at a regional or subregional level; the scope of such a mechanism may also be broadened to include other maritime crimes.

1 <http://www.rappicc.sc/aboutus.html> (accessed 27 November 2015)

Case study 4

The Zone of Peace and Cooperation of the South Atlantic (ZOPACAS)

ZOPACAS was established in 1986 by the United Nations General Assembly (UNGA) Resolution 41/11 and comprises 24 countries bordering the South Atlantic: Angola, Argentina, Benin, Brazil, Cape Verde, Cameroon, Congo, Côte d'Ivoire, Democratic Republic of Congo, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Guinea Equatorial, Liberia, Namibia, Nigeria, São Tomé and Príncipe, Senegal, Sierra Leone, South Africa, Togo, and Uruguay. It aims to prevent the proliferation of nuclear weapons, along with the military presence of countries outside the organization. Together, the members seek regional cooperation, including economic, trade, scientific, technical, political, and diplomatic collaboration.

In relation to the Blue Economy, ZOPACAS integrates the concept formulated at the United Nations Conference on Sustainable Development (UNCSD) (Rio+20), and supports the conservation of marine mammals; sustainable use of marine genetic resources of areas beyond national jurisdiction; development of a legal regime to govern marine genetic resources of areas beyond national jurisdiction; conservation measures that coastal States are adopting regarding their continental shelf to address the impact of bottom-fishing on vulnerable marine ecosystems, as well as their efforts to ensure compliance with those measures; transparency and accountability in fisheries management by regional fisheries management organizations; measures to combat IUU fishing; and programs to help them benefit from increasing revenues from their fisheries resources in order to combat IUU fishing in jurisdictional waters of member States.

Lesson

ZOPACAS is an example of a regional framework for cooperation aimed at strengthening national institutions, capacity building and joint research for the effective use and management of marine resources, scientific and technical programs and technical and vocational training courses, as well as the exchange of experiences and best practices among member countries in the spirit of solidarity and partnership.

Policy guidance

States could consider the following options for action to ensure they adopt a balanced approach to the Blue Economy:

- Pay close attention to the interdependence between security and development, as they are mutually supportive and key to achieving sustainable peace.
- Support the creation of opportunities to enhance livelihood and human well-being of coastal, lacustrine, and riparian populations.
- Ratify and implement relevant international and regional instruments related to maritime safety and security, as well as illegal practices (e.g., Ports State Measures Agreement), and harmonize national legislation with their provisions.
- Strengthen continental, subregional, and transnational cooperation mechanisms for preventive diplomacy and mediation, for the maintenance of international peace and security, conflict resolution, and the sharing of relevant information.
- Emulate regional best practices of South-South cooperation, such as ZOPACAS.

Fostering social inclusion

Situation statement

The realization of the full potential of the Blue Economy requires the effective inclusion of all societal groups, especially women, youth, local communities, and marginalized/underrepresented groups. In relation to economic development, these groups often face limited access to opportunities and public services, inadequate legal standing, poor opportunities to contribute to value addition, low benefits, and a lack of recognition of the unique and valuable role they could play in society.

The case of women is telling. Despite their large contribution to the labor force, women often lack access to natural resources, are given inferior property rights, and receive benefits that are disproportionately low compared to their male counterparts. At the same time, women usually carry out essential household tasks, ensure food security, and are largely responsible for child-rearing. They represent a significant portion of the nonmonetized core economy. In many households, women provide essential income for the family, while in single-headed households they are the sole provider. In various Blue Economy sectors, women are directly and heavily involved. In small-scale and industrial fisheries, women's most prominent role is in post-harvest activities, such as processing and marketing. In West Africa, as much as 80 percent of seafood is marketed by women.²⁴

However, much of women's contribution to fisheries is considered "invisible." Gender discrimination stems from the low value attached to the work carried out by women and is perpetuated in their limited access to credit, processing technology, storage facilities, and training.²⁵

Of equal relevance is the case of youth. Africa faces a huge demographic challenge in the large and increasing percentage of young people under age 30 in its population. In addition, many youth do not wish to pursue rural livelihoods in their home areas and instead travel to rapidly expanding cities. In order to participate in the benefits of the Blue Economy, these youth will need education, training, and job opportunities. Their effective labor force participation, however, could be the engine that drives the Blue Economy of the future.

24 FAO 2012: The State of World Fisheries and Aquaculture.

25 <http://www.fao.org/gender/gender-home/gender-programme/gender-fisheries/en/> (accessed 27 November 2015)

Although urbanization is advancing rapidly, Africa is still mainly a continent of small local communities. These communities of fishers, maritime workers, and farmers who rely on inland water resources are often small-scale producers with low technology and limited access to markets. As the Blue Economy grows and transforms the economic landscape, their inclusion will not be automatic, and, in fact, their livelihoods may be displaced by the shift toward more technology-intensive and higher value-added economic activities.

Voluntary and involuntary internal migration and displacement represents an equal cause for concern. Many internal migrant African communities are settled, sometimes illegally, on marginal or highly vulnerable lands. Millions of squatters live under such conditions in waterside slums located in major African coastal cities, while others occupy wetlands along rivers or lakes. These communities are typically extremely poor, and their lack of legal rights prevents them from accessing such basic needs as water and sanitation. Often they find employment in low-paying informal sector activities, yet they could offer a pool of valuable human capital in the Blue Economy. Their vulnerable locations along coasts and rivers, susceptible to severe weather and flooding, also expose them to the potential problem of natural disasters, which raises the need for emergency responses by a variety of public safety institutions.

Finally, it is important to ensure that the development of the Blue Economy fosters the preservation of Africa's vast cultural diversity and rich cultural heritage. Even as the continent is transformed by fast-moving economic development, thousands of indigenous communities continue to maintain their way of life and traditional livelihoods. For many, these livelihoods represent more than income; they are embedded in their very identity. Many are fishers in coastal and riparian locations or farmers adjacent to critical water sources that sustain their production. In recent years, many of these communities have been displaced involuntarily or have lost their livelihoods and social cohesion as a result of land use changes for large-scale commercial production in such sectors as agriculture, energy, and mining. This has led at times to conflict as well as to the loss of cultural traditions, including perpetually relevant, yet consistently undervalued, indigenous knowledge.

Challenges

Although there is increasing diversity in the economic activities of the various Blue Economy sectors, there remains a propensity to exclude and marginalize women as well as underrepresented groups and youth.

It is estimated that women form only 2 percent of the world's official maritime workforce, and the percentage of women's known participation in the African context is even smaller.²⁶

Women are also noted to be the lowest paid even when undertaking work equivalent to that of their male counterparts. Multiple factors undermine the empowerment of women in the Blue Economy. In some cases, women lack equal access to maritime education and training through formal and informal processes that deny them access to specific courses, such as navigation and particularly marine engineering. In other areas, such as the fishing industry, women play an important role in the value chain, but in some countries they are often marginalized in sharing or benefiting from the gains. Smoking/drying and sale of fish are largely undertaken by women, at the artisanal and factory level, yet subsidies, equipment/logistics support, tax relief, training, and financial support in the fishing industry are largely targeted at fishers, vessel owners, and the management of shipping companies, who are predominately men.

Achieving the full benefits of a Blue Economy will be greatly enabled by empowering women to allow them to participate fully in and contribute to their own development and success. A cornerstone of this multifaceted process is the provision of equal access to educational and training opportunities as well as to current and emerging job opportunities. The design of these reforms needs to take into account the role of women as mothers and providers, as well as the role they play in the fabric of African society. Incorporating the untapped talents of women in these and related areas is a major challenge for the Blue Economy.

A similarly large challenge exists with respect to employment opportunities for youth, many of whom are currently unemployed or underemployed. For both specialized and labor-intensive training, it is essential to create new technical and vocational centers or other venues to provide the appropriate courses of study for youth. These educational centers can be related to the Blue Economy, such as providing training for offshore oil and gas workers, courses for technicians in renewable energy development and implementation, or training for fishers.

Diverse underrepresented groups often find themselves outside conventional policymaking, despite having particular interests that would need to be taken into account. Marginalized coastal and riparian communities present special challenges because of their often illegal status in relation to land rights and use. This makes them particularly vulnerable to natural hazards and social

26 Tifuh, Azirh Nicholine. World Maritime University Dissertations, Paper 482 (2014). Women merchant mariners: empowering West African women.

disruption, which incur costs that are usually borne by the State. Incorporating these groups into the Blue Economy policy design and implementation processes through dialogue and consultation, taking into account their social and cultural integrity, could enhance opportunities for employment and wealth creation. This would ensure active participation and benefit sharing that can only serve to strengthen the Blue Economy process.

Opportunities

Recent regional efforts have given a major boost to possibilities of increased employment for women in the maritime sector of the Blue Economy. These include the 1st Continental Conference on the Empowerment of African Women in Maritime (CCEAWM) in Luanda, Angola, in March 2015, which promoted the development of a common agenda or platform of action for African maritime women and set up the basis for the creation of an adequate continental institutional framework to support its implementation.

The conference theme, “African Maritime Women: Towards Africa’s Blue Economy (AU 2050 AIMS, AU Agenda 2063),” is also in line with the theme of the 24th Ordinary Session of the Assembly of the AU, which was held at its headquarters in Addis Ababa, Ethiopia, on 30-31 January 2014 under the theme “Year of Women’s Empowerment and Development Towards Africa’s Agenda 2063.”

The call for action of AU Agenda 2063 seeks to strengthen technical and vocational education and training through scaled-up investments, the establishment of a pool of high-quality Technical Vocational Education and Training (TVET) centers across Africa, greater links with industry, and alignment with labor markets, with a view to improving the skills profile, employability, and entrepreneurship of especially youth and women, and closing the skills gap across the continent. As is the case with the AU 2050 AIMS, it also seeks to expand knowledge and access to quality early childhood, primary, and secondary education in the fields of the Blue Economy.

Under Aspiration 6 of the AU Agenda 2063: The Vision for 2063, young Africans, both men and women, will be the trailblazers of the African knowledge society and will contribute significantly to innovation and entrepreneurship. The creativity, energy, and innovation of African youth will be the driving force behind the continent’s political, social, cultural, and economic transformation. In this connection, taking into account the potential of the Blue Economy for job creation, it is envisioned that youth employment will increase. Africa’s youth will

have enhanced access to education, training, skills, technology, health services, and recreational and cultural activities. They will also have opportunities to acquire the financial means to allow them to realize their full potential.

States may use this impetus as a motivation to include and incorporate these aspirations in their development agenda in an integrated, intersectoral manner, including through appropriate legislative provisions and policy documents. In particular, efforts should be made to incentivize youth for jobs in the maritime sector, including seafaring, in light of the global decline in the number of youth joining that industry. African countries have an opportunity to address and fill this gap and to create a niche. In order for this to be realized, there is also need for new maritime education centers and/or support to increase the capacity of existing centers. PPPs, such as with the shipping industry, could be explored in order to fund such initiatives.

It is important to link inclusive growth, capacity building, and environmentally sustainable resource management in order to empower women in marine sectors, as illustrated in case study 5.

Case study 5

TRY Oyster Women's Association in The Gambia

The case of the TRY Oyster Women's Association in The Gambia illustrates multiple linkages of the Blue Economy approach ranging from social inclusiveness to capacity building, job creation, and environmentally sustainable management of small-scale operators. Under the Cockle and Oyster Fishery Co-management Plan for the Tanbi Wetlands National Park of 2013, TRY is the first women's association in sub-Saharan Africa to be granted exclusive use rights to a fishery by a national government. Since its founding in 2007, the association has moved from small gatherings of 40 oyster harvesters in one community in the Tanbi to an established group with organized leadership and more than 500 members from 15 communities in the Greater Banjul area.

Harvesters are grouped into cooperatives, in which they exchange sustainable oyster harvesting techniques and receive training in small-scale enterprise development (e.g., financial literacy training and procurement of loans). These cooperatives have ensured access to appropriate equipment and technologies; set higher standards for working and sanitary conditions; and helped to coordinate the processing, packaging, and marketing of oysters, which resulted in more than doubling of the price-per-kilogram for oysters. The cooperatives have also promoted reforestation of local mangroves as members have planted 33.5 hectares of mangroves that are thriving two years later, improved education for a number of children of TRY members, and educated the local population about the benefits of environmentally responsible resource management.

