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# **Blue Economy, Inclusive Industrialization and Economic Development in Southern Africa**





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# Abbreviations

AIM	Africa's Integrated Maritime (Strategy)
CMTF	Comprehensive Maritime Transport Policy
COMESA	Common Market for Eastern and Southern Africa
EAA	Ecosystem Approach to Aquaculture
ECA	Economic Commission for Africa
EEZ	Exclusive Economic Zones
FAO	Food and Agriculture Organization of the United Nations
GDP	gross domestic product
IOC	Indian Ocean Commission
IORA	Indian Ocean Rim Association
MBG	Missouri Botanical Garden
OECD	Organization for Economic Cooperation and Development
PPP	public-private partnership
SADC	Southern African Development Community
SAMSA	South African Maritime Safety Authority
SISR	SADC Industrialization Strategy and Roadmap
MSMEs	micro, small and medium-sized enterprises
SRO-SA	Subregional Office for Southern Africa (ECA)
UNCTAD	United Nations Conference on Trade and Development
UN DESA	United Nations Department of Economic and Social Affairs
UNEP	United Nations Environment Programme
UNWTO	United Nations World Tourism Organization
WTTC	World Travel and Tourism Council

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# Executive summary

Oceans and seas cover 72 per cent of the surface of planet Earth and are home to 95 per cent of the Earth's living organisms. The world's oceans are essential to life on the planet, provide the largest source of oxygen and protein, absorb around a quarter of carbon dioxide emissions, recycle nutrients and play a significant role in the regulation of global climate and temperature. Globally, over 3.1 billion of the world's population live within 100 km of the ocean or sea in about 150 coastal and island States (FAO, 2018).

The African continent benefits immensely from oceanic resources, and for Southern Africa, the Indian and Atlantic Oceans provide direct benefits. Apart from creating and supporting a conducive living environment, these oceans support various economic activities in the region. Maritime ports have been serving as gateways for regional and international trade for the region and for Africa. Fishing is another economic sector that depends on the presence of the waters, and fisheries are a primary source of livelihoods and incomes for both coastal and hinterland communities. Fishing is small-scale coastal for local consumption, while opportunities exist for large-scale deep sea fishing, which could contribute more to the economic development in the region.

Apart from providing jobs for small-scale entrepreneurs, which include women and youth, fisheries directly contribute to national income. However, in the coastal States, deep sea fishing is often undertaken by foreign fishing fleets, due to the capital-intensive nature of the ventures. Open water-based tourism is another substantial contributor to the gross domestic product (GDP) of Southern African countries. Ecotourism and other recreational activities – including hotel and beach resorts, restaurants and sports – provide relaxing environments and jobs for the well-being of coastal communities. Furthermore, extractive activities – such as oil and gas exploration and exploitation, deep sea mineral extraction, renewable energy and bioprospecting – are other economic activities from the blue economy.

The movement of goods through trade is a major economic derivative of the blue economy. Currently, over 80 per cent of world trade merchandise is moved by water, and thus maritime transport is a major international trade facilitator. However, Africa is unable to optimize its ports, which are less developed and cannot handle larger ships, thus losing the continent substantial revenues. In general, Africa is yet to fully exploit the opportunities offered by the blue economy. For instance, other ocean-based and ocean-related industries that remain untapped include the manufacture of ship parts and ship technology equipment, ship-building and repair, ship registration and supply of seafarers for the world market. If developed, these could boost the economies of coastal and landlocked countries in the region.

As the continent strives to address poverty, unemployment and underdevelopment, the opportunities offered by the blue economy can be exploited to support regional industrialization strategies and plans, and anchor socioeconomic development. The Southern African Development Community (SADC) and the Common Market for Eastern and Southern Africa (COMESA) industrialization strategies allude to the significance of the sustainable utilization of the oceans and other water resources for transformation, and provide a roadmaps for developing the sector. The domestication of the regional strategies and their implementation at national level will catalyse development in Southern Africa.

The blue economy concept entails the sustainable use of marine and aquatic resources for human well-being and economic development, while preserving the marine environment and thus providing a potential route for Africa's development. As an economic sector, the blue economy is diverse and includes aquatic spaces, encompassing lakes, rivers and underground waters, in addition to oceans, seas and their adjoining coasts. Thus, the opportunities provided by the blue economy are equally vast and include not only waterway activities, but also related activities such as providing qualified human resources, land connectivity to the markets,

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manufacturing of equipment and spares, and value addition to blue economy products.

The African Union has established frameworks and plans to support the sustainable exploitation of the blue economy as an economic resource. These continental frameworks are complemented by regional blueprints in COMESA, SADC, the Indian Ocean Rim Association (IORA), the Indian Ocean Commission (IOC) and other regional economic communities and intergovernmental organizations, and all are supporting sustainable exploitation of the blue economy resources continent-wide.

While country-level domestication of the blue economy strategies has been slow, some Southern African countries have already established blue economy frameworks to support the development of this resource. The experiences from Mauritius, Seychelles, South Africa and Madagascar are instructive in terms of how blue economy resources can be harnessed and be part of the national development strategy.

Despite all the positive benefits that blue economy resources bring to humanity, human activities both ashore and at sea can lead to the deterioration and ultimate destruction of the marine environment. For example, the disposal of untreated domestic waste, plastic waste, industrial chemical waste and nuclear waste can degrade the marine environment. Illegal and irresponsible fishing and deforestation have contributed to the destruction of fish stocks and their habitats. Thus, deliberate measures need to be put in place to rehabilitate, protect and preserve the oceans and the seas for a sustainable blue economy.

This study underscores that the blue economy resource is not only for the benefit of coastal and island countries, but also for landlocked countries. But blue economy activities are not confined to the waters only. They also encompass activities emanating from collaboration among coastal, island and inland countries. Such collaboration is essential for the derivation of the benefits of regional economic value chains from the blue economy. The study established that:

- a) As a major site of production and investment through services and manufacturing/

production industry, the blue economy can contribute to industrialization and poverty reduction. Tourism and shipping activities are the primary services in this regard. The manufacturing of ornaments from ocean resources, spares for ships and ship parts, loading and unloading equipment and port facilities are important economic activities. These industries attract private sector investment and offer job opportunities for local communities.

- b) Inclusive participation in blue economy activities can accelerate industrialization and socioeconomic development. Active participation of the private sector – which includes micro, small, medium and large enterprises as well as vulnerable groups, especially women and youth – can complement government efforts to develop the sector. The private sector contributes in investment, production, conception and implementation of new ideas and innovations, project financing and, consequently, the creation of jobs. Governments provide a conducive environment through policies, legal and regulatory frameworks and incentives.
- c) Promotion of the blue economy as a transformative economic sector and alignment of regional strategies and plans with national development goals, which include industrialization, poverty eradication and sustainable development frameworks is needed. Mainstreaming blue economy strategies into national development plans will facilitate prioritization of ocean-based economic activities and focused implementation. This approach has been successful in Seychelles, South Africa and Mauritius, and could be adapted by other regional member States.
- d) Development of policies, legal and institutional frameworks for supporting blue economy activities facilitates business growth around blue economy resources. The policy, legal and regulatory environment should be in sync with all ocean-based sectors for the successful implemen-

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tation and management of a blue economy. Policies, laws and institutions within the Government should be configured to provide the requisite human and financial support for sectoral activities. Comprehensive policies on gender, youth employment and environmental management need to be drawn up.

- e) Coordination is needed for the management of risks, challenges and constraints in the development of a blue economy. Climate change and other environmental concerns, safety and security of maritime business, shortage of funds to finance viable projects and skilled human resource scarcity are among challenges that can be managed through dedicated, implementable, short-term and long-term plans.

The study identified several key challenges to the optimal exploitation of the blue economy value chain by regional member States: limited knowl-

edge of the benefits of the blue economy among stakeholders; environmental and climate change threats; compromised safety and security; limited marine technology, and low level of skills; poorly designed legal, regulatory and institutional frameworks at both national and regional levels; limited financing for deserving blue economy-related projects; poor transport and port infrastructure to facilitate the conduct of business; and limited collaboration among coastal and land-linked countries.