TRY has empowered the oyster women. They have realized the value of cooperation in working toward a common goal. Previously, they had worked as individuals in isolation in poor and worsening economic, social, and environmental conditions. They are now working in solidarity as legally recognized leaders and participants in decision-making for the sustainable management of natural resources in their communities and nationally.

The key factors contributing to TRY's success have been: a participatory process with extensive stakeholder consultation, starting with the women harvesters and including all levels of local and national government; an adaptive management approach based on research of local ecological knowledge and scientific knowledge conducted with stakeholders; research findings and implementation challenges reviewed annually by stakeholders; and interministerial collaboration between the

Case study 5 (cntd.)

Gambian Ministry of Fisheries, the Department of Parks and Wildlife Management, the National Environment Agency, and the Ministry of Forestry and the Environment, all of which had jurisdiction over various aspects of the Tanbi Wetlands National Park.¹

Lessons

The case of the Gambian TRY Oyster Women's Association demonstrates the possibility of linking inclusive growth, capacity building, and environmentally sustainable resource management for female oyster farmers. The Gambian experience also shows that empowerment of women within a Blue Economy sector can be successfully pursued through the proper allocation of resources.

¹ UNEP, GRID-Arendal. This case study is extracted from Green Economy for Oceans: Blue Economy Success Stories (in progress).

Policy guidance

To increase general awareness and active involvement of youth, women, local communities, and underrepresented groups in the Blue Economy debate and the policymaking and implementation process, States would benefit from coordinated efforts around a number of interventions, as exemplified below:

- Establishment of education and training institutions to build the capacity of the Blue Economy. The AU, for example, stresses that States should incorporate the importance of their respective maritime and aquatic zones as part of their geographical territory into their education systems at all levels. The AU is now working toward the establishment of a Scientific Center of Excellence for ocean-related skills development.
- Promotion of the inclusion of youth, women, local communities, and underrepresented groups in all Blue Economy sectors by means of addressing cultural barriers. The development and implementation of Blue Economy national and subregional strategies for States and beneficiary populations should provide pathways to strengthen the role of youth, women, and underrepresented groups in the development of the Blue Economy. This would also contribute to the realization of SDGs related to youth, education, and gender (SDGs 4, 5, and 10).
- Promotion of equitable benefit-sharing throughout the value chain and work with small-scale producers in local communities, such as fishers and

farmers, to establish new market linkages emerging from the Blue Economy. In the case of the fisheries sector, this can be partly addressed by training of processing workers and fish vendors and providing opportunities for access to capital and enhanced retention of revenue.

- Engagement in dialogue with highly vulnerable and poor urban coastal communities to identify and implement measures to reduce their vulnerability and ensure public safety.
- Consider adopting certain elements of the 2012 Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security of the Committee on World Food Security into their national legislation in order to give legal force to the tenure rights of small-scale producers and to the traditional fishing grounds of local communities.²⁷

27 <http://www.fao.org/docrep/016/i2801e/i2801e.pdf> (accessed 27 November 2015)

Mainstreaming climate change dimensions and environmental sustainability

Situation statement

Climate change and environmental mismanagement are growing threats to the integrity, condition, and sustainability of the aquatic and marine resources on which the Blue Economy is based. Although subject to local variations, wide areas of Africa have seen climate impacts that include increasing floods and droughts, erratic and extreme weather, distinct seasonal changes, sea level rise, coastal erosion, saltwater intrusion, warming sea waters, ocean acidification, coral bleaching, and an upsurge of invasive species as a result of global warming. These impacts are expected to worsen and have already had negative effects on livelihoods dependent on ocean and freshwater resources, causing internal migrations, with potential for conflict, as well as putting at risk critical infrastructure and transportation systems.

Destructive environmental practices due to poor environmental governance and the failures of the market economy to value the costs of degradation have contributed to problems such as: industrial pollution; agricultural runoff; deforestation; sedimentation of rivers and lakes; eutrophication; habitat loss; decreasing biodiversity; overfishing; IUU fishing; pollution from maritime and riparian transport; and dumping of toxic waste. Additionally, unsustainable development practices have already started to deplete Africa's natural capital and have resulted in societal costs constraining national efforts to achieve transformative development.

In order to realize the full potential of the Blue Economy, the twin issues of climate change impacts and environmental mismanagement must be effectively addressed. This is imperative, given that the knowledge, adaptation, reforms, and enforcement mechanisms that are produced will contain opportunities for building resilience, which is, in turn, key to creating a dynamic and durable Blue Economy.

Africa is highly vulnerable to the adverse impacts of human-induced climate change. Based on existing emissions trends and mitigation pledges, the science

shows the world is on course to a 4°C increase in global temperature by 2100.²⁸ At such warming levels, impacts for Africa are expected to be substantially greater. The need for adaptation measures to cope with these projected impacts is significant even at 1.5–2°C warming, the threshold beyond which Africa’s capacity to cope with impacts of climate change would be severely curtailed. Adaptation measures such as early warning systems and coastal zone management to counter sea level rise offer a possibility of minimizing these impacts, but Africa’s capacity to adapt depends critically on access to funding, as many countries have limited adaptive capacity. Under all mitigation and adaptation scenarios, Africa will continue to experience residual loss and damage.²⁹

Loss and damage is defined as the negative effects of extreme weather events and slow-onset climatic changes that people have not been able to cope with or adapt to. This includes not only economic losses but also social and cultural loss. Addressing loss and damage requires building preventative resilience, managing risk, assisting in rehabilitation, and providing redress in the event of permanent loss. The level of loss and damage and, therefore, the costs incurred, will depend, among other elements, on the level of ambition of global mitigation actions and commitments to raise the level of investment in adaptation at the local level. To reduce the magnitude of the impacts and their repercussions for African livelihoods, adaptation measures at different levels, from households to national and regional levels, are being planned and implemented and need to be further supported and strengthened.

Challenges

Climate change and environmental management challenges affect the livelihoods, health, water, energy security, food security, and overall well-being of communities throughout Africa.

The effects of rising ocean temperatures, ocean acidification, and habitat destruction are already affecting the quantity and quality of fish stocks and consequently livelihoods that depend on it. Additional challenges, such as overfishing; IUU fishing, industrial discharge, and effects of other marine activities hinder the productive potential and sustainable use of the seas and oceans. Water quality and security challenges in the context of climate change

28 Intergovernmental Panel on Climate Change (IPCC), 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the IPCC [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)].

29 http://www.climdev-africa.org/sites/default/files/DocumentAttachments/UNECA-ACPC%20Africa%20Loss%20%26%20Damage%20Report_0.pdf (accessed 27 November 2015)

and environmental management also require attention, since industrialization and expanding and intensifying food production are putting pressure on water resources, which affects human health and food security.³⁰ Innovation and resource mobilization which could shape creative solutions to tackle these challenges are inadequate.

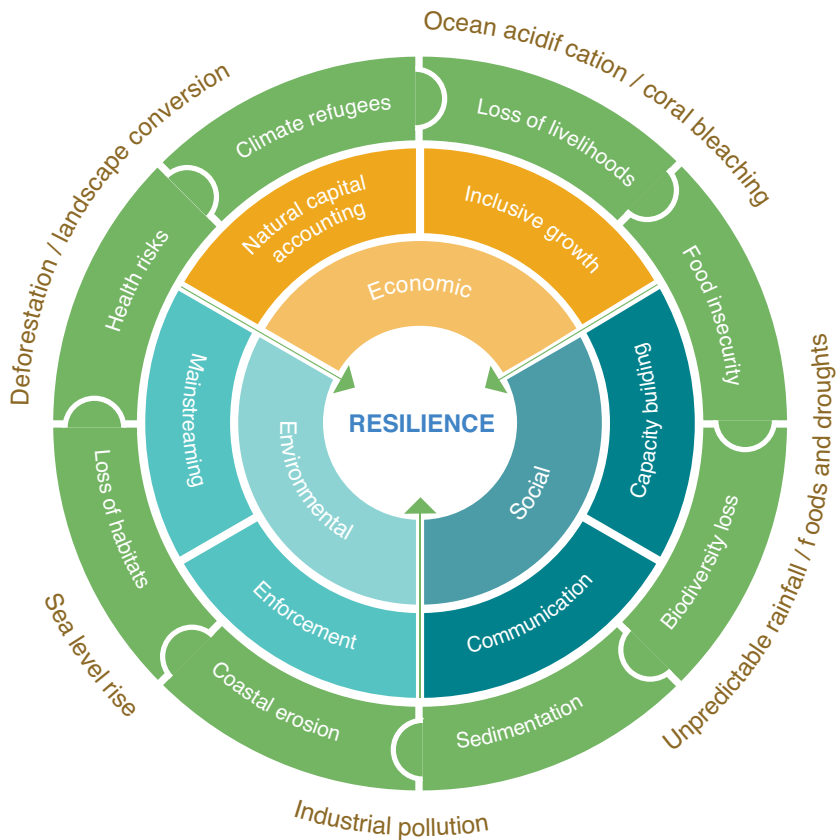
The adoption of green and Blue technological strategies in the Blue Economy context remains a challenge, though one that is already showing signs of being overcome. Within the ocean energy sector, for example, there are key constraints to overcome, including absence of assessment and mapping of ocean energy resources; remaining maturity challenges in ocean energy technologies; a declining but still high cost of ocean energy; and limited expertise and knowledge in development and operation of ocean energy facilities.

Increasing knowledge and raising awareness about climate change, environmental stewardship that includes the timely sharing of climate information, and encouragement of environment-friendly business practices are key challenges that a Blue Economy approach could help overcome. Observers have frequently noted the large gap between the generally good quality of environmental regulatory regimes in many countries in Africa compared to the weak implementation and enforcement of what otherwise should be effective mechanisms for environmental stewardship.

The principal climate and environmental threats, their resulting impacts, and the responses necessary to move toward greater resilience are shown in Figure 8 (see page 44).

30 Corcoran, E., C. Nellemann, E. Baker, R. Bos, D. Osborn, H. Savelli (eds.). UNEP, UN-Habitat, GRID-Arendal. 2010. Sick Water? The central role of wastewater management in sustainable development. A Rapid Response Assessment. United Nations Environment Programme.

Figure 8: Climate and environmental threats, impacts, and responses for resilience



Source: Authors.

Opportunities

The severity of challenges brought about by the climate change phenomenon has obscured many of the potential opportunities that exist in Africa. Indeed, the emphasis has been mainly on designing adaptation and implementing mitigation plans, with little attention directed at maximizing such opportunities. These opportunities range from low-carbon technological innovation to shifting mindsets to redefine our relationship with nature. The growing costs of carbon-based sources of energy, such as coal, have meant that States are increasingly

having to explore alternative energy sources to meet their respective national demands. This situation has, for instance, led to an increase in the exploration of the potential of hydropower and ocean energy.

Ocean energy is a new frontier for energy development in coastal and island States³¹. Until now, the maturity of available ocean energy technologies, the high cost of energy from the ocean, and policy factors have limited access to ocean renewable energy. However, the International Energy Agency (IEA) estimates that ocean renewable energy has a power output potential equivalent to 100–400 percent of the global current energy demand.³² Owing to a more favorable environment, ocean and sea energy are now opening up for development. Cape Verde, for example, is engaged in small-scale application of wave energy suitable for lighting remote and isolated areas. The Mauritius Research Council indicates that ocean-based energy sources could provide significant power supply to the country's energy needs.

In addition, current and ongoing research on Blue energy systems, such as production from tidal power and designing more efficient decentralized energy networks, all present opportunities that could benefit States through the reduction of related costs, thereby enhancing overall competitiveness.

The existing protocols on climate change, such as certain elements of the Kyoto Protocol, present African States with opportunities that could promote an economic development-related voluntary emissions reduction scheme. In addition, outcomes of various Conferences of Parties (COPs) of the United Nations Framework Convention on Climate Change Conference (UNFCCC) such as the establishment of the Green Climate Fund, offer avenues through which African States could address their respective development priorities vis-à-vis climate change issues. Benefits accruing from such plans could, for instance, be utilized in the production of green energy from the Blue environment, including rivers and oceans.

In recent years, there has also been increasing attention to the protection of marine and coastal ecosystems as a climate change adaptation strategy. The UNFCCC has developed strategies and mechanisms to enhance terrestrial “green carbon” sinks. These include the “blue forests” and “Blue carbon” concepts, which have recently gained traction. Blue forests are marine and coastal ecosystems that are particularly valuable through their provision of multiple ecosystem services. Blue carbon is the carbon stored and sequestered

31 Hammer, L., A. Ehnberg, A. Mavume, B. Cuamba, S. Molander. Renewable and Sustainable Energy Reviews. Vol. 16, 4938-4950, 2012. Renewable ocean energy in the Western Indian Ocean.

32 Energy Technology Perspectives. IEA, 2012. Pathways to a Clean Energy System.

in Blue Forest habitats, such as mangrove forests, seagrass meadows, intertidal salt marshes, and kelp forests and beds.

Blue carbon sums up the idea of procuring the benefits of Blue forest habitats in order to help mitigate climate change. In Africa, coastal habitats are abundant, which makes Blue carbon important for climate-change strategies and development programs that include a commitment to reduction of carbon emissions. The rates of Blue carbon sequestration and storage are comparable to (and often higher than) the sequestration rates in carbon-rich terrestrial ecosystems, such as tropical rainforests. Unlike most terrestrial systems, which reach soil carbon equilibrium within decades, depositing of carbon dioxide in coastal ecosystem sediments can continue over millennia. However, when these coastal ecosystems are degraded or destroyed, they can become carbon dioxide sources. In addition to carbon, coastal ecosystems are also highly valuable for the range of services they provide.³³ They protect people from coastal erosion, storms, and flooding, making them valuable for climate change adaptation. Unfortunately, however, the rate of loss of mangroves, seagrasses, and salt marshes (driven mostly by human activities) is estimated to be among the highest of any ecosystem on the planet. Therefore, it is important to prompt international interest in preserving, protecting, and restoring coastal habitats more effectively for their carbon benefits.

In addition, Blue carbon markets may offer African countries additional economic incentives to manage resources sustainably and to restore their coastal and marine ecosystems. Case study 6 highlights related opportunities and constraints.

33 <http://www.grida.no/publications/rr/blue-carbon/> and <http://bluecarbonportal.org/> (accessed 27 November 2015)

Case study 6

Opportunities and constraints related to Blue Carbon

The Abu Dhabi Blue Carbon Demonstration Project

This was the world's first national-level Blue carbon project.¹ It helped improve understanding of carbon sequestration and other ecosystem services that coastal Blue carbon ecosystems provide in Abu Dhabi. The project identified options for the incorporation of these values into policy and management. Experience and knowledge gained from the project helped guide other national Blue carbon projects and international efforts. The Abu Dhabi Blue Carbon Demonstration Project empowered the emirate with robust, qualitative analysis and methodology to support informed decisions on the well-being of the coastal and marine ecosystems for enhanced sustainability, in turn contributing to the international efforts of the Blue carbon movement and its push toward shared global sustainable goals for the future.

Blue Carbon Projects in Kenya and Madagascar

In Kenya, the project aims to rehabilitate, protect, and use sustainably the mangroves in the southern part of Gazi Bay, leading to the generation of estimated 3,000 tons in CO₂-equivalent of carbon credits, to be sold on the voluntary carbon market and generating approximately USD 12,000 per year to the local community. From the experience of this project, it is expected that coastal communities throughout Kenya will benefit from the sustainable management of mangroves, supported by revenue from carbon credits. The Mikoko Pamoja project is verified under the Plan Vivo Standard. Certification is anticipated soon that will allow the start of payment.

In Madagascar, Blue Ventures (a science-led social enterprise developing transformative approaches for nurturing and sustaining locally-led marine conservation) has been exploring the potential of Blue carbon since 2011. A key aim of the project is to empower coastal communities to equitably participate in a mangrove Reducing Emissions from Deforestation and Forest Degradation (REDD⁺) mechanism. It focuses on strengthening the methodologies for measuring the extent of the mangrove forests and preparing community-led projects along the rich west coast mangrove of Madagascar. Since 2013, the project has worked through the Verified Carbon Standard (VCS). By using this standard, specifically developed for a terrestrial forest, the project will contribute to Blue carbon projects through mangrove REDD+, not only in Madagascar but also elsewhere.

- 1 Abu Dhabi Global Environmental Data Initiative (AGEDI), 2014. Building Blue Carbon Projects — An Introductory Guide.
- 2 Reducing Emissions from Deforestation and Forest Degradation (REDD) is an effort to create a financial value for the carbon stored in forests, offering incentives for developing countries to reduce emissions from forested lands and invest in low-carbon paths to sustainable development. "REDD+" goes beyond deforestation and forest degradation and includes the role of conservation, sustainable management of forests, and enhancement of forest carbon stocks. <http://www.un-redd.org/AboutREDD/tabid/102614/Default.aspx> (accessed 18 December 2015)

Case study 6 (cntd.)

Although many advances have been made in the past few years, there are still several constraints associated with unlocking the values of coastal carbon and ecosystem services and converting them into options for improved ecosystem management revenue. Blue carbon benefits have not yet been fully integrated into policy discussions within the financial mechanisms for climate mitigation.¹

Lesson

The above initiatives were made possible due to the initial recognition of the importance of Blue forests and Blue carbon to climate change adaptation. This was supported by demonstrated political will and action by governments and development partners. Blue carbon projects are thus an opportunity for some countries to address climate change mitigation strategies, provide sound environmental stewardship on the coast, and support community benefits.

1 Ulman R., V. Bilabao-Bastida, G. Grimsditch. *Ocean and Coastal Management*. Vol. 83, 15-18, 2013.

Policy guidance

States could consider the following options for action to ensure appropriate mainstreaming of climate change and environmental considerations in a Blue Economy approach:

- Mainstreaming of climate change and environmental sustainability into existing and new Blue Economy continental, subregional, and national plans, policies, and relevant legislation (see information available provided by leading institutions such as UNFCCC³⁴, UNEP³⁵, GRID-Arendal³⁶, and International Maritime Organization [IMO]³⁷).
- Increasing investments in climate and environmental information services to ease access to and enhance availability of climate and environmental information.
- Development and strengthening of a framework to promote climate-proofed and environmentally sustainable infrastructure (e.g., green ports, use of renewable energy technologies).

34 www.unfccc.int

35 www.unep.org

36 www.grida.no

37 www.imo.org

- Linking development of ocean energy with other high-value economic activities, such as tourism; improving awareness; conducting rigorous resource assessment; and engaging public and private sector investment.
- Incorporation of the use and effective implementation of Environmental Impact Assessments (EIAs) and Strategic Environment Assessments (SEAs) to mainstream and streamline climate and environmental considerations and the Blue Economy principles at policy, program, and project levels.
- Enhancing of disaster risk reduction by developing and/or strengthening early warning systems (e.g., knowledge platforms, training and capacity building, identification of most vulnerable areas, public awareness).
- Development of a framework to build or strengthen national capacity to examine the possibilities to cooperate with international agencies (e.g., the International Union for the Conservation of Nature (IUCN), GRID-Arendal, and UNEP) for the establishment of Blue carbon natural infrastructure projects to help restore and improve mangroves, seagrass beds, and salt marshes that provide critical climate mitigation and adaptation services.
- Development of a framework to initiate, expand, and/or improve the management effectiveness of Marine Protected Areas (MPAs) in safeguarding ecosystem health.
- Establishment of a program to raise awareness of populations and stakeholders about climate change and environmental threats, while building on existing indigenous knowledge and value systems to build a strong basis for further empowerment, resource rights, and focused action.
- Exploration of the possible application of tools such as the Drivers-Pressures-State-Impact-Response (DPSIR) tool to identify, analyze, and propose responses to sustainably address conflicting and competing uses of water resources and other natural resources, as well as uses of these resources beyond sustainable thresholds and ecological boundaries.
- Development and/or strengthening of legislation and policies for the promotion of green and Blue technologies.
- Creation of Natural Capital Accounting systems (NCAs) that would enable States to promote Blue energy, such as hydropower and ocean energy, and establishment of carbon taxes to support Blue and green technology investment.
- Establishment of a harmonized regional or continental approach for review of National Adaptation Programmes of Action (NAPAs) and other UNFCCC instruments within the context of the Blue Economy.

- Development of a framework for increased capacity building of government officials of RECs, IGOs, and States to strengthen their negotiation skills within international fora to fully and fairly benefit from related provisions on climate change and environmental issues. This could enhance the awareness of the shared Blue Economy vision at continental level within the framework of the AU Agenda 2063, Agenda 2030 for Sustainable Development, AU 2050 AIMS, and the Small Island Developing States (SIDS) Accelerated Modalities of Action (SAMOA) Pathway.

Legal, regulatory, and institutional framework for the Blue Economy

Situation statement

The fact that the Blue Economy spans a number of different sectors, with significant potential synergies, provides positive incentives for moving toward better integrated legal, regulatory, and institutional frameworks. At present, policy incoherence, weak enforcement, and legislative gaps contribute to the fragility of existing frameworks. The absence of adequate institutional mechanisms to facilitate interdepartmental collaboration or an overall coordinating body makes it difficult for institutions to work beyond their immediate mandates. This is evidenced by the higher level of maturity of institutions and governance frameworks for action and coordination in some established sectors, as opposed to what is seen in emerging sectors. The mature sectors, therefore, could provide valuable lessons to the nascent sectors. Above all, the Blue Economy offers a new dynamic that could be used to mobilize new interinstitutional linkages across different sectors, marshal support for necessary reforms, and fill existing gaps in legislation and enforcement mechanisms. This could be done at various levels, including national, regional, and international, as deemed appropriate.

Challenges

The establishment and development of effective legal, regulatory and institutional frameworks for the Blue Economy are crucial steps toward structuring and guiding its growth. Legal, regulatory, and institutional frameworks require thorough review in order to understand the Blue Economy's institutional environment, identify existing gaps, and take advantage of collaborative synergies.

Cultivating adequate awareness of existing applicable legal frameworks and instruments at both the international and regional levels is an important part of understanding the Blue Economy. From the oceans perspective, UNCLOS, which was adopted in 1982 and entered into force in 1994 is widely recognized as the

general legal framework within which all activities in the oceans and seas must be carried out. This convention also outlines the rights and obligations of States in carrying out these activities, including those relating to navigation, living and nonliving resources, protection and preservation of the marine environment, marine scientific research, and development and transfer of marine technology, in all maritime areas provided for in the convention. It provides the means for achieving legal certainty in a number of areas, including the delineation of maritime zones.

With regard to maritime zones delineation, clearly defined and duly publicized limits of maritime zones are an essential basis for States to derive benefits from the oceans and their resources. These limits provide certainty with regard to the extent of the sovereignty or sovereign rights and jurisdiction of coastal States, thereby creating a fundamental precondition to attracting investments for exploration and exploitation activities. Under UNCLOS, the CLCS assists coastal States in the establishment of the outer limits of the continental shelf.³⁸ The sustainable use of nonliving resources, including those in the sea floor and subsoil, is crucial in the development of a sustainable ocean-based economy, particularly for developing coastal States.

The Convention on the Law of the Sea contributes to the strengthening of peace, security, cooperation, and friendly relations among all nations, as well as to the promotion of the economic and social advancement of all peoples of the world, and to the sustainable development of the oceans and seas.

The high rate of ratification of this instrument by African States is encouraging and a valuable step forward. However, there remain considerable challenges with regard to implementation, including harmonization of national laws with relevant provisions and uniform and consistent application of these provisions. Implementation of UNCLOS requires domestic legal, policy, and institutional frameworks, as well as cross-linkages with other sectors.

The framework provided by UNCLOS takes into account the possibility of adopting other agreements to facilitate the implementation of its provisions. The convention is thus complemented by two implementing agreements. The 1994 Agreement Relating to the Implementation of Part XI of the Convention on the Law of the Sea is relevant to the exploration and exploitation of the resources of the international seabed area (known as the Area), which is considered to be the “common heritage of mankind.” In other words, the benefits of economic gains from activities in the Area are to benefit all of humanity. The Area is

38 http://www.un.org/depts/los/clcs_new/clcs_home.htm (accessed 27 November 2015)

administered by the International Seabed Authority (ISA). At present, no African States are sponsoring any activities in the Area. The 1995 Agreement for the Implementation of the Provisions of the Convention relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (United Nations Fish Stocks Agreement), provides the framework for States, in cooperation with regional fisheries management organizations, to sustainably exploit the resources of their Exclusive Economic Zones (EEZs), as well as those of the high seas. Many African States are as yet unable to fully exploit these resources; instead, they usually issue licenses to fleets from other continents.