After reviewing the blue economy resource endowments in Southern Africa, the challenges for their development, the existing regional development frameworks, national experiences and best practices, the report concludes that the sector has immense potential to contribute to poverty eradication, industrialization and sustainable development in Southern Africa, and emphasizes the importance of policy harmonization and coordination among member States for a regional approach to optimizing benefits from the blue economy value chain.



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# I. Introduction

## A. Preamble

1. Southern Africa<sup>1</sup> is abundantly endowed with both aquatic and marine resources that include: the Indian and Atlantic Oceans; the wetlands of Botswana and Namibia; the Zambezi, Limpopo and Usutu Rivers and their tributaries; and the lakes, such as Lake Nyasa; and the underground waters. These collectively form the basis of the blue economy potential of the region. In this regional configuration, South Africa enjoys a cross-cutting position in these three basins and offers, on its own, immense areas, spreading over approximately 2,955 km, according to an exceptional position and, especially, considerable ocean capacities and wealth. The endowment in these marine, coastal and inland waters, and related resources, together with the growing population, provides opportunities to address poverty and underdevelopment in the region.
2. Oceans and seas cover 72 per cent of the surface of the Earth and are home to 95 per cent of the planet's living organisms, commonly referred to as the biosphere.<sup>2</sup> The world's oceans are essential to life on the planet, provide the largest source of oxygen and protein, absorb around a quarter of carbon dioxide emissions, recycle nutrients and play a significant role in the regulation of global climate and temperature.
3. In the area of global trade, more than 80 per cent of the commercial transport of goods is through oceans (United Nations Conference on Trade and Development (UNCTAD), 2018), while the seabed is the

source of 32 per cent of the present global hydrocarbons supply. Mineral resources and hydrocarbons, such as natural gas and manganese nodules, are found on the seabed and subsoil. Similarly, dependency on fish for protein cannot be overemphasized. The world demand for energy is on the increase, and thus oil and gas will continue to be the major source of energy well into the twenty-first century. Over the last six decades, offshore production of oil has increased tremendously and, currently, approximately 30 per cent of world oil and gas production comes from offshore and is expected to continue to increase in the future.<sup>3</sup> Oceans are therefore singularly the most important vehicle of the blue economy resource endowments, and thus can anchor industrialization and development.

4. The premise of the blue economy recognizes the importance of the ocean, seas and inland waters as indispensable vehicles for sustainable economic development. The blue economy thus presents an integrated vision for creating wealth from the ocean within the limits of natural and economic systems. In the African context, this translates into the combined use of the seas, oceans, wetlands and inland waters (lakes, rivers and underground water) as an essential economic resource capable of complementing traditional resources in the eradication of poverty and in the enhancement of sustainable economic development (African Union, 2012). The blue economy comprises sectors such as fisheries and aquaculture, marine and coastal tourism, maritime transport and ports, energy sourcing, offshore mineral and petroleum extraction, bioprospecting and other related value

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<sup>1</sup> Southern Africa in the context of this dialogue is defined to encompass 15 countries: Indian Ocean coastal and island countries – the Comoros, Madagascar, Mauritius, Mozambique, Seychelles and South Africa; Atlantic Ocean countries – South Africa, Namibia and Angola; and landlocked countries – Botswana, Eswatini, Lesotho, Malawi, Zambia and Zimbabwe.

<sup>2</sup> {Retrieved from, [www.unep\\_swio\\_sm1\\_inf11\\_blue\\_economy.pdf](http://www.unep_swio_sm1_inf11_blue_economy.pdf). Accessed 1 August 2018}.

<sup>3</sup> See MODEC (n.d.). About Offshore Oil and Gas Industry. Available from [www.modec.com/about/industry/oil\\_gas.html](http://www.modec.com/about/industry/oil_gas.html) (accessed 21 September 2019).

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chain activities for economic development. Activities related to these sectors connect directly or indirectly to industrial development. These include fishing, fish processing, ship-building and repair, deep sea and coastal mining, and offshore oil extraction and refining. Thus, an investigation of how the blue economy can be part of inclusive industrialization and sustainable development strategies in the region is important.

5. It is incontestable that ocean and inland water resources and activities are central to industrialization and economic development. Currently, ocean-based and related industries provide jobs for over 31 million people worldwide (OECD, 2016). Therefore, unlocking the full potential of the blue economy and its related activities in Southern Africa will boost socioeconomic development, create jobs and contribute to poverty alleviation. Job and employment opportunities are essential for sustainability, intraregional cooperation and social integration. Thus, blue jobs are important and blue careers need to be nurtured to help address the high levels of unemployment in the region.
6. The level of poverty and inequality in the region ranged from 9 per cent in Mauritius in 2010 to 73 per cent in Zimbabwe for 2011/12 (ECA, 2017). Such high levels of poverty and inequality are a concern and thus rescuing regional citizens from poverty remains key for sustainable development as elaborated in the Sustainable Development Goals and the African Union's Agenda 2063. The role of oceanic resources in this endeavour cannot be underestimated, and Governments around the world have defined achieving optimal and sustainable utilization of the blue economy as one of the development goals.
7. United Nations Sustainable Development Goal 14 is specifically on the conservation and sustainable use of oceans, seas and marine resources for sustainable development. Apart from this goal, many of the Sustainable Development Goals are linked to the blue economy as a resource to catalyse development and create employment, improve the livelihoods of citizens and eradicate poverty. Small Island States, relative to their land mass, have vast ocean resources at their disposal, presenting a huge opportunity for boosting their economic growth and tackling unemployment, food security and poverty. However, these States also stand to lose the most from the degradation of marine resources and thus should guard these resources jealously. In more than one way, Sustainable Development Goal 14 defines major limitations on ocean-based economic activities and may thus be summarized as setting goals for conserving and sustainably using the oceans: reducing pollution, managing coastal and marine ecosystems, reducing overfishing, expanding use of scientific and technological know-how, and addressing the special needs of Small Island States and small-scale fisheries.
8. Similarly, the African Union's Agenda 2063 envisages the blue economy as a major contributor to continental transformation and growth. Goals 6 and 7 under Aspiration 1 are particularly explicit on the blue economy. Goal 6 is on the blue/ocean economy for accelerated economic growth, with the priority area being maritime resources and energy, ports operation and marine transport. Goal 7 is on environmental sustainability and climate-resilient economies and communities, with priority areas being sustainable natural resource management, biodiversity conservation, genetic resources and ecosystems, sustainable consumption and production patterns, water security, climate resilience, natural disasters preparedness and prevention, and renewable energy. The recognition of the importance of oceans at continental level provides a framework for regional strategies underpinned by harmonized national policies.
9. Inclusivity in industrialization, and sustainable development as targets within the concept of the blue economy, are about



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equity in access to, development and sharing of the benefits of blue economy resources among all States in the region, regardless of proximity to an ocean or a sea, or devoid of a significant inland water body or source. The blue economy is thus a shared opportunity and responsibility (FAO, 2018). Industry being the most dynamic driver of prosperity, nations should work together in a collective manner in the industrialization drive and in exploiting blue economy resources. In Africa, commitment to inclusive industrialization means a renewed fight against poverty (Moyo, 2017), unemployment and inequality.

10. In this regard, all countries in Southern Africa have the potential to contribute through the blue economy sector development for regional sustainable growth and improved well-being of citizens. As a tool for accelerated economic transformation and industrialization in Southern Africa, the blue economy entails the efficient and effective use of the seas, oceans and inland water bodies as resources for improving human livelihoods and fostering economic development. With industrialization being inevitable in the process of promoting economic development, there arises the need to study how the blue economy can enhance economic development in the region.