There are a series of other binding international conventions whose provisions need to be kept in view. An indicative list would include the Convention on Wetlands of International Importance (Ramsar Convention); Convention on Biological Diversity (CBD) and Jakarta Mandate; Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (Nairobi Convention); International Convention for the Prevention of Pollution from Ships (MARPOL); African Maritime Transport Charter; African Convention on the Conservation of Nature and Natural Resources; and the World Heritage Convention. Member states of the World Trade Organization (WTO) also have obligations and rights with respect to trade that may have implications for economic activities and institutions within the Blue Economy.

Integrating the Blue Economy paradigm into the context of the existing multiplicity of soft law instruments (i.e., voluntary, nonbinding, or aspirational agreements), which were designed to bolster existing institutional arrangements, also poses a challenge with regard to harmonization and coordination efforts.

An important development with regard to the resources of areas beyond national jurisdiction is the recent decision by the UNGA (Resolution 69/292 of 19 June 2015) to develop an international, legally binding instrument under UNCLOS on the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction.³⁹

A preparatory committee will start its work in 2016 and by the end of 2017 shall make substantive recommendations to the UNGA on the elements of a draft text covering, in particular, “marine genetic resources, including questions on the sharing of benefits, measures such as area-based management tools, including marine protected areas, environmental impact assessments and

39 http://www.un.org/depts/los/general_assembly/reports/report_70.pdf (accessed 27 November 2015)

capacity-building and the transfer of marine technology.”⁴⁰ The participation of African States in a coordinated manner in these negotiations is important and will depend to some extent on availability of resources, particularly financial resources. The establishment, in accordance with the resolution, of a special voluntary trust fund for the purpose of helping developing countries — particularly the least developed countries, land-locked developing countries, and SIDS — to attend the meetings of the preparatory committee and the intergovernmental conference is expected to address this challenge. The effective participation of African States in this process is also influenced by the need for representatives with a good appreciation of the issues.

The implementation and application of legal frameworks and instruments for pursuing the development of the Blue Economy also require negotiation skills; however, technical capacity and institutional gaps remain at the national level. These challenges can be demonstrated, for example, in the climate change agreements and Africa’s limited benefits, which are exclusively limited to funding and investments for green, low-carbon growth. Africa’s limited participation to date in the Clean Development Mechanism (CDM) and carbon trading arrangements under the Kyoto Protocol is a demonstration of the prevailing information, negotiation, and technical skill constraints.⁴¹ With concerted effort, these barriers to awareness can be overcome, and leveraging by States of international legal instruments can help shape effective national Blue Economy-related institutional structures, policy processes, and regulatory regimes.

Another central challenge at the national level is the insufficient intersectoral coordination combined with the scarcity of central coordinating institutions for the Blue Economy (e.g., ministries, commissions, or units). Matching regulatory and institutional choices with appropriate budget mechanisms is essential.

40 *Ibid*

41 http://www.unicef.org/esaro/Climate_Change_in_Africa.pdf

Opportunities

Most African States have ratified UNCLOS. The Blue Economy presents a unique opportunity for these States to translate their political commitment into tangible and effective implementation and assertion of their rights under the convention as well as the related observation of their duties. The recent agreement by States to begin a process of negotiations toward an implementing agreement on the conservation and sustainable use of marine biodiversity in areas beyond national jurisdiction presents another opportunity for African States to demonstrate their commitment to agreed international principles for the conservation and sustainable use of marine resources. Indeed, African States are encouraged to actively participate in this process and to continue to cooperate in negotiating outcomes that would favor their sustainable development aspirations and ensure fair consideration of Africa's interests.

The convention provides rights of access to the sea and transit rights to what it defines as land-locked States. Coastal African States can facilitate these rights through effective transit agreements with land-locked States in order to reduce the costs of trade and increase their participation in and benefits from the Blue Economy.

Since all States can benefit from the resources of the Area, the Blue Economy could galvanize those African States which are not yet parties to the convention to ratify it in order for them to profit from the Area, as well as from other resources of the oceans. The Blue Economy also provides an opportunity for participation in the ISA, which regulates all activities in the Area (see case study 7). It also creates a favorable climate for sustained participation in other international and regional organizations relevant to the Blue Economy.

Case study 7

The Area

UNCLOS states that the seabed and subsoil located beyond national jurisdiction, known as the “Area,” and its mineral resources are the common heritage of mankind. It also establishes the ISA, an autonomous international organization within the United Nations system through which States that are party to the convention organize and control activities in the Area, particularly with a view to management of its mineral resources.

All States party to UNCLOS are automatically members of the ISA. Under UNCLOS, the ISA has the responsibility to process applications, monitor activities, and adopt rules and regulations for the conduct of exploration and mining activities in the Area.

Between 2000 and 2010, eight companies signed contracts with the seabed authority for the exploration of polymetallic nodules. As of 1 June 2015, this number is 22, which includes the exploration of polymetallic sulfides, polymetallic nodules, and cobalt-rich ferromanganese crusts from several Pacific Small Island Developing States (SIDS).

The drivers behind the requests for mineral exploration sites in the Area include: (a) the strategic importance of participating in the international seabed regime; (b) the economic and strategic value of the exploration sites granted by the ISA; (c) the need for the identification of new strategic reserves; (d) the expansion and protection of the national mining sector; and (e) the need for development of scientific knowledge and mastering new technologies.

Lesson

The increased issuing of licenses by the ISA, including to a number of SIDS from the Pacific region, provides a motivation for African States to explore avenues for their enhanced participation in the international seabed regime.

The awareness of current and future activities in the seabed Area that are of consequence for African States is important, as is a proper understanding of the process and steps leading to the exploration and exploitation of the resources of the Area (see case study 8).

Case study 8

Access to resources of the international seabed area: the case of Nauru¹

Having experienced at first hand the drastic negative impacts of mining, the small Pacific Island state of Nauru has a strong incentive to support better mining practices. Nauru has recently become the first Pacific Island State to express interest in engaging in seabed minerals activities in the Area. It has passed an International Seabed Minerals Bill on 23 October 2015, which governs its engagement in seabed mineral activities undertaken within the Area. The act provides for Nauru to either sponsor directly or to apply in partnership with a commercial or strategic entity (registered in Nauru) to the ISA to conduct exploration activities.

The legislation, which has been adopted within the context of the Pacific Community—European Union-supported Deep Sea Minerals Project (DSMP), is essential in order to ensure that such activities are environmentally well-managed and economically viable. Through the act, Nauru can exercise its effective control over contractors conducting seabed mineral activities in the Area. The act also contains measures to ensure that Nauru adheres to the rules and regulations of the ISA.

The act establishes a Nauru Seabed Minerals Authority (NSMA), which will be responsible for monitoring and managing Nauru's involvement in seabed mineral activities. Further, revenues generated from such activities will be vested in a Seabed Minerals Fund, which will be managed for the benefit of the people of Nauru. The act recognizes that prospective activities can only be conducted through sponsorship of a member state of the ISA and in accordance with the rules and regulations adopted by the ISA.

Lesson

The key lesson from the Nauru case is that national legislation to regulate access to seabed resources is important in order to pursue development of these resources at the national level and in accordance with international laws.

1 <http://www.spc.int/en/media-releases/2297-spc-welcomes-naurus-new-legislation-to-govern-seabed-mining-activities.html> (accessed 27 November 2015)

At the national level, beyond mainstreaming regional and international legal frameworks, there are opportunities such as consideration of creating a Blue Economy Ministry, a comparable institution, or a national coordination unit, which would advance the adoption of the Blue Economy approach in national and sectoral development. There is also scope for the development and enhancement of accounts and budget-related legislation, as well as legislation establishing transparency parameters in order to have the necessary financial and economic underpinnings (sectoral, macroeconomic).

The fact that many African States participate in the 1995 United Nations Fish Stocks Agreement also means that they can seize the opportunity to enter into more cooperative resource sharing agreements in order to maximize the sustainable exploitation of the rich fishing grounds in their EEZs. Where possible, this can be done by leveraging partnerships and entering into joint conservation and management agreements. Furthermore, African States could cooperate in concluding additional instruments that complement UNCLOS, taking into account their regional context.

The multiplicity of aspirational instruments, such as the outcome document of Rio+20, the 2030 Agenda for Sustainable Development, the AU Agenda 2063, the 2050 AIMS, the SAMOA Pathway, and the Addis Ababa Action Agenda on Financing for Development, also present African States with the chance to incorporate in an integrated manner sustainable development principles and other relevant provisions into their Blue Economy policy and regulatory frameworks. Additionally, there are sector-specific voluntary instruments whose provisions member States could consider for inclusion in their national policies and legislation. This would strengthen the ability of States to realize the aspirational goals outlined in these instruments. NCAs provide a case in point. The inclusion of this kind of aspiration in national legislation would allow for the full recognition of nontraditional forms of capital in national accounts.

Policy guidance

Specific national conditions shape the required legal and institutional policy guidance; however, based on best practices, strengthening of legal and institutional capacity for the Blue Economy should take into consideration the need for the following:

- Ratification of UNCLOS and its implementing agreements by States that have not yet done so and implementation through national legal and policy instruments.
- Ratification of other relevant ocean governance instruments, as well as those relating to freshwater bodies (see page 60) and other natural resources.
- Revision and adoption of legislation and policies addressing criminal activities at sea as well as other threats to the marine environment.
- Negotiation and delimitation of maritime boundaries and utilization of conflict resolution mechanisms for peaceful dispute settlement.

- Engagement in training and capacity building of officials involved in relevant Blue Economy sectors about applicable international law and legislation, as well as regional and subregional instruments and policies.
- Development of integrated maritime strategies in line with the AU 2050 AIMS.
- Establishment of “academic centers of excellence” on the Law of the Sea (e.g., re-equipping and refocusing geological surveys for the Blue Economy’s various sectors), if possible within existing institutions. This may take the form of creating new departments in the Blue Economy within existing universities or “think tanks.”
- Establishment of a coordination mechanism for aquatic and marine-related departments/institutions. At the national level, this can take the form of a dedicated ministry or interministerial committees (see case study 9 on country institutional options for coordination). At the continental level, this may be achieved through a stand-alone full-fledged Department of Maritime Affairs in the AUC in Addis Ababa, Ethiopia.
- Enhancement of dialogue and consultations at regional and continental levels to aggregate views and facilitate sharing of legal, policy, and institutional expertise among States in order to achieve the objectives of the Blue Economy (e.g., with regard to zones of joint development).
- Development and strengthening of the capacity of States to negotiate fair and robust contracts/agreements at all levels.
- Development of environmental policies and regulations geared toward conserving, managing, protecting, and sustainably using aquatic and marine ecosystems.
- Enhancing education, training, capacity building, and skills development of States (e.g., those related to contract negotiations, sponsoring activities in the Area, and participating in the ISA).
- Participation in negotiations and formulation of a common position regarding the development of an international legally binding instrument under UNCLOS on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.⁴²

42 http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/69/292&referer=http://www.un.org/en/ga/69/resolutions.shtml&Lang=E (accessed 27 November 2015)

Box 2

Transboundary waters and the Blue Economy

Just like oceans, inland waters in lakes, rivers, wetlands, and other reservoirs contribute to socioeconomic development and environmental sustainability through fisheries and aquaculture, tourism, shipping, mining, energy, carbon sequestration, water filtration, and temperature and atmospheric regulation — the terrestrial component of Africa's Blue Carbon.¹

The region's international river basins and other freshwater sources provide Africa with immense potential for hydropower generation. Although Africa's hydropower potential is far greater than the entire continent's current electricity demands, the sector is still underdeveloped.

Socioeconomic needs such as provision of safe drinking water and sanitation, as well environmental needs such as carbon sequestration and water filtration, are all dependent on the availability of freshwater, including that which is drawn from transboundary water sources.

Africa's 63 transboundary river basins cover 64 percent of the continent's land area, providing home to 77 percent of the region's population. In order to manage the nature and dynamics of sharing an important resource such as water among countries, there are 94 international water agreements in Africa.² While the main purpose of these water agreements is to facilitate the cooperative management of the shared water, it is also important to acknowledge the extent to which such agreements seek to drive the region's Blue Economy.

1 Ababouch, L. UNECA, 2015. Fisheries and Aquaculture in the Context of Blue Economy.

2 UNEP, 2010. Africa Water Atlas.

Case study 9

Country institutional options for coordination

Mauritius¹

Mauritius has been hailed as an example for other countries to follow in the Blue Economy sector. The strengths of the approach adopted by Mauritius lie in the establishment of a policy framework which was developed through broad-based consultations with all stakeholders, including civil society and the general public. This creates a unique sense of ownership in both the process and the product, along with accountability for the implementation and achievement of stated goals and aspirations. Relevant legislation was also enacted to give effect to the policy.

The Seychelles²

The office of the prime minister of the Seychelles has dedicated an entire ministry to promotion of the Blue Economy, harnessing its vast resources as a tool to achieve sustainable development and tackle climate change. The Blue Economy Department within the Ministry of Finance, Trade, and the Blue Economy has oversight over the implementation/realization of the Blue Economy in the Seychelles. Prior to this, the Ministry of Foreign Affairs had been driving the Blue Economy concept. The dedication of a specific ministry creates room for better coordination and cooperation with other sectors, building synergies and collaborative efforts. The government of Seychelles has also recently developed a “Seychelles’ Blue Economy Roadmap: Defining a Pathway to Prosperity.”

Senegal³

A coordination mechanism was created by the president of Senegal in 2006 within the Office of the Prime Minister, with responsibility for addressing maritime security issues and the protection of the marine environment. The coordination mechanism, known as HASSMAR⁴, is mandated to work with other relevant (maritime) agencies to operationalize national plans and interventions at sea. The geographical scope of operation includes maritime and fluvial waters and ports of Senegal. By locating this coordination mechanism at the highest level of the political machinery, the breakdown of coordination that is seen in many countries in the region is prevented.

South Africa⁵

The Operation Phakisa initiative was launched in June 2014 as a framework to create development and wealth from South Africa’s Blue Economy. It identifies four priority

- 1 United Nations Conference on Trade and Development (UNCTAD), 2014. The Oceans Economy: Opportunities and Challenges from Small Island Developing States.
- 2 http://www.mfa.gov.sc/static.php?content_id=36&news_id=967 (accessed 27 November 2015)
- 3 <http://www.jo.gouv.sn/spip.php?article4968> (accessed 27 November 2015)
- 4 Haute autorité chargée de la coordination de la Sécurité Maritime et de la Sureté Maritime
- 5 <http://www.operationphakisa.gov.za/Pages/Home.aspx> (accessed 27 November 2015)

Case study 9 (contd.)

sectors as new growth areas in the ocean economy: transport and manufacturing, offshore oil and gas, aquaculture, and protection and governance. The objective of Operation Phakisa is to grow these sectors in order to derive value for the country. The office of the president serves as a special-purpose vehicle to coordinate this initiative. In the transport and manufacturing sectors, the aim is to capture benefits related to storage and warehousing, ship-building and repair, rig repair and refurbishment, and boat building, all of which are expected to increase the GDP and the number of jobs. In the offshore oil and gas sector, the aspiration is to create an enabling environment for exploration through mechanisms such as the policy and legislative environment, inclusive economic growth, addressing skills gaps, and overcoming infrastructure challenges. In the aquaculture sector, it is anticipated that there will be jobs generated in fish processing and marketing (participation), which will in turn improve the economic and social status of coastal communities (transformation).

The Operation Phakisa initiative allows for an assessment and prioritization of specific Blue Economy intervention areas. It is very goal-specific and focused on the achievement of national development goal targets within a specified time frame, with effective monitoring of implementation and delivery. It has identified specific outcomes that center on ensuring inclusiveness, participation, job creation, value addition, and links to industrialization, particularly in the aquaculture sector. The approach also facilitates cross-sectoral interactions and discussions by and among specialists and other stakeholders (public and private). The fact that there is a monitoring component strengthens this dialogue — the interdepartmental cooperation is led by the Department of Planning, Monitoring and Evaluation. However, each sector is led by the most relevant national department.

Brazil¹

The Interministerial Commission for Sea Resources, coordinated by a State Secretariat based on the Ministry of Defense, Command of the Navy, is composed of several ministries and State secretariats and coordinates the different plans, programs, and projects related to the Brazilian Blue Economy. The commission takes into consideration the defense of political and strategic interests of Brazil in the sea, at national and international levels, and promotes socioeconomic development through the sustainable use of the resources of the sea. An important activity carried out by the commission consists of spreading maritime awareness in Brazilian society and ensuring the quality of the marine environment by reducing vulnerability and risks to extreme events and climate variability and change.

The commission also promotes strategic partnerships with disaster control agencies at the national, state, and local levels aimed at reducing vulnerability and the impacts of extreme events. The commission increases strategic partnerships in order to improve the instruments that can contribute to regional development in the

1 <https://www.mar.mil.br/secirm/ingles/remplac.html> (accessed 27 November 2015)

Case study 9 (cntd.)

coastal zone, in conjunction with the National Policy for Regional Development. Several programs coordinated within the commission's framework are carried out in cooperation with universities, geological survey offices, and the Navy's Department of Hydrography. Included are projects for assessment of living and nonliving resources of the exclusive economic zone, continental shelf, and international seabed area. Other activities are related to coastal and oceanic management and environmental protection.

Lessons

The above examples demonstrate the importance of setting a road map and vision for sustainable development of the ocean economy; the need to establish a regulatory framework; and different institutional approaches for the Blue Economy, including setting up a ministry for the Blue Economy, coordination of the Blue Economy at a high office level, such as the office of the president, prime minister, or the creation of an interministerial coordination mechanism. The examples also highlight the importance of institutional planning, monitoring, and evaluation for the Blue Economy.

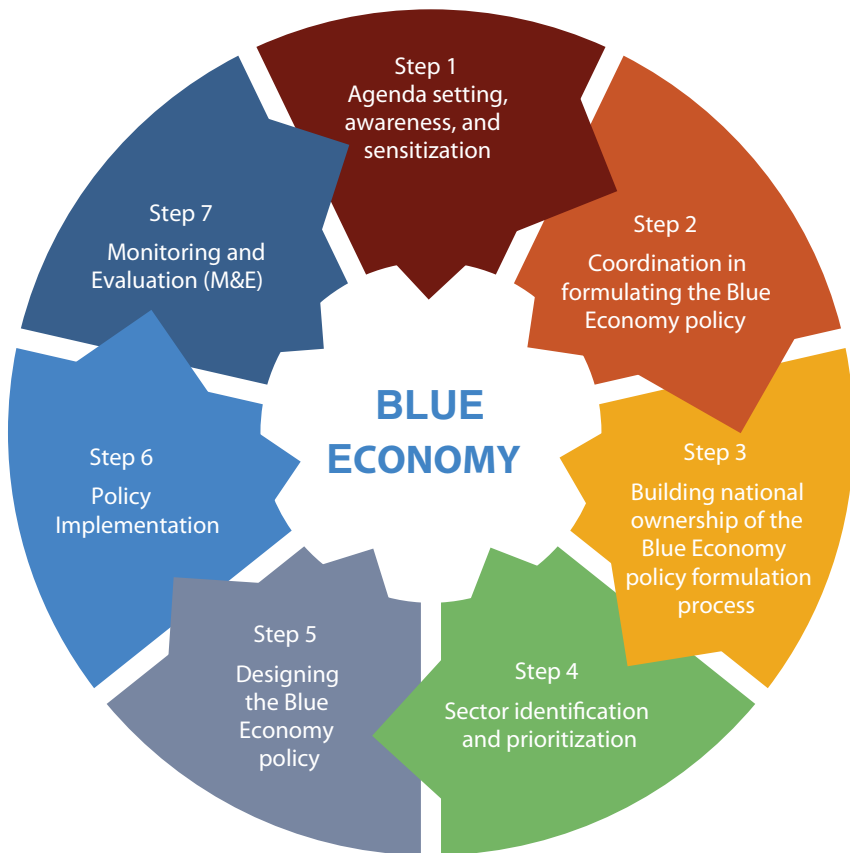
**PART II: PROCESSES
AND DESIGN TOWARDS
AN EFFECTIVE BLUE
ECONOMY POLICY**

A step-by-step guide

Towards a Blue Economy policy

This policy handbook proposes following a step-by-step guide in order to frame the development of a Blue Economy policy. These steps are identified in Figure 9.

Figure 9: Sequencing and steps of the Blue Economy policy development process



Sources: Authors.

Step 1: Agenda setting, awareness, and sensitization

Communicate a sense of urgency for action

A white paper may be required as an initial step toward setting the agenda and raising the necessary levels of awareness and sensitization about the Blue Economy. The white paper and subsequent consultative processes could be the vehicles through which to communicate a sense of urgency to act on pressing issues and emerging opportunities. The white paper could also serve to communicate the challenges that lack of action could precipitate.

With regard to living resources, the development of coordinated robust monitoring, control, and surveillance capabilities to address threats to the marine environment, such as IUU fishing and transnational crimes, in order to create and maintain a favorable environment for investment and sustainable development could be one such urgent action. Regarding nonliving resources, the submission of claims by coastal States regarding the outer limits of their continental shelf to the CLCS in order to trigger benefits from future oil and gas exploitation could be another urgent action.

Know your resources

It is also crucial to have a good understanding of the Blue Economy resource base, including both natural and human capital. In the case of natural capital, this would require undertaking an extensive resource mapping exercise in both the aquatic and marine environments. Closely linked to this would be the need to undertake an assessment of prevailing knowledge, building on the existing knowledge base, identifying gaps and needs, and establishing both internal and external partnerships to meet any shortfalls. In conducting such an assessment, dedicated research and development, as well as technology transfer, are crucial.

Baseline information can be generated from existing studies and reports at multiple scales. It can also be based on similar assessments undertaken in various countries in Africa as well as in other parts of the world, including data from the archives of geological surveys, marine research institutions, and international organizations.

Organize policy dialogue and awareness-raising meetings

Policy dialogues based on the background white paper should follow. They can assist in fostering participation, inclusion, and consensus-building from the inception stage of the Blue Economy policy formulation process. Such an approach could also provide opportunities to raise awareness about the value

of the Blue Economy concept. The policy dialogue ideally should be launched by the highest possible level of political representation (e.g., head of state or prime minister). This is essential to rally political will and commitment, especially from different government departments. The dialogue should include a wide array of representative stakeholder groups.

Refine the white paper to reflect emerging consensus

The white paper should need to be a living document, adjusted at different stages of the consultative process. This would help to reflect the emerging consensus and to capture the evolving and dynamic nature of the issues that sometimes emerge from a better understanding and awareness of the Blue Economy. Continuously sharing of the updated versions of the white paper with all stakeholders is good practice to continue to build consensus and reflect current positions.

Update existing baseline information on the Blue Economy sectors from national, regional, and international sources

A regular update of baseline information in such key Blue Economy sectors as fisheries, maritime transportation, ocean and seabed mining, energy resource development, and others would be helpful, as it would flag key issues in a manner that would allow new ideas and perspectives to be incorporated throughout the policy formulation process. A yearly assessment of country key issues, challenges, opportunities, and requirements could help maintain the momentum of policy discussions around the Blue Economy.

Prepare and disseminate synthesis report

Following the initial consultative stage(s), it is important to communicate the consensus obtained and prepare and disseminate synthesis reports in a timely fashion. Synthesis reports would capture the key issues raised in the consultative discussions, the relevant challenges and opportunities identified, the next steps identified, and the most important follow-up actions toward the next step of the policy formulation process.

Step 2: Coordination in formulating the Blue Economy policy

Successful formulation of the Blue Economy policy requires a great deal of coordination to be sustained throughout the process. Effective constitution of

the coordination body and sustained commitment to the process are therefore crucial and could be achieved if the following are considered:

Principles for leading coordination

The organ responsible for coordinating the entire process should be vested with sufficient convening authority, resources, and operational independence. The legitimacy of the body can be strengthened if it is constituted in an inclusive and representative manner. In addition, its ability and mandate to shape the process and make decisions required to move toward the successful development of the policy can be strengthened if it is established through a legislative act by government or parliament. It is particularly important to ensure that the views and perspectives of all stakeholders are considered in decision making.

Functions of the Blue Economy coordinating body

The formulation of the Blue Economy policy would necessitate the establishment of an interministerial or intersectoral Blue Economy Policy Committee. The functions of the coordinating body could include, but not be limited to, the following:

- Coordinating and facilitating policymaking processes
- Removing the barriers that inhibit development and implementation of the policy
- Providing guidance for development of the policy
- Proposing Key Performance Indicators (KPIs) and related milestones and timeframes
- Building partnerships and creating linkages at the regional and international level
- Identifying and securing quick wins
- Communicating achievements
- Commissioning the auditing of results and making them publicly available for comments and feedback
- Re-evaluating and adjusting the policy, as required
- Reviewing and monitoring the policy implementation
- Using social media to broaden the consultation process
- Sustaining momentum

Possible scenarios for the lead institution for coordination

Due consideration should be given to the choice of which institution should lead the Blue Economy policy formulation process. Ideally, this should be at the highest level of government. Of essence is the need to ensure a bird's-eye view and equal treatment of all the sectors of the Blue Economy.