## **B. Study objectives**

11. The objective of the study was to investigate the potential of the blue economy as an engine for inclusive industrialization and sustainable socioeconomic development in Southern Africa. The study sought to:

a) Analyse the notion of the blue economy, its variants and components, including the issue of inland waterways and how both landlocked and land-linked countries can be part of the blue economy framework and the economic value chain;

b) Identify economic opportunities in the blue economy sector that can promote private sector development (including micro, small, and medium-sized enterprises (MSMEs), industrialization, job creation and economic development in Southern Africa;

c) Discuss the different experiences of countries, their national policies and strategies, at managing and promoting the blue economy sector, and what are the lessons learned, good practices and prospects, especially on facilitating economic development in Southern Africa;

d) Review the existing blue economy strategies and policies in the region (both at the regional and subregional levels) in terms of their focus, content and alignment with national and regional industrialization strategies and their efficacy in promoting economic development;

e) Examine the human capital needs, and legal and institutional frameworks, for the development of the blue economy sector in Southern Africa;

f) Discuss the risks, challenges and constraints of the blue economy sector, including issues of maritime security, terrorism, climate change, and environmental degradation and marine pollution confronting the sector and how they could be addressed;

g) Analyse how the blue economy sector can be a major site of production, investments, accelerated growth, poverty reduction and development in Southern Africa; and

h) Propose policy recommendations to promote the development of the blue economy as a transformative economic sector and mainstream it into national and regional industrialization strategies in Southern Africa.

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## C. Methodology

12. The study is primarily based on secondary data compiled through comprehensive desk research of publicly available materials at national, regional and continental levels. Official reports, books and articles were examined, and national and regional policies, frameworks, strategies and practices analysed. In some cases, consultations through direct communication with officials and experts, telephone conversations and email exchanges have been employed for clarification and verification of information.

## D. Structure of the report

13. The report consists of four chapters following this introductory chapter:

- a) Chapter II discusses blue economy opportunities and the potential for industry development, and the role of active participation of all stakeholders;
- b) Chapter III reviews international, regional and national policies, strategies and frameworks, and the experience of selected countries on the blue economy as an economic resource;
- c) Chapter IV discusses the risks, challenges and constraints that may hinder development of the regional blue economy resources in Southern Africa;
- d) Chapter V provides a summary of study findings, conclusions and recommendations towards promoting the blue economy and mainstreaming it into national and regional socioeconomic and industrialization strategies.

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## II. Economic opportunities offered by the blue economy

### A. Overview

14. The blue economy is anchored on the three sustainability pillars: environmental, economic and social. Sustainability on these three fronts is the desired outcome from the exploitation of the opportunities offered by the blue economy. There is a desire for the proper management of the environment, the improvement of human well-being and the facilitation of sustainable economic development in the exploitation of blue economy resources (ECA, 2016a). Environmental sustainability is essential for the continuous availability of ocean resources, both the waters and the living and non-living resources in them. The realization of the full economic potential of the ocean and its resources requires the participation of all stakeholders.
15. Women, youth, local communities, and marginalized and underrepresented groups must be adequately recognized and involved in the process of crafting blue economy initiatives and in the exploitation of blue economy resources. Such groups often face limited access to economic opportunities and lack the recognition of their unique and valuable capabilities to contribute and benefit directly from economic activities. Yet they are important stakeholders. Likewise, at the regional level, blue economy strategies and benefits should be shared among coastal and landlocked countries for optimal benefits from the economic value chains. Improved livelihood at national and regional levels, job creation, improved infrastructure and equal rights to economic resources are among sustainable development features that should be aspired to through the exploitation of blue economy resources and its direct and indirect activities.
16. The discussion on the blue economy is unfortunately often narrowly focused on oceans, seas and the coasts, at the expense of the consideration of inland waterways and waters, which are equally important in the value chain. Yet, the blue economy value chain provides opportunities for industrial activities, job creation, improved investment and economic development for landlocked and land-linked countries, as much as for coastal and Island States. Ethiopia has, for example, utilized blue economy opportunities for improving well-being and economic development through the development of rail connectivity to the port of Djibouti, through which Ethiopia is producing more than 500 ship officers annually for the world market (Grey, 2018).
17. Although the blue economy perspective is perceived in varied ways from one continent to another and likewise from one country to another, a holistic approach that considers the activities in coastal, island and inland countries is critical for appreciating the complete economic value chain. The blue economy development agenda thus seeks to promote economic development, social inclusion and the improvement of livelihoods for all countries, including those beyond the shores of oceans and seas, based on the premise that the vehicles of such an economy are construed as a shared resource among all countries regionally and globally. Through its diverse elements – such as lakes, rivers, underground waters, oceans, seas and their adjoining coasts and oceans, and inland water resources and associated activities – the blue economy has the potential to spur economic development through these components collectively. Furthermore, the blue economy provides a variety of entrepreneurial activities that include fisheries, aquaculture, marine transport, marine tourism, sustain-

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able energy, bioprospecting, underwater mining, maritime education and training, ship-building and ship repair. In addition, blue economy opportunities for growth are vast enough to include not only waterway activities, but also related activities, such as providing qualified human resources, land connectivity to the markets, manufacturing of equipment and value addition to blue economy products.

18. Blue economy activities contribute towards the creation of employment opportunities and boost GDP. Blue economy industries are estimated to contribute around 13 million full-time jobs, which account for approximately 1.5 per cent of the global workforce actively employed (Attri, 2016). The annual economic value generated by the oceans is estimated at US\$ 2.5 trillion (Holmyard, (2018). Likewise, there is potential for accelerated growth, poverty reduction and sustainable development if the region focuses on and develops blue economy industries.
19. The various ocean-based economic activities can be divided into conventional and emerging industries:
  - a) Conventional: Fisheries, seafood processing, shipping, ports, ship-building and repair, marine manufacturing and construction, dredging, and maritime and coastal tourism; and
  - b) Emerging: Marine aquaculture, deep-water oil and gas exploration and drilling, offshore wind energy, ocean renewable energy, marine and seabed mining, maritime safety and surveillance, marine biotechnology, and high-tech marine products and services.
20. This categorization, though not conclusive, provides guidance for the understanding of the blue economy and its intricate dynamics. However, specific national-level experiences and environmental settings could determine the categorization of blue economy activities by different countries.

21. Overall, these productive activities promote food security, economic growth, employment and poverty reduction; foster industrialization; and facilitate the development of ports, roads, railways and energy supply infrastructures. Marine transport (container, liquid, dry bulk and general cargo), primarily freight, is a key activity in the Indian Ocean, for example, and thus generates immense economic potential.

22. The following section discusses the various economic opportunities inherent in the blue economy, and explores some of the challenges.

## **B. Shipping**

23. The importance of waterborne transport for trade and development cannot be over-emphasized. Seaborne transport accounts for 80 per cent of global trade volume-wise and 70 per cent value-wise (UNCTAD, 2018). Seaborne trade can be an engine for sustainable regional development through providing employment opportunities, both on-board and ashore. Employment on-board ship requires specific skills acquired through academic and practical training, where safety is of utmost importance. The estimated shortage of qualified officers to work on-board ships is estimated to increase to 147,500 by 2025 (ibid.). This is an opportunity for employment for the growing youth population in Southern Africa. Thus, the establishment of maritime education and training is an opportunity for both coastal and landlocked countries, likewise an opportunity for jobs on-board ships.
24. In addition, statistics show that only about 2 per cent of seafarers are women (ITF Seafarers, 2019) and thus women should be strongly encouraged to join shipping industries and engage in maritime businesses to overcome the shortage in labour supply and thus contribute to achieving the Sustainable Development Goals regarding the empowerment of women and poverty eradication. The UNCTAD Review of Maritime Transport (UNCTAD, 2018) notes that,

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by 2015, more women held junior-level positions, but they rarely held executive-level positions. Thus, the promotion of women in shipping should be encouraged, as such employment opportunities could enhance family incomes, thus promoting well-being of the society. Youths should be encouraged to opt for training programmes that qualify them for shore and ocean-based blue economy industries.

25. In addition to direct shore employment, there are opportunities ashore. These include maritime and port logistics and management, ship-building and repair, survey and inspection, and other maritime enterprises. Other opportunities exist in marine insurance, and financial and legal services.