Step 3: Building national ownership of the Blue Economy policy formulation process

For a policy on the Blue Economy to be effective, ownership is a requirement. Ownership of the agenda, the process, and the policy would foster internalization of the framework and implementation of the policy. The following are steps to ensure ownership:

Consensus building

Consensus can be built through continued, inclusive, and participatory stakeholder engagement processes at various stages of the policy formulation process.

Communicating the Blue Economy policy

Communication should be centered on key messages sent to all stakeholders to improve awareness about the Blue Economy. It must be a continuous, timely, and sustained process of strategic communication and regular provision of information and maps aimed at sustaining the stakeholder base established for the Blue Economy policy formulation.

Stakeholder engagement

The quality of the multi-stakeholder consultative process is critical to the success of the Blue Economy policy formulation process.

The multi-stakeholder process should result in an alignment of different points of view and understanding of the opportunities and challenges in harnessing the potential of the Blue Economy. Key to success is the need to undertake a comprehensive mapping of all potential interest groups. These could include policymakers (at all levels), civil society, local community groups, the private sector, labor, media, and other parties. The different values and understanding of the benefit streams of the Blue Economy for each stakeholder group must be identified clearly.

The range of issues include:

- Fiscal (tax, royalties, etc.) and legal/regulatory environment
- Inclusive job creation and skills enhancement
- Conservation and preservation of natural resources
- Sustainable use and management of natural resources
- Social cohesion
- Process ownership
- Benefit sharing
- Infrastructure enhancement and development

An effort should be made to group the issues according to their order of importance as classified by the majority of stakeholders. Then the roles and responsibilities of each stakeholder must be defined and reporting and accountability measures must be articulated.

Empowerment of key actors

Empowering the key actors in the Blue Economy policy formulation process is important to build ownership. To achieve this, public institutions must collect, store, update, and disseminate all relevant information in a transparent and timely manner. In addition, private operators should inform the public regularly of the environmental and social impacts of their activities.

Invariably, multi-stakeholder consultative processes are confronted with the need to align different interests and perceptions of value. Ultimately, the ability to align the different views and perspectives into a shared vision would dictate the success of the Blue Economy policy formulation process.

Building of a Blue Economy culture

Operationalizing the Blue Economy requires a mindset change based on an holistic and integrative approach to spatial economic planning and development. The process of formulating the Blue Economy policy would, therefore, benefit from a concerted effort of sensitization and awareness raising for all stakeholders in order to build a culture of new ways of thinking. The consultative process and engagement with media (including social media) can be useful in this effort.

A good example of how to formulate a Blue Economy policy that is comprehensive and has the national interest at stake can be found in case study 10.

Case study 10

The Norwegian model for oil and gas governance

The Norwegian government decided in 1969, at the outset of the oil era in that country, that the oil would be for all the people of Norway, the whole country, and would be used to build the social welfare state. The government has kept its promise by ensuring that approximately 80 percent of the revenue generated by the oil sector remains in Norway. At its peak, oil and gas production amounted to 16 percent of the Norwegian GDP and nearly 40 percent of Norwegian exports. After the World War II, Norway had a fisheries and agriculture-based economy. This left Norway with little independent oil and gas expertise. Therefore, three main points needed immediate attention: (1) settlement of its maritime bilateral borders with neighboring countries; (2) a decision on how to deal with the oil companies that expressed interest in exploring the Norwegian Continental Shelf; and (3) building of a solid policy for oil and gas exploration and production.

Norway looked at the experience of other oil-producing countries and recognized the disruptive nature of poorly governed oil revenues to the economy, environment, and social development. This prompted the formulation of a clear mission policy, which later became known as the “10 Oil Commandments.” These include: “petroleum discoveries must be exploited in a way which makes Norway as independent as possible of others for its supplies of crude oil,” “new industry will be developed on the basis of petroleum,” “the development of an oil industry must take necessary account of existing industrial activities and the protection of nature and the environment,” and “petroleum from the Norwegian Continental Shelf must as a general rule be landed in Norway, except in those cases where sociopolitical considerations dictate a different solution.”¹

The Norway oil and gas sector provides an example of effective ocean-resources revenue governance. For the first two decades, Norway’s share of the oil revenues was cycled back into developing industrial, public, and social infrastructure, a clear policy to build social, economic, and physical linkages between the oil sector and other sectors of the Norwegian economy and society. However, by 1990, oil production was generating significant profits. Concerned with what is called the “Dutch Disease,”² Norway started to

1 <http://www.npd.no/en/Publications/Norwegian-Continental-Shelf/No2-2010/10-commanding-achievements/> (accessed 27 November 2015)

2 *The Economist* coined the term in 1977 to describe the woes of the Dutch economy. Large gas reserves had been discovered in 1959. Dutch exports soared, but there was a contrast between “external health and internal ailments.” From 1970 to 1977 unemployment increased from 1.1 percent to 5.1 percent. Corporate investment was tumbling. The *Economist* explained the puzzle by pointing to the high value of the guilder, which was then the Dutch currency. Gas exports had led to an influx of foreign currency, which increased demand for the guilder and thus made it stronger. That made other parts of the economy less competitive in international markets. That was not the only problem. Gas extraction was (and is) a relatively capital-intensive business that generates few jobs. And in an attempt to stop the guilder from appreciating too fast, the Dutch kept interest rates low. That prompted investment to rush out of the country, crimping future economic potential. <http://www.economist.com/blogs/economist-explains/2014/11/economist-explains-2> (accessed 18 December 2015)

Case study 10 (contd.)

explore how it could better shield its domestic economy from the overheating effects of increased financial capital inflow, and how it could ensure that future generations would benefit from its oil wealth. By 1990, the government had established a Petroleum Fund, followed by the setting up of the Norges Bank Investment Management in 1998 to manage the fund on behalf of the Ministry of Finance, and by 2015 the fund value had reached nearly USD 1 trillion.⁴³

Lessons

The Norwegian oil revenue management model demonstrates the importance of having a coherent national vision and a transparent and accountable plan to maximize the benefits from ocean resources for positive long-term benefits beyond the extraction period. It also illustrates the potential of linking development of oceanic resources to diversify the economy and expand the benefit space for a country. The Norwegian model of oil fund management highlights the importance of having a sound fund management proactively maximizing the national benefits from ocean energy resources.

⁴³ <http://www.nbim.no/en/the-fund/history/>

Step 4: Sector identification and prioritization

The Blue Economy encompasses numerous sectors, each with distinct characteristics and regulatory frameworks. The policy framework should address all relevant sectors while identifying high-priority sectors. This process should be methodical and objective, based on analysis of the relative comparative and competitive advantage of each sector. The outcomes would need to go through consultation to ensure proper selection validation. As stated in the AU 2050 AIMS, an “urgent vs. important” matrix could help in setting up a sound prioritization scheme for implementing the Blue Economy strategy.

The policy framework would also need to identify emerging issues (opportunities and challenges) at the global, regional, and national level. Examples include bioprospecting in oceans, seas, or deep waters as well as mineral and energy development in the deep seas.

Casestudies 11, 12, 13, and 14 provide illustrative examples of sector identification and prioritization as well as intersectoral connections and linkages.

Case study 11

Sustainable tourism development in the Blue Economy

Tourism is increasingly receiving recognition for its contribution to sustainable and equitable growth. World leaders meeting at two major summits in 2012 — the UNCSO (Rio+20) and the G20 — agreed that tourism could make an important contribution to many of the world’s most pressing challenges.

Furthermore, a study commissioned by the United Nations Economic Commission for Africa’s Sub-Regional Office for Eastern Africa (ECA SRO-EA) entitled “Towards a Sustainable Tourism Industry in Eastern Africa” concluded that although the region faced a number of challenges, the industry had great economic potential that could be realized through regional integration. Accordingly, ECA SRO-EA supported the formulation of the 2013–2023 Sustainable Tourism Master Plan (STMP) for the Intergovernmental Authority on Development (IGAD) that is currently being implemented. The IGAD STMP is premised on the following principles: provision of both intergenerational (taking into account needs of future generations) and intragenerational equity (taking into account social justice and poverty alleviation; the need for a visionary approach to tourism development; the need to align tourism development strategies with the wider national, regional, continental, and international initiatives; and the importance of tourism development being guided by sound research). These principles could indeed also guide tourism development within the Blue Economy.

The UNEP Green Economy report identified tourism as one of ten sectors that are vital to greening the global economy.¹ The tourism industry is also a key sector within the Blue Economy from which it derives its resource base, which is predominantly nature-based.² Such resources, found in both the aquatic and marine environments, include rivers, lakes, oceans, biodiversity, beaches, riverine, and coastal vegetation

The Blue Economy approach provides opportunities for investment in tourism infrastructure, such as hotels and resorts, and specific infrastructure, including dedicated terminals in ports for the cruise tourism industry and marinas for leisure boat activity. As a result of increased cruise ship tourism, high revenues and cash money are injected into the economy. Locally made handicrafts sold locally to cruise ship passengers are an ideal way to create jobs and obtain quick revenue for the population. But docks and marinas can also pose environmental challenges because of pollution and competition for scarce resources.

It is therefore important to ensure that tourism development is accompanied by adequate measures to minimize its adverse environmental and social impacts.

1 <http://www.unep.org/greeneconomy/GreenEconomyReport/tabid/29846/Default.aspx> (accessed 27 November 2015)

2 http://www.unep.org/publications/contents/pub_details_search.asp?ID=6234 (accessed 27 November 2015)

Case study 11 (contd.)

There are a number of case studies that illustrate this approach, including the Collaborative Actions for Sustainable Tourism (COAST) project. The COAST project, whose main focus is on coastal communities, is an initiative supported by the Global Environment Facility (GEF) in partnership with UNEP, the United Nations Industrial Development Organization (UNIDO), and the United Nations World Tourism Organization (UNWTO), which covers nine countries in Africa (Cameroon, Senegal, Kenya, Tanzania, Mozambique, the Gambia, Ghana, Nigeria, and the Seychelles). The main goal of the project is to support and enhance the conservation of globally significant coastal, environmental, and marine ecosystems and associated biodiversity in sub-Saharan Africa through the reduction of the negative environmental impacts resulting from coastal tourism.

The two main outcomes of the project are expected to be:

- Sustainable tourism approaches for reducing pollution, contamination, and environmental degradation from coastal tourism demonstrated in the sub-Saharan African context; and
- National and local mechanisms supporting sustainable tourism governance and management identified and enhanced to facilitate uptake of Best Available Practices (BAPs) and Best Available Technologies (BATs).

Kenya is implementing demonstration projects in all three COAST Project thematic areas: ecotourism, environmental management systems, and reef and marine recreation management. The COAST Project Demo Site in Kenya has focused on training and capacity building workshops for Demo Site Management Committee members, who are now providing the requisite support for project implementation. The members have also planned the purchase and issuance of 80 beehives to community groups involved in ecotourism. The project also provides for the repair of six community canoes used by local community members and the construction of a 100-meter community mangrove boardwalk (nature trail) at Dabaso – Mida Creek to enhance ecotourism activities. The project also aims to combine ecotourism activities with environmentally sound techniques. Various hotels will see the implementation of some elements applying UNIDO's Transfer of Environmentally Sound Technology (TEST) methodology in areas such as wastewater management, solar energy use for water heating, and general mainstreaming of environmental management systems in their work.¹

Lesson

The Kenyan case shows that in an effort to achieve social benefits for the community and wealth creation within a sustainable context, the development of a small-scale ecotourism industry can support this by enhancing community development as well as the uptake of new technologies to minimize environmental impacts.