26. Shipping can be a major driver of industrialization as well as a major production site through competitive regional shipping services with reduced ship turnaround time, and availability of loading and unloading equipment, together with qualified and skilled professional, scientific and technical human resources. Besides, technological innovations also play an important role in competitive shipping services. Ship-building and repair, survey and certification – through nominated surveyors as well as classification societies, ship scrapping, port facilities construction, manufacturing and infrastructure building – are some of the major industries related to shipping. Such industries provide potential opportunity for the establishment and strengthening of production industries.

27. Waterborne trade is of strategic importance for all countries in Southern Africa. Several countries in the developed world have achieved economic development milestones through ship ownership, ship registration and ship operation. South Africa is one of the major exporting countries where the shipping industry is loss-making, due to the utilization of foreign ships and

shipping services. It is estimated that R40 billion could be lost annually as a result.<sup>4</sup> Southern African countries should invest in ship ownership and ship operation services, or should support private sector growth in this area to enhance economic growth and employment creation.

28. The Southern Africa region is positioned as one of the world's important maritime routes, and waterborne trade in the region handles about 90 per cent of trade through its ports.<sup>5</sup> Since world seaborne trade continues to expand, it is important that the region improves its port infrastructure through new investment, upgrading and modernization. Port infrastructure development projects foster economic development and competitiveness, and easy and cost-effective access to ports by all countries and nations is key to their economic growth and development. Larger, specialized and more efficient ports can be engines of economic growth for all countries, whether coastal, island or landlocked. This necessitates the construction of ultra-modern port facilities to handle world class cargo, and do so effectively and efficiently. World trends show that port construction and development of infrastructure can be undertaken through collaboration between the public and private sectors.

29. Shipping and port industries (both coastal and dry ports) are vital in the integration of local and national economies into the global economy. Ports function as important gateways of international trade, are regarded as major drivers of local economic development, and support local economic activities at the early stages of industrialization. Efficient ports and terminals can significantly facilitate industrial activities, merchandise trade processes and subsequent economic growth. It is crucial to increase not only the number of ports, but also the competitiveness of their services. Investment in ports and terminals requires

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<sup>4</sup> South Africa, Department of Transport. Comprehensive maritime transport policy for South Africa, (2017).

<sup>5</sup> South Africa, Department of Transport. Comprehensive maritime transport policy for South Africa, (2017).

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identification of new sites to increase the number of ports to cater to the foreseeable and unforeseeable future in terms of the increasing population and trade needs in the region. The development of supporting highways and modern railway lines infrastructure connecting the ports and terminals with hinterlands and landlocked countries is critical for the efficient movement of cargo. Such connectivity eases the burden of landlocked countries, especially on costs of accessing the seaports for imports and exports.

30. However, the development of ports infrastructure is costly, in both human and financial terms, and thus requires collaboration among Governments through multi-State ventures, as well as through the mobilization of the private sector through public–private partnerships (PPPs), to leverage resources from private capital.

## C. Fisheries and aquaculture

31. Ocean fishing accounts for 80 per cent of the world's fish catch, the other 20 per cent coming from inland fishing and aquaculture. Ninety-five per cent of all ocean catches occur in coastal waters, as opposed to deep sea (MBG, 2002). In addition to that, around 56 million people are directly employed in fisheries and aquaculture, and a further 140 million are employed along the value chain from harvesting to distribution (FAO, 2018). It is further reported that employment in fisheries and aquaculture sectors is growing faster than employment in traditional agriculture (see table 1) (*ibid.*).
32. The United Nations Environment Programme (UNEP)<sup>6</sup> estimates that 90 per cent of fishers are in developing countries, and about 38 per cent of the world's fish and seafood production is involved in international trade, generating \$134 billion in 2012. Furthermore, 53 per cent of this trade originated in developing countries (FAO,

2018), including Southern African countries. The value of fish traded by developing countries is estimated at \$25 billion, making it the largest single trade item.<sup>7</sup> Nevertheless, the figure might not be the true value of fish trade in developing countries. However, most developing countries lack the capacity to control unauthorized fishing within their Exclusive Economic Zones (EEZs), and thus lose out on the full benefits due to unauthorized harvesting of the resource. Hence, the region could benefit fully if the capacity to patrol and police EEZs were enhanced.

33. The linked economic benefits from industries that add value to seafood can contribute to improving economic welfare in the region. The industries can be established both in coastal and landlocked countries. Currently, in most coastal countries, in local communities, it is mainly small entrepreneurs, women and youth who are involved in fishing and the subsequent industrial activities, albeit on a small scale, due to financial challenges impeding capitalization. The availability of and easy access to finance for small-scale entrepreneurs can improve their services and contribute to their growth. Also, easy access to fish and seafood could contribute immensely to the good health and food security of local communities, as 16 per cent of world animal protein is reported to originate from fish (MBG, 2002).
34. Fish and fish products supply a significant portion of the daily intake of protein in many developing countries. Thus, a thriving aquaculture sector can contribute to food security, as well as social and economic inclusion for some of the poorest people in the region, thus contributing to food security, reducing the need for fish imports and increasing employment. Aquaculture incorporates the value of the natural capital in its development, respecting ecological parameters throughout the cycle of

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6 {Retrieved from, [www.unep\\_swio\\_sm1\\_inf11\\_blue\\_economy.pdf](http://www.unep_swio_sm1_inf11_blue_economy.pdf). Accessed 01 August, 2018}.

7 {Retrieved from, [www.unep\\_swio\\_sm1\\_inf11\\_blue\\_economy.pdf](http://www.unep_swio_sm1_inf11_blue_economy.pdf). Accessed 01 August, 2018}.



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production, creating sustainable decent employment and offering high value commodities for export. In 2013, it was estimated that the world export of fish and fishery products reached \$136 billion (UNCTAD, 2014) and world trends indicate that the demand is increasing. However, for sustainability, aquaculture must be economically viable, environmentally sound and culturally appropriate. The activity should not be undertaken at the expense of reducing access to essential resources by small-scale fishers and others.<sup>8</sup> As an opportunity for entrepreneurship and industrial development, the sector should be harnessed to anchor development.

35. Fishing and allied productive activities, apart from their contribution to food security and to nutrition, also provide jobs and thereby help alleviate poverty. Consequently, advocacy to equity in access to Southern African ocean waters by all countries is imperative. Countries should use the opportunity to participate in the fisheries and aquaculture value chain from harvesting/capture and processing to trading of the fish and products for optimal benefits. However, such right to access fish resources may not be without responsibility for sustainability. Most rivers and lakes in the region are negatively affected by land-based pollution, over harvesting of resources and destruction of habitats. Assurance and commitment to avoid unsustainable fishing are paramount, and must be dealt with inclusively by ratification of and adherence to existing international conventions and regional statutes and agreements.
36. Efficient transport infrastructure and distribution logistics are necessary for speedy delivery of the fish catch and fish products to inland destinations and beyond. Equally important is intergovernmental collaboration in training and managing the local human resource capital base and revitalizing continuing interest in the ocean fishing

industry. While there is an opportunity for Southern African countries to fish in their EEZs and the high seas, high levels of investment are required to develop fishing fleets that provide local employment to reasonably and responsibly harvest resources and thus profit the region. Regional fishing fleets can also serve security purposes and eliminate the challenge of unauthorized and excessive fishing by foreign vessels.

37. Capital to invest in improved fisheries could originate from the public sector, development banks, credit unions, special loans or other innovative financiers and investors. Member States need to create conducive conditions for investment, including the establishment of legal and institutional frameworks that facilitate the creation of joint ventures between the public and the private sector through PPPs. For the local investors, the introduction of subsidies to local communities involved in aquaculture in terms of access to current technologies and capital could help improve livelihoods and promote economic growth. For instance, special loan and grant arrangements could be introduced in development banks and other institutions to strengthen local community participation in economic activities.

## **D. Marine and coastal tourism**

38. Tourism has become one of the largest global businesses, employing 1 out of every 11 persons globally. Coastal and marine tourism comprises a substantial part of world tourism. The former embraces the full range of tourism-, leisure- and recreation-oriented activities that take place in coastal zones and offshore coastal waters; the latter relates more to seas and ocean-based activities.
39. The travel and tourism sector's total contribution to world GDP in 2016 was 10.2 per cent (\$7.6 trillion) (WTTC, 2017), and is predicted to remain robust. Global inter-

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<sup>8</sup> The FAO code of conduct for responsible fisheries contains principles and provisions in support of sustainable aquaculture development, supported by technical guidelines EAA. {Retrieved from, <http://www.fao.org/3/a-v9878e.htm#9>}.

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national tourist arrivals reached a total of 1.235 billion in 2016, which is an increase of 46 million people over the previous year (UNWTO, 2017). The sector is estimated to support over 380 million jobs by 2027. In Southern Africa, tourism contributes generously in some economies, while it is the leading contributor to others. In 2016, the sector contributed about 9 per cent to GDP in South Africa, 13 per cent in Madagascar, 26 per cent in Mauritius and 58 per cent in Seychelles. In terms of employment, in the same year the sector directly supported 715,500 jobs in South Africa, 225,000 in Madagascar, 43,000 in Mauritius and 13,000 in Seychelles (WTTC, 2017).

40. The maritime and coastal tourism sectors constitute an important economic sector for regional member States. The availability of natural attractions in the region, beautiful scenery and rich cultural diversity is an important source of foreign exchange and employment. Improvement of services such as transport, accommodation, recreational, food and beverage, sports and cultural activities could add value and promote tourism for wealth and job creation. Innovations towards cruise tourism could be another potential area for economic growth in the region.
41. Sustainable tourism promotes the conservation and sustainable use of marine environments and species, while generating income for local communities. The interrelationship between tourism and the sectors of food processing, beverages and arts and crafts continues to enhance employment creation, especially for youth. This also facilitates the development of SMEs through the building of supply chain linkages. Extending food supplies and other accommodation establishments to the coastal countries and other tourist attraction areas also expands opportunities for local agricultural producers.

42. Giving due regard to the key role played by the tourism sector in the development of economies, this calls for policies and interventions that deliberately engage various stakeholders, such as entrepreneurs, MSMEs and the private sector in tourism planning and development participation. Equally, coastal area management should be strengthened for sustainable environmental utilization, as tourism also heralds other challenges, such as sewage, water consumption, greenhouse gas emissions, waste generation, marine debris and loss or degradation of the coastal habitat, biodiversity and ecosystem services. Integrated regional tourism arrangements from the coast to the hinterlands could enhance value chains in the blue economy approach.
43. However, the growth of the sector and its contribution to sustainable development are compromised by the lack of regional cooperation, rapid and uncontrolled urbanization, transport, low level of skills, low level of innovation, climate change, financial constraints and the lack of information.

## **E. Offshore oil and gas**

44. The seabed currently provides more than 30 per cent of the global supply of hydrocarbons, with exploration expanding.<sup>9</sup> The exploitation of oil and gas resources is a major contributor to economic growth and development. International oil and gas prices precipitate the focus on seabed hydrocarbon exploration and exploitation as another very important potential area for wealth creation in the blue economy value chain.
45. The availability of oil and gas in coastal or island countries within the region is cost-effective to countries, due to reduced transportation costs coupled with comparatively shorter haulage distances. Collaboration among countries in oil exploration, drilling and refining could facilitate regional industrialization and sustainable development.

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<sup>9</sup> {Retrieved from, [www.unep\\_swio\\_sm1\\_inf11\\_blue\\_economy.pdf](http://www.unep_swio_sm1_inf11_blue_economy.pdf). Accessed 1 August, 2018}.

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46. Offshore oil and gas provide a potential opportunity for scientific research and development activities, as well as technology transfer from investors to the local community. It also provides opportunities for industrialization through exploration, production, storage, transportation, refining, gas processing, petrochemicals and marketing services, which generate jobs and wealth, and help alleviate poverty. Furthermore, refinery industries, pipelines maintenance and management, and gas distribution generate economic opportunities and multipliers within the regional economies. Capital is the major constraint to the participation of local entrepreneurs in the oil and gas sector. The sector remains an enclave in most countries and requires government support to deepen its domestic linkages. To support the growth of domestic entrepreneurs, member States should invest in skills development and infrastructure upgrade.

## **F. Renewable energy**

47. Sustainable marine energy can play a vital role in socioeconomic development, as well as in climate adaptation and mitigation. The oceans offer vast potential for renewable energy generation from wind, wave, tidal, thermal and biomass sources (see table 1). According to estimates, technically exploitable potential for marine-based renewable energy, excluding offshore wind, could reach 7,400 EJ per year, exceeding current global energy needs. However, marine-based renewable energy generation in 2008 represented less than 1 per cent of all renewable energy production for that year (Attri, 2016). Although marine renewable energy activities have grown worldwide during the decade, in Southern Africa the sector is still at the research and development stage (Khoodaruth and others, 2017).
48. There is a direct correlation between economic growth and electricity supply. Energy access for all is one of the key drivers of inclusive growth, as it creates opportunities

for women, youth and children, both in urban and rural areas.

49. The continent's energy sector is significantly underdeveloped, whether in terms of energy access, installed capacity or overall consumption. Over 645 million Africans have no access to energy, corresponding to an electricity access rate of just over 40 per cent, the lowest in the world. Energy-sector bottlenecks and power shortages are estimated to cost Africa some 2 to 4 per cent of GDP annually, undermining economic growth, employment creation and investment (African Development Bank Group, 2017). Even though Africa's energy potential, especially renewable energy (inexhaustible raw energy potential), is enormous, only a fraction of it is currently being employed, an investment opportunity for the region.

50. Despite the potential for renewable energy from the oceans, the area calls for extensive research, high technology and substantial investment. Equipment, infrastructure and technology demand substantial capital investment, while assessment of wind and wave potential for energy demand extensive research. In Mauritius and South Africa, research and development activities are being carried out in regard to this sector (Martin, 2016). Joint initiatives for a long-term strategy and plan are crucial to developing ocean renewable energy in a cost-effective manner.

## **G. Deep sea mining**

51. Advances in technologies continue to open new frontiers of marine resource development, from bioprospecting for pharmaceuticals (see Hunt and Vincent, 2006) to the mining of seabed mineral resources. World attention is turning to the potential riches of polymetallic nodules, cobalt-rich ferromanganese crusts and massive polymetallic sulphide deposits underneath the oceans (see table 1). Sulphide deposits are a source of rare earth elements, such as dys-

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prosium and terbium, which is important in new information and communications technology hardware and renewable energy technologies.<sup>10</sup>

52. The Area<sup>11</sup> is a common mankind heritage as provided under the United Nations Convention on the Law of the Sea, 1982. Resources that are found in the Area are available for exploration and exploitation by all countries – coastal, island and landlocked. The International Tribunal for the Law of the Sea<sup>12</sup> has exclusive jurisdiction over deep seabed mining disputes. The International Seabed Authority has developed the Mining Code, which refers to a comprehensive set of rules, regulations and procedures that regulate prospecting, exploration and exploitation of marine minerals found in the Area.

53. The Authority has commenced issuing licenses for the exploration of the international sea floor, including for the Central Indian Ocean Basin, West Indian Ocean Ridge, Mid-Atlantic Ridge and Central Indian Ocean Ridge.<sup>13</sup> There are economic opportunities for the region in this deep sea mining sector, which should be tapped through collaborative initiatives among countries. Countries should join forces in scientific research undertakings to explore the Area to enable them to plan effectively for future use. Scientific research could be done in collaboration with development partners. Local content policies and programmes should be established and strengthened to enable the close involvement of member States for skills development and technology transfer.