¹ <http://coast.iwlearn.org/en/about> (accessed 27 November 2015)

Case study 12

Benefits of fishing agreements

In the Eastern African EEZs in the West Indian Ocean (WIO), commercial fishing fleets target tuna and other pelagic species, which are caught primarily by European purse seiners and Asian long-liners. Access by Distant Water Fleet (DWF) vessels for tuna and tuna-like species in the EEZs of West Indian Ocean States can be granted through a number of mechanisms, all of which are used extensively. These include Fisheries Partnership Arrangements (FPAs), bilateral intergovernmental agreements, reflagging, chartering, joint ventures, or similar arrangements between WIO states and foreign vessels, and private commercial agreements between foreign associations or companies and governments in the region. Fishing agreements are important for countries for national wealth creation. However, the leverage of national governments to secure just benefits from these agreements can be limited. Further, monitoring, control, and surveillance of the activities of the DWFs is also often limited.

An example that illustrates how to improve the benefits received from the agreements between the DWF and concession-holding countries can be found in the Pacific tuna fisheries. Here, the Parties to the Nauru Agreement (PNA) have developed a Vessel Day Scheme (VDS). The VDS allows vessel owners to purchase and trade fishing days at sea in places subject to the PNA. The purpose of the VDS is to constrain and reduce catches of target tuna species and increase the rate of return from fishing activities through access fees paid by Distant Water Fishing Nations (DWFNs). The total allocation of fishing days is set and apportioned between Pacific Island members for one-year periods up to three years in advance. The VDS now enforces a minimum payment of USD 6,000 per fishing day, providing significantly greater financial benefits to PNA members than before the VDS was implemented. Prior to the VDS, countries would be paid one flat payment for the entire year for a determined volume of catch. However, due to high levels of IUU fishing, it was believed DWFN would catch much higher volumes. The new system ensures a more fair distribution of benefits to the countries concerned. At the end of 2013, PNA began successfully marketing internationally certified, sustainably caught skipjack tuna in Europe, generating a premium price for the product. The nine countries in the PNA have managed to stop purse seine fishing in several High Seas enclaves, effectively making these areas High Seas MPAs.¹

Lesson

In the Blue Economy framework, and in order to reap the benefits of domestic fish stocks, regional cooperation can be instrumental in enhancing the benefits of fishing agreements with foreign nations.

1 Tamate, J. Australian National University. In Brief 31, 2014. Regionalism: The Experience of the Parties to the Nauru Agreement. http://ips.cap.anu.edu.au/sites/default/files/SSGM%20IB%20202014_31.pdf (accessed 27 November 2015)

Case study 13

Madagascar Blue development

The president of the Republic of Madagascar, Hery Rajaonarimampianina, called in 2015 for Madagascar to jump-start economic development by embracing a Blue Economy, using the island nation's fisheries, maritime shipping, ecotourism, and sustainable energy. With a coastline of 5,500 kilometers, Madagascar is endowed with a unique array of coastal and marine natural resources. In many ways, it has already demonstrated some successful applications of the Blue Economy approach, allowing us to learn lessons from some concrete examples presented below. All these examples show that the Blue Economy concept is a path toward sustainable development, as it generates diversified jobs and capacity building on a long-term basis. The key element is the ability to assess the potential of trade and then take action to facilitate the launch of projects. The collaboration of all stakeholders contributes to the success of the projects.

Figure 10 (see page 80) identifies four major high spots, among many sites dedicated to Blue development, which have resulted in positive impacts on the economy and the fight against poverty.

- The Port of Ehoala at Tolagnaro (Fort Dauphin) represents a USD 260 million investment through a modern PPP, which includes the Malagasy government, Rio Tinto Group (private sector/mining operator—local extraction of ilmenite/mineral sand) and the World Bank. During the first three years of operation (2010–2013) a booster effect on trade (export of local products) and tourism industry (cruise ships) has been noted, exemplified by the generation of 57,000 jobs, according to the Economic Development Board of Madagascar (EDBM) branch sponsored by the World Bank. After the completion of the port, major economic development was brought to the region, with the arrival of tourists and increasing demand for local goods and services, employment in the new port, the emergence of various service providers, and an overall boost in trade. This case demonstrates the positive ripple effects of Blue Economy-related sector investment if conceived in an integrative fashion and with effective and sustainable financing arrangements in place.¹
- Taking advantage of the natural wealth of the marine biodiversity, the Madagascar island of Nosy Be has been recognized as the first tourism hot spot for Blue ecotourism in the region. This includes seaside activities, such as marine tours, leisure boats, viewing of charismatic species (e.g., whales, giant turtles, dolphins, stingrays, etc.). The Malagasy government has therefore declared Nosy Be a priority site for the promotion of tourism, which will mobilize key investments, including upgrading of the international airport and installation of optical cable for communications. As these activities can create environmental externalities, it is important to link the sectors in a sustainable manner.

1 http://www.carecprogram.org/uploads/events/2014/PPP-Workshop-TOKYO/Related-Materials/009_106_210_Case-study-1-Madagascar.pdf (accessed 27 November 2015)

Case study 13 (contd.)

- Mahajanga (Majunga) is a world-renowned site for the aquaculture-based shrimp industry. The shrimp farming industry in the Western Indian Ocean started with the Aqualma project (Unima Group) in 1989 in Madagascar, and now several companies farm shrimp in Mozambique and Tanzania following the same approach. A high level of product quality and significant investments have generated a sustainable development model. These operators are located in remote areas and thus face high investments and operating costs. However, they compete in the global marketplace by efficiently producing high-value, quality products. It started in Madagascar across the entire west coast and then extended to Mozambique and Tanzania. Social responsibility and community development activities have been considered as part of the projects, leading to the building of hospitals and schools, electrification, and greater drinking water availability to ensure a better quality of life for the employees.
- Environmental responsibility is a major aspect of the Madagascar shrimp industry, which has recently been acknowledged by several nongovernmental organizations (NGOs), such as the World Wildlife Fund (WWF), and third-party certification groups. Activities like ecological surveillance of the bay and mangrove plantation programs are routinely undertaken at each production site. Being fully integrated vertically allows complete traceability, so products carry multiple labels, such as France's Label Rouge, which was created through a private partnership with WWF to recognize Aqualma's responsible environmental and social management. The projects conform to the recommendations made by FAO in its international principles for responsible shrimp farming aiming to create long-term sustainable business.¹
- The Port of Toamasina (Tamatave) now includes a new berth for mining products and oil tanker vessels, built through an FDI thanks to the Ambatovy Mining Project (nickel and cobalt). After the privatization of the container terminal handling services, the industrial port complex now secures more than 80 percent of the tonnage transiting the country. Since the port is ideally located on the eastern route of the "giants of the seas" (Very Large Container Ships, or VLCS, of more than 10,000 TEUs, or Twenty-Foot Equivalent Units), the Malagasy government has signed an agreement for a Japanese bilateral cooperation evaluated at USD 660 million, which will be dedicated to a new, large extension of the port with a new draft allowance close to 16 meters. The historic work, planned over eight years in two phases — 2016–2020 and 2020–2024 — will employ thousands of workers and many contractors. This will make the Port of Toamasina a major actor in the Indian Ocean islands, and Madagascar will be able to play a key role in the new maritime routes between East and West, as Port Louis and Port Réunion do. Moreover, increased ship-based tourism activity with cruise ships will also be a likely benefit of the port's development.²

1 Le Groumellec, M., V. Rigolet, P. Duraisamy, M. Vandeputte, V.M. Rao. Fish Health Section, Asian Fisheries Society. Diseases in Asian Aquaculture VII, 291-308, 2011. Development of the shrimp industry in the Western Indian Ocean - a holistic approach of vertical integration, from domestication and biosecurity to product certification.

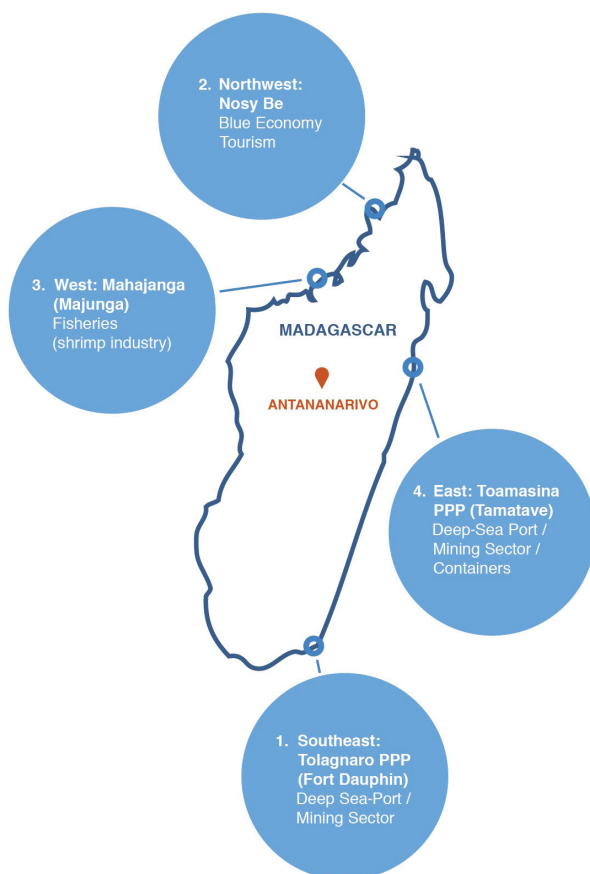
2 <http://www.transport.gov.mg/wp-content/pdf/Port-echo-3.pdf> (accessed 27 November 2015)

Case study 13 (cnd.)

Lessons

For Madagascar, the world's fourth-largest island and the widest island in the WIO, the Blue Economy concept is already an inherent and historical part of its development and culture. Notwithstanding the fact that the large majority of the population of Madagascar is naturally devoted to agriculture, the country's economic renewal will go through a proactive adoption of Blue solutions with respect to the island's unique wildlife and flora. A dedicated Blue Economy policy with various priority areas, including water management, implemented in an integrated manner is a key lesson for the future.

Figure 10: Madagascar Blue development high spots



Case study 14

Ocean energy policy of the Republic of Korea

South Korea's Sihwa Lake Tidal Power Station generates power from Lake Sihwa, with a generating capacity of 254 megawatts, making it the world's largest tidal energy generation plant.⁴³ The project, commissioned in 2011, is based on a seawall infrastructure originally put in place to deal with flood mitigation and agriculture. The implementation of this new energy technology on the sea was facilitated by:

1. National strategy on green growth prioritizing high-potential sectors.
2. Change in the energy policy that introduced Renewable Portfolio Standards in 2010, whereby 2 percent of energy by 2012 was expected from renewables, increasing to 8 percent by 2020 and 10 percent by 2022.⁴⁴

This policy, along with existing flood protection and agricultural infrastructure on the lake, enabled pursuit of tidal energy from the sea. A private-public partnership in investment in project implementation was also key.

Lessons

The lessons from the South Korea approach to ocean energy development include: (1) a national policy setting the tone for green or Blue growth matters in guiding action in ocean energy development; (2) the importance of revising energy policies and integrating progressive policies to incentivize ocean energy development; (3) leveraging existing infrastructure, synergies, and opportunities for ocean energy development through an integrated approach; and (4) the facilitating role of private-public collaboration in financing ocean energy development.

43 http://pemsea.org/eascongress/international-conference/presentation_t4-1_kim.pdf (accessed 27 November 2015)

44 http://www.business.kaist.edu/download/green/Project_RPS.pdf (accessed 27 November 2015)

Step 5: Designing the Blue Economy policy

Policy, regulatory, and reform issues

The development of the Blue Economy policy and its subsequent implementation requires a framework for implementation and regulation. The body of information arising from the explosion of soft regulation could serve as a source base for the development of new laws or the reform of existing laws. In cases where the prevailing institutional frameworks may not be conducive to the successful development of the Blue Economy, reform may also be required. The policy formulation process should include consultation in order to outline

the nature of regulatory and reform recommendations that could potentially emerge.

Scenario building

The Blue Economy framework would provide scenarios of desired development outcomes utilizing integrated cross-sectoral and pragmatic approaches. Such scenarios should include baseline conditions and progressive implementation of the strategies and policies. They could also serve as an incentive for implementation.

High-level launch of the Blue Economy policy to ensure high-level political support and buy-in

A high-level launch of the policy formulation process communicates political support, relevance, buy-in, and ownership right from the inception phase of the process. It is, therefore, important that the launch of the process be organized at the highest level possible.

Institutional capacity and skills

Analysis of institutional and skills capacity is essential in order to define key intervention areas within the policy. Institutional capacity and skills-gap analysis tools can be utilized in this exercise.