54. Taking into consideration regional activities such as near-shore dredging and extraction of aggregates, and the potential for seabed mining, this sector of the blue economy needs dedicated regulations and enforcement. Legal and institutional frame-

works should be well established to ensure peaceful coexistence with other economic uses of the sea and to protect marine environment from erosion and deterioration of marine biodiversity. Environmental assessment requirements should be properly regulated to ensure adherence. Success will be guaranteed if countries work together rather than individually.

## H. Biotechnology and bioprospecting

55. The seabed beyond the limits of national jurisdiction is subject to the principle of common heritage of mankind, and natural resources that are found there should be used for the benefit of humanity, while taking into consideration the interests and needs of developing countries. Marine ecosystems and organisms are largely unexplored, underutilized and understudied; the challenge is to find means to unlock the potentials of such resources for use. Marine biological prospecting includes the discovery from the ocean environment of novel genes and biological compounds that can lead to commercial development of pharmaceuticals, enzymes, cosmetics and other products.

56. The global market for marine biotechnology products and processes is currently estimated at \$4.6 billion and is expected to grow. Marine genetic resources are commercially valuable and research shows that they hold considerable potential for the development of advanced pharmaceuticals. Marine bacteria are a rich source of potential drugs. In 2011, there were over 36 marine-derived drugs in clinical development (UNCTAD, 2014). There is therefore great potential for economic development in this newly developed sector of the blue economy.

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10 {Retrieved from, unep\_swio\_sm1\_inf11\_blue\_economy.pdf. Accessed 01 August, 2018}.

11 Refers to seabed and subsoil beyond the limits of national jurisdiction.

12 Available from (accessed 25 September 2019).

13 Available from [www.isa.org/jm/deep-seabed-minerals-contractors?qt-contractors\\_tabs\\_alt=0#qt-contractors\\_tabs\\_alt](http://www.isa.org/jm/deep-seabed-minerals-contractors?qt-contractors_tabs_alt=0#qt-contractors_tabs_alt) (accessed 25 September 2019).

**Table 1: Summary of blue economy sectors, activities and opportunities**

Sector	Business activities and opportunities
Shipping	Ship-building and repairing, ship ownership and operation, shipping agents and brokers, ship management, port and terminal management, dredging, ship suppliers, ship equipment manufacturing, cargo handling and storage, stevedores, freight forwarders, professional maritime training, financial institutions, maritime lawyers and marine insurance Opportunities: Jobs, poverty eradication, production, investments, entrepreneurship and growth of MSMEs
Fisheries and aquaculture	Capture fishery, aquaculture, seafood processing, cold rooms, storage, packaging, transport and logistics Opportunities: Jobs, well-being of the society, source of income, source of protein and food security, research
Marine and coastal tourism	Sea angling from boats and the shore, sailing, boating, water skiing, water surfing, sea kayaking, scuba diving, swimming, bird watching in coastal Areas, whale/dolphin watching, and visiting coastal natural reserves Opportunities: Jobs, global business, source of foreign exchange, and source of income for local entrepreneurs in transport and accommodation services, food and beverage, cultural and handicraft production, research
Offshore oil and gas	Exploration and exploitation, oil rigs, offshore supply vessels, underwater welding, production and refining, pipelines, oil and gas distribution Opportunities: Jobs, skills development, scientific research, innovation and development, technology and skills transfer, petrochemical and other industries, development and marketing services, research
Renewable energy	Offshore wind energy production, wave energy production, tidal energy production, thermal and biomass sources Opportunities: Jobs, access to energy for productive and consumptive uses, socioeconomic development, climate change adaptation and mitigation, research
Deep sea mining	Exploration of rare earth metals, polymetallic nodules, cobalt-rich ferromanganese crusts and polymetallic sulphide Opportunities: Jobs, economic development, new technological discoveries, information and communications technology, hardware manufacturing and renewable energy technologies, research
Biotechnology and bioprospecting	Research and development, chemicals, enzymes and cosmetics industries, seaweed harvesting and products, and marine derived bioproducts Opportunities: Jobs, commercial values and development of advanced pharmaceuticals, new products and processes, research and innovation

Source: Developed by author.

57. Table 1 shows that there is a wide choice of economic activities in the blue economy that are available in many sectors, and thus a potential to facilitate accelerated growth and development in the region. Member States and other regional stakeholders should evaluate the business opportunities in the sector as anchors of sustainable development through industrialization, investments, job creation, poverty eradication and sustainable development.

58. As alluded to earlier, the blue economy ought not be exclusive to coastal and island countries and, as such, landlocked countries must equally partake. The blue economy approach offers the means for a sound utilization of ocean-based economic opportunities within and beyond coastal countries' jurisdictions. There is a shared responsibility to protect the marine and aquatic environment within and outside national jurisdiction. Such responsibility must be shared by coastal, island and landlocked States, as they are part of the value chain. Coastal and landlocked States alike have a duty to promote the objective to optimize utilization of the blue economy

natural resources within their jurisdictions, including oceans, seas, lakes, rivers or other inland waters, without prejudice to the protection of the respective marine and aquatic environment (box 1).

59. Collaboration among all stakeholders – Governments, private investors, diaspora, entrepreneurs, local communities, youth and women – is key to a holistic approach in developing blue economy business opportunities. Regional Governments should develop a comprehensive business operations system that includes legal, regulatory and institutional frameworks to guide effective utilization of natural resources, while protecting and preserving the environment. The Governments must demon-

#### **Box 1: Landlocked States in the blue economy value chain**

- a) Have navigable waters in the form of lakes and rivers that are also abundantly endowed with natural resources. The waters of these lakes and rivers transcend past some of these coastal States, thereby presenting opportunities for cooperation as envisaged in the blue economy inclusive industrialization and economic development agenda.
- b) Have an interest in oceans and seas insofar as their international trade (marine transport of goods) and food security (fishery) needs are concerned. They have a role similar to coastal and island States of protection and preservation of marine environment. Unregulated and mismanaged disposal of harmful chemicals from industrial and domestic activities contributes highly to marine environment pollution.
- c) Can provide support to coastal and island nations in blue economy-related activities for regional economic value chains. Whereas coastal States provide maritime ports, landlocked countries provide inland/dry ports and storage facilities for both receiving and possible transit of goods to further destinations. Construction and manufacturing of on-board ship equipment, ship parts manufacturing and training of port and shipboard personnel are another area for the regional economic value chains region. The availability of quality training and equipment within the region will be useful in saving the cost of production and service, meanwhile benefiting landlocked countries.
- d) Can improve land transport and transit infrastructure to provide useful and timely connectivity for trade in goods and services, which is an important element for trade competitiveness in the region.
- e) Can actively participate in maritime affairs within the region and beyond. It is an opportunity to learn from best practices, chart own experiences and encounter new possibilities for sustainable development through the blue economy.
- f) May collaborate with coastal countries for strategic blue economy projects and activities for mutual benefit, providing opportunities for inclusive regional development.

Source: Author.



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strate commitment in the promotion and implementation of blue economy strategies, and should consult with all stakeholders for buy-in and sustainable support of initiatives.

60. The involvement of the private sector is key to unlocking the economic potential of the blue economy industries, given the capital-intensive nature of activities involved in the blue economy. In developing countries, the private sector generates approximately 90 per cent of jobs and funds about 60 per cent of investments. Furthermore, 80 per cent of revenue is collected from the private sector (OECD, 2018). Through shipping activities and ancillary services such as banking, the private sector could support industrialization, economic growth and, hence, poverty reduction. Shipping industries are capital-intensive and services demand innovation to compete in the market and, as such, for the private sector, including SMEs, participation is important to tap into innovative ideas and create jobs for local communities in the blue economy sectors.
61. As an important source of external finance and champion of domestic resource mobilization, the private sector is crucial for the investments required in blue economy industries. The blue economy should be a co-creation with representatives of the private sector from the beginning; they should not be invited to join later. They are potential players in technology, innovations, skills mobilization and networking activities. They also respond fast to innovations and respond well with speed to academia and research, as well as the Government. They could be important partners to Government in ports and logistics to support the supply chain, manufacturing and civil works. It is similarly important for Governments to establish comprehensive and integrated approaches whereby investments could contribute to restoring and improving social cohesion and political stability. Local content policies and strategies should facilitate active participation of local com-

munities and experts in private sector-financed projects. Celebrated growth should be that which is inclusive, leaving neither a social group nor a country behind.