Timelines and milestones

The policy framework needs to establish measurable milestones associated with timelines and requisite actions to achieve the milestones. The following can serve as considerations in setting the milestones and timelines: measurability of targets; measurability of performance toward targets; feasibility of the time span to achieve the milestones; classification of targets by short, medium, and long-term time spans; resource requirements to meet milestones; and ease of partnership building in pursuing the milestone, just to name a few.

Step 6: Policy implementation

Establishing institutional roles and functions for implementation

To guide the policy implementation process, the policy document must be clear about the roles and functions of implementing institutions. The allocation of roles would consider: mandates and capacity of identified institutions to perform the assigned roles; nonduplication of roles and functions; modalities

for joint roles and functions; accountability structure; and the possibility of synergy with existing institutional mandates.

Developing a plan of action

The Blue Economy policy, as part of the implementation modalities, needs to contain clear actions leading, or contributing, to measurable outcomes. The roles and responsibilities of the various stakeholders should be clearly identified, including careful consideration of capacity and resource mobilization. The plan could be organized into quick wins and medium- to long-term strategic outcomes.

Resource mobilization

Financing the Blue Economy will certainly be a challenge, given its multidimensional and multisectoral nature and the scarcity of resources in African States. In view of this, it will be important for them to prioritize their interventions and build their resource base accordingly.

The policy document should provide an initial assessment of resource requirements. The roles of the public sector, private sector, development partners, and traditional and nontraditional financiers need to be articulated. Innovative resource mobilization opportunities, such as a review of the tax regime, also need to be considered. The AU 2050 AIMS provides a resource strategy that could be used as a reference.

Step 7: Monitoring and Evaluation (M&E)

Developing a monitoring and evaluation framework

An effective M&E system should set out the roles and responsibilities of the relevant institutions. It would take into consideration contemporary methods and be based on, among other things, agreed KPIs, time-bound action plans, implementation stage measurements, progress reporting frameworks, mechanisms for periodic review of M&E reports, and evaluation accountability mechanisms.

Periodic review of the implementation progress

Periodic review of progress is a useful tool in monitoring the degree of implementation of the set policy targets. The policy document needs to outline the structure and nature of the periodic review process, roles and functions of assigned institutions, follow-up mechanisms, and the nature of reporting. The

document could contain suggestions for new interinstitutional periodic review mechanisms as required. The outcomes of the review should be made publicly available for subsequent comments and feedback. This reinforces the multi-stakeholder nature of the Blue Economy policy formulation process, strengthens ownership by all interested groups, and helps to make adjustments as needed.

PART III: CROSS-CUTTING ISSUES

Partnerships for transformative Blue Economy actions

Situation statement

In a globalized world, nations and groups cannot effectively thrive in isolation. This is particularly so in the Blue Economy, where nations are interlinked through dynamic and ever-changing trade, geopolitical, security, socioeconomic, and political interests and concerns. Aligning such interests is at the root of successful partnership building. Poor communication could lead to poor outcomes and to the exacerbation of tensions leading to conflicts.

At a more local level, synergies and linkages between island, coastal, and land-locked countries are paramount for strengthened socioeconomic and political security as well as for enhanced regional integration. RECs and IGOs such as the Northern Corridor Transit and Transport Coordination Authority (NCTTCA) and the Central Corridor Transit Transport and Facilitation Agency (CCTTFA) have a critical role to play in facilitating this cooperation process through consolidated inter-REC/IGO and inter-country partnership agreements and processes.

Establishing partnerships for innovation is crucial for new transformative initiatives such as the Blue Economy. The current pathway to establishing meaningful partnerships requires stronger emphasis on participation, accountability, and ownership. What is needed is a different form of collaboration across disciplines and across sectors in order to generate a more holistic approach. This is necessary not only for innovation but also for sound policymaking itself.

In a Blue Economy context, Africa both seeks and can offer knowledge, capacity, and operational capabilities across five primary innovation themes:

- Technological
- Scientific
- Social
- Political and governance
- Fiscal and economic

As Africa advances the Blue Economy, each country should have ownership over shaping its own economic transformation, free of external influences.

Challenges

Cooperation and partnerships are the glue among key stakeholders willing to work together, sharing their aspirations and their expectations. Today, partnerships in Africa are in some instances fragmented, unbalanced, and not sufficiently strategic. States, RECs, IGOs, and Pan-African organizations can overcome existing challenges in forging partnerships for the Blue Economy by effectively participating in partner mapping, bridging information gaps. Among and between States, RECs, and IGOs worldwide, growing geopolitical and security concerns and constraints often jeopardize the scope and sustainability of partnership outcomes.

Existing partnerships for the Blue Economy also have to overcome the challenges of shaping a common vision, synchronizing priorities and expectations, enabling collaboration and coordination mechanisms, creating facilitation processes, and forging better understanding and consensus around emerging challenges and opportunities in the Blue Economy. The innovative and sustainable dimensions of partnership and cooperation frameworks are not always fully embedded into policymaking processes, making it difficult for key players (States, RECs, IGOs, civil society groups) to adequately plan for human and financial resources. Currently, the costs of Blue Economy interventions, which could be quite high and capacity-intensive (such as research and development), can effectively be bridged through innovative and sustained partnership and coalition building for action.

Opportunities

The Blue Economy emphasizes the role of regional and subregional integration in improving development. It further recognizes the importance of coordination with regional and subregional organizations, such as the AUC, the Economic Community of West African States (ECOWAS), the East African Community (EAC), IGAD, the Common Market for Eastern and Southern Africa (COMESA), the Southern Africa Development Community (SADC), the Economic Community of Central African States (ECCAS), the Central African Economic and Monetary Community (CEMAC), the Community of Sahel-Saharan States (CENSAD), and the Arab Maghreb Union (AMU). The New Partnership for Africa's Development

(NEPAD), AfDB, other regional development banks, and ECA also have a critical role to play in supporting Africa's Blue Economy.

The Blue Economy also provides an opportunity for South-South and Triangular Cooperation that could be a useful tool for African States to address the challenges of development and promote economic and social progress. At the international level, institutions like the World Bank, European Development Bank (EDB), the New Development Bank (formerly referred to as the BRICS Development Bank), the United Nations Educational, Scientific and Cultural Organization (UNESCO), UNEP, the development community in general, and the centers of excellence in particular, could be engaged for resource mobilization and partnership building.

The Blue Economy provides an opportunity for different types of cooperation and collaboration, including PPPs. They emphasize the value of cooperation in the exchange and strengthening of technical capacities in areas such as mapping, mineral exploration, energy development, fishing, aquaculture, the environment, air and maritime transport, and port security. They underline the importance of enhancing scientific and technical cooperation in areas of interest and proposals for joint actions. In this regard, the continued need for capacity building, technology transfer, and research and development is crucial and would of necessity require the development of integrated, innovative, and effective partnerships (see case study 15).

Underpinning all dimensions of the Blue Economy is a focus on sound research and development. Development of the Blue Economy needs to be firmly embedded in scientific knowledge on matters such as technological innovations, understanding climate change impacts on marine resources, and accumulating the best lessons learned from Blue Economy projects and developments from an environmental and social standpoint. It is important to create knowledge platforms to share and exchange data and best practices at the regional and continental level to inform policymaking and regional cooperation. Barriers to success in research and development of the Blue Economy lie not just in the scientific knowledge gap (which universities, businesses, NGOs, and research institutions need to address through cutting-edge research, think tanks, and improved knowledge centers) but also significantly in barriers to funding from both public and private resources.

For example, marine science and marine scientific research are indispensable measures to effectively preserve the marine environment and to sustainably develop the oceans, seas, and their resources. UNCLOS requires States and competent international organizations to promote and facilitate marine

scientific research, including through different forms of cooperation. Over the years, considerable progress has been made in marine science, including the discovery of new species (i.e., marine genetic resources) and features in the oceans, as well as new minerals and natural gas hydrates, all of which have potential applications and uses across a range of sectors relevant to the Blue Economy. Case study 15 describes a scientific cooperation initiative in the South Atlantic Ocean.

Case study 15

Scientific cooperation

The Brazilian Institute of Oceanographic and Hydrographic Research (INPOH) is an illustrative example of a cooperation program for integrated marine surveys of Deep Sea areas. The program encompasses scientific, economic, strategic, and environmental cooperation in the South Atlantic Ocean. The program pursues integrated scientific study of the oceanographic characteristics, including geoscientific, biological, chemical, and physical methods; an understanding the geological history and dynamics of associated ecosystems of the areas; identification of mineral and biotechnological resources of economic interest; and collection of baseline data to support the sustainable use and conservation of marine ecosystems. The priority project of INPOH is the integrated study of the mid-oceanic ridge of the South Atlantic Ocean between 13 and 26 degrees south. The aim is to identify favorable areas for mineral extraction and bioprospecting. The project includes the study of associated ecosystems as well as the identification of areas for protection and preservation. The program also focuses on information gathering, data generation, and development of public policies and strategies in the South Atlantic Ocean.

Lesson

This case provides an example of cooperation for integrated marine surveys, as well as integrated research in the South Atlantic Ocean, to support sustainable development.

Policy guidance

States could consider the following options and approaches for action to build effective and sustained partnerships for Blue Economy-centric development:

- Mapping and engaging with relevant Blue Economy processes and initiatives, as well as stakeholders and key institutions (for instance, through participation in summits, workshops, and solution platforms).
- Harnessing South-South and Triangular cooperation, including through collaboration with traditional donor countries and multilateral organizations to facilitate South-South initiatives by accessing funding, training, management, technology transfer, and other forms of support.
- Maximizing the potential of PPPs, including through identifying, developing, and strengthening partnerships, such as those for research, product development, concept development, exchange of intellectual property, financial, in-kind, and/or human resources in mutually agreed ways.
- Establishing a Blue Economy Transformative Knowledge for Action Network supported by an online innovation platform to stimulate new research into key, focused innovation needs for the Blue Economy.
- Creating a network of stakeholders and change makers that would allow leaders and change makers to convene, debate, learn, and create solutions for local, national, regional, and continental challenges.
- Exploring how new higher education strategies could enable a sustainable Blue Economy for generations to come. This could include the establishment of innovative programs to attract students from diverse academic and social backgrounds and support a new generation of Blue Economy leaders.
- Optimizing partnerships aimed toward “Africa for Africa.” RECs, IGOs, and States could foster results-driven partnerships within the framework of AU Agenda 2063 and the AU 2050 AIMS. The outcomes of these partnerships in knowledge building and socioeconomic and political integration at all levels could contribute to the formulation of a new geopolitical, African-centered paradigm embedding all sustainable development dimensions.
- Establishing modalities to enable partners to consistently and coherently review the rationale, terms of reference, roles, and responsibilities of involved parties, including emerging issues and priorities as well as readjustments to agendas and expected goals and impacts.

Communication and outreach

The design and execution of an effective communication and outreach strategy are key to the success of the Blue Economy policy formulation and implementation process.

A communication and outreach strategy is important to more effectively engage key stakeholders in crafting and communicating messages and sharing outcomes from each relevant application. A framework could be created in which the Blue Economy communication component is more actively employed and fully integrated in order to better influence the overall outcomes and impacts of the projects.

Creating a comprehensive communications plan collaboratively from inception would engage all the partners, actors, and change makers. It could also serve to strengthen existing communication strategies within the existing institutions or help identify gaps. In addition, it could assist with capacity-building outreach skills within groups and institutions that have limited capacity in this area. Formulation of such a plan could be done in phases, as outlined below:

- **Phase 1:** Initiation and scoping: a communication workshop involving various stakeholders could be held in conjunction with the start of a relevant Blue Economy activity. This communication workshop would gather key communication specialists and other stakeholders to work collaboratively.
- **Phase 2:** Connecting knowledge and people: the communication group could work to foster a dedicated community of practice both through exchanges and through enabling networks for collaborative communications that could continue beyond the finite project cycles.
- **Phase 3:** Sharing success and looking forward: the communication group could develop knowledge-sharing mechanisms as a way to ensure continued conversation and messaging beyond the project cycle.

Africa's "Blue word" is made of vast lakes and rivers and an extensive ocean resource base. The Blue Economy can play a major role in Africa's structural transformation, sustainable economic progress, and social development. The largest sectors of the current African aquatic and ocean-based economy are fisheries, aquaculture, tourism, transport, ports, coastal mining, and energy. This Policy Handbook, offers a step by step guide to help African member States to better mainstream the Blue Economy into their national development plans, strategies, policies and laws. The Blue Economy approach is premised in the sustainable use, management and conservation of aquatic and marine ecosystems and associated resources.