62. Governments and the private sector in the region may wish to jointly invest in blue economy industries. Useful areas of investment include ship ownership. Joint investment in cargo ship ventures could thereby contribute to creating wealth and employment for Southern Africa. It would be beneficial for the region to establish regional cargo ships and fishing fleets to accrue the benefits of transporting regional products. Likewise, the value of cargo such as oil and gas, and the need for safety and avoidance of sabotage, call for more protection from within the region.
63. For blue economy activities to prosper in the region, a conducive environment must be created for marine environment protection and climate change mitigation; maritime spatial planning and data centres; skills development; better access to finance, especially for small-scale entrepreneurs; more strategic investments; and cooperation between players within countries, as well as at regional level, among others. Therefore, proper investment in the blue economy can unlock the potential of the ocean to create more jobs, increase production, eradicate poverty and accelerate growth.

## I. Summary

64. This chapter has looked at the blue economy as a potential strategic approach for development of the region. Besides, the concept of the blue economy is not alien in the region, as the region has benefited from ocean resources and activities over centuries. The ocean-based economic activities discussions reveal the unequivocal strength of the ocean to provide more jobs and food security; enhance industrial development and entrepreneurship; and strengthen economic diversification for the growth of all States, regardless of proximity to water resources.

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65. Industrialization and economic development are a comparative phenomenon that is dynamic and dependent on what happens in other countries and regions of the world. The slower the pace in adopting the blue economy philosophy, the greater the gap in development. Hesitancy and complacency will continue to place most African countries under the category of low income and underdeveloped – not only because the GDP will remain stagnant, but also because it will continue to be at the tail

end. Southern African maritime transport and logistics services, ports and connecting infrastructures, fisheries and tourism industries must be improved in terms of reliability of products and services, as well as efficiency, to link blue economy activities to national, regional and global value chains, and facilitate industry and trade. To successfully embark on and safely navigate around the blue economy, there is a need to assess the strategies to arrive at the desired destination.

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# III. International, regional and national blue economy frameworks, strategies and policies

## A. Overview

66. Policies, frameworks and strategies to guide the exploitation of blue economy resources exist at international, regional, subregional and national levels. Such frameworks set the collective blue economy agenda and provide guiding principles that should form the basis of decision-making in exploring the opportunities inherent in the sector.
67. Specific international frameworks and pronouncements peculiar to the blue economy have been promulgated, such as the Sustainable Development Goals; regional frameworks, such as Agenda 2063; and sub-regional strategies, such as SADC's Regional Indicative Strategic Development Plan, the SADC Industrialization Strategy and COMESA's Medium Term Strategic Plan (COMESA, 2014).

## B. International frameworks

68. The United Nations Conference on Sustainable Development in 2012 deliberated on the green economy, which culminated in the blue economy concept as another important economic resource. The emphasis was on the sustainable use of resources of the ocean and other natural water bodies for economic growth and improved livelihoods, with maximum care to minimize risks to the environment. The blue economy was defined as embracing poverty eradication, focusing on improved human well-being and social equity, and the reduction in environmental risks and scarcities.<sup>14</sup>
69. The blue economy, directly and indirectly, relates to the Sustainable Development Goals that were promulgated for ending poverty, protecting planet Earth and ensuring the enjoyment of peace and prosperi-

ty to all people. Sustainable Development Goals that connect with the blue economy include eradication of poverty; zero hunger; gender equality; affordable and clean energy; decent work and economic growth; industry, innovation and infrastructure; sustainable cities and communities; responsible consumption and production; climate action; life below water; life on land; and partnership for the goals (refer to table 2). Thus, embarking on exploiting the blue economy is a path to the achievement of the Sustainable Development Goals.

70. From a legal perspective, the 1982 United Nations Convention on the Law of the Sea lays down a comprehensive regime of law and order in the oceans and seas. The Convention establishes rules governing the uses of the oceans and their resources. Among other issues, the Convention provides landlocked countries with the right to participate in the exploitation of living resources of the EEZ of a coastal State of the same subregion or region, on an equitable basis, taking into consideration economic and geographical circumstances of the concerned States (article 69 of the Convention). The Convention also encourages member States to collaborate in the implementation of the provisions of the Convention through regional arrangements. The opportunity for coastal countries to share equitably or accord preferential rights to landlocked countries in the exploitation of ocean and sea living resources through bilateral and regional cooperation is provided for in the legal architecture. Each country in the region is a party to the Convention, signifying consent to be bound by its provisions. The ratification and domestication of the Convention sets the platform for spontaneously tapping into the potential of the blue economy.

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<sup>14</sup> unep\_swio\_sm1\_inf11\_blue\_economy.pdf. {Accessed 01 August, 2018}.

**Table 2: Correlation of the blue economy and the Sustainable Development Goals**

#.	Sustainable Development Goals	Economic sustainability	Environmental sustainability	Social sustainability
1.	No poverty			Job creation for social well-being and economic growth
2.	Zero hunger			Fish and seafood for food security
3.	Good health and well-being			Fish and seafood for protein and minerals
4.	Quality education			Knowledge and skills development
5.	Gender equality	Involvement of women and girls in the blue economy sector		Social inclusion
6.	Clean water and sanitation		Desalination and management of land sourced waste disposed in the ocean	
7.	Affordable clean energy	Energy for ocean-based industries	Offshore wind and wave energy as alternative clean renewable energy source	
8.	Decent work and economic growth	More ocean-related jobs for economic growth		Availability of decent jobs for social well-being
9.	Industry, innovation and infrastructure	Improved infrastructure and connectivity; innovative production and financing support for economic growth	clean production	Inclusive industrialization
10.	Reduce inequalities	Economic value chain for blue economy products		equal opportunities
11.	Sustainable cities and communities		Community participation in environmental sustainability	
12.	Responsible consumption and production		Sustainable utilization of ocean resources	
13.	Climate action		Climate change adaptation	
14.	Life below water	Use of marine resources for sustainable development	Ocean and coastal management	
15.	Life on land		Mangrove forest restoration and protection for fish habitats	
16.	Peace, justice and strong institutions	Peace and justice promote the blue economy		
17.	Partnership for the goals	Sectoral collaborations; partnerships with other countries	Inclusive participation in implementing environmental protection and rehabilitation process	Inclusive participation of members of the society

Source: Developed by author.

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## C. Continental frameworks

71. The African Union's 38 coastal and island States and a coastline of over 47,000 km (African Union, 2012) possess an extensive untapped resource base that continues to provide food and a source of livelihood to millions. Africa stands to reap maximum benefits using its seas, oceans and their resources for sustainable economic development through economic sectors such as fisheries, aquaculture, tourism, mining, transportation and ports, both maritime and inland. With climate change and many other factors, African countries are experiencing dramatic coastal changes and increased pressure on marine resources. This has resulted in the realization of the need for the sustainable use of ocean resources and managing water resources as development spaces (ECA, 2012).
72. Recognizing the economic potential from the extensive coastline and abundance of maritime resources, the African Union endorsed the 2050 Africa Integrated Maritime Strategy (2050 AIM Strategy), as a long-term strategic vision to foster increased wealth creation from Africa's oceans, seas and inland waters, by developing a sustainable thriving blue economy in a secure and environmentally sustainable manner. The 2050 AIM Strategy addresses Africa's inland waters, oceans and seas, and identifies the blue economy as key to complementing the traditional resources in enhancing wealth creation. The vision alludes to the need for the continent to utilize the diverse marine and aquatic resources to anchor development.
73. In addition to emphasizing the importance of exploiting the interrelated benefits from the myriad of economic activities associated with the blue economy, the Strategy provides a broad framework for the protection of the marine and aquatic environment, and sustainable exploitation of the same for wealth creation, generation of jobs and the reduction of poverty. Consequently, the Strategy considers the blue economy to be a pillar of economic and social development, and that it is a vital area for poverty eradication and jobs creation.
74. Among other important observations, the Strategy emphasizes that opportunities for wealth creation from the blue economy are not limited to coastal and island countries only, but landlocked countries as well. In this regard, the policy calls for all countries to cooperate in a harmonized policy and regulatory environment to fully exploit the benefits available from blue economy resources, and accrue such wealth jointly. Furthermore, the policy calls for the development of holistic and sustainable blue economy initiatives that will improve citizens' well-being, while addressing environmental issues responsibly.
75. The 2050 AIM Strategy suggests, among other things, that strong political will, cooperation and effective coordination, ratification, domestication and implementation of related international instruments could mitigate national differences. The building of national capacities in the sector is also identified as another area that African countries need to invest in. Skills relevant for blue economy activities – such as fisheries, tourism, ship-building and repair, marine equipment, tourism and research – are vital to Africa's sustainable development, and need to be developed.
76. Other important issues addressed by the AIM Strategy that could undermine the derivation of optimal benefits from the blue economy include dealing with cross-border organized crimes, illegal fishing, and environmental crimes. The Strategy recommends that blue economy initiatives must include local communities, the private sector and development partners. Furthermore, maritime spatial planning is important and can help improve intra-African trade and global competitiveness, inherently leading to the Sustainable Development Goals and thus should be pursued.

77. Furthermore, the blue economy development approach is an integral part of the African Union Agenda 2063.<sup>15</sup> Agenda 2063 envisages the African blue economy to be a major contributor to continental transformation and growth. It is divided into 5 and 10-year implementation periods, and defined and elaborated in 7 overarching aspirations, 20 goals and 34 priority areas. The relevant goals are Goal 6 and 7 under Aspiration 1. Goal 6 is on the blue/ocean economy for accelerated economic growth, with the priority area being maritime resources and energy, ports operation and marine transport. Goal 7 is on environmental sustainability and climate-resilient economies and communities, with the priority areas being sustainable natural resource management, biodiversity conservation, genetic resources and ecosystems, sustainable consumption and production patterns, water security, climate resilience and natural disasters preparedness, prevention and renewable energy.

78. In addition, ECA has published a handbook on the blue economy, *Africa's Blue Economy: A policy handbook* (ECA, 2016b). The handbook provides a step-by-step guide for integration of the blue economy into continental, subregional and national development plans, strategies, policies and laws. It is designed to raise awareness of the blue economy concept to all stakeholders in pursuit of structural transformation, sustainable economic growth and enduring societal progress. The handbook is useful resource for member States in the process of developing, and practical implementation of the blue economy strategy for sustainable development in the region.

79. The existence of frameworks at the continent level illustrates the belief that oceanic resources can promote inclusivity for the collective benefit of all countries. However, there seems to be limited knowledge of the blue economy, and a mechanism should be

established to encourage member States to exploit ocean resources and related services for increased job opportunities, poverty eradication and economic growth. Technical assistance should be made available for countries that could need expertise in developing the blue economy and the aspirations of international and regional frameworks, domesticated to anchor sustainable development.

## D. Subregional frameworks

80. Subregional arrangements enable countries to collaborate for a common good. SADC, COMESA, IOC and IORA are the key intergovernmental bodies which could provide a platform for collaboration on the blue economy. This section examines the programmes of regional economic communities and intergovernmental organizations on the blue economy.

### 1. Southern African Development Community<sup>16</sup>

81. The SADC Industrialization Strategy and Roadmap 2015–2063 (SISR) (SADC, 2015) – which was approved by the Extraordinary Summit in Harare, Zimbabwe, in April 2015 – seeks to transform regional economies, enhance economic growth and create empowerment. In the pursuit of environmental sustainability, the Strategy endeavours to promote inclusive and sustainable industrialization, guided by initiatives on the green and blue economies.

82. On the blue economy, the region specifically endeavours to exploit the enormous potential offered by its ocean resources to catalyse industrialization and economic transformation. The Strategy alludes to the existence of blue economy opportunities – such as fishing, shipping, recreation, marine security, renewable energy, and oil and mineral exploration – which could be exploited sustainably. However,

<sup>15</sup> Available from <https://au.int/en/agenda2063> (accessed 25 September 2019).

<sup>16</sup> SADC member States: Angola, Botswana, the Comoros, the Democratic Republic of the Congo, Eswatini, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, the United Republic of Tanzania, Zambia and Zimbabwe.



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it identifies the challenges to optimal exploitation of the blue economy to include: poor transportation infrastructure between coastal and land-linked countries; inadequate capacity to comply with standards; inadequate access to market information; limited skills to support initiatives on the blue economy; inadequate incentives to promote the blue economy initiative; lack of harmonized policy frameworks; limited data on the economic potential of the blue economy; and slow progress in the formalization of MSMEs, which could play a leading role in exploiting blue economy business opportunities.

83. To address these challenges, the Strategy calls for the development of quality infrastructure, improvement in transportation linkages, development of skills, removal of business constraints impacting on MSMEs, provision of incentives for blue economy-related business ventures; and for reinforced research and development and innovation to support the blue economy through dedicated Centres of Excellence. The compilation of data on the blue economy opportunities should be a key activity. Furthermore, the Strategy calls for mainstreaming in the development of infrastructure required to accelerate industrialization and the development and upgrading of regional ports and maritime corridors, which is crucial in facilitating viable shipping networks as enablers for participation in regional and global value chains. The Strategy recognizes the importance of the sustainable exploitation of oceanic resources and the minimization of negative effects on the environment.

84. To ensure the growth of ocean wealth, the Strategy calls for coherent planning and the development and implementation of harmonized policies and regulatory frameworks. As part of the process of facilitating sustainable exploitation of blue economy resources, a regional blue economy policy and strategy should be developed to guide

a harmonized approach to the sector in the region. Interactions with responsible SADC officials reveal that the process for establishment of a blue economy strategy is underway.

85. In addition to the SISR, the Revised SADC Regional Indicative Strategic Development Plan (2015–2020) also recognizes the blue economy as an emerging approach that provides new opportunities for economic and social development, and calls for the optimal utilization of marine resources in a harmonized environment. It calls for member States with access to the sea to collaborate with land-linked countries to ensure unhindered access of oceanic resources for economic activities.

## 2. Common Market for Eastern and Southern Africa<sup>17</sup>

86. The COMESA Medium Term Strategic Plan (2016–2020), which was approved by the 36th COMESA Council of Ministers, is aligned with the Sustainable Development Goals and Agenda 2063. The plan identifies nine strategic objectives to drive the regional integration agenda, of which the blue economy is one of them. COMESA envisions economic transformation by unlocking investments and generation of jobs to citizens, rebranding of the use of water bodies, and tapping into new areas of economic actions.<sup>17</sup> Targeted economic areas include exploration and exploitation of hydrocarbon and mineral resources; fisheries; seafood; aquaculture; establishment of fishing fleets; generation of renewable energy; marine services such as ship registration, maritime financing and tourism; and extension and expansion of facilities to accommodate more and bigger ships. The plan underscores the importance of climate change mitigation and adaptation, cooperation among countries, knowledge and skills, spatial planning and proper management of water bodies in the imple-

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<sup>17</sup> COMESA member States: Burundi, the Comoros, the Democratic Republic of the Congo, Djibouti, Egypt, Eritrea, Eswatini, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Sudan, Uganda, Zambia and Zimbabwe.

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mentation of blue economy initiatives. The plan should be adopted by member States *mutatis mutandis* to strengthen implementation of the blue economy for sustainable development. It is important for COMESA to establish institutional mechanisms that will enable States to report back on the progress in implementing agreed plans, and thus encourage the sharing of success and challenges pertaining to blue economy.

### 3. Indian Ocean Commission<sup>18</sup>

87. The Indian Ocean Commission (IOC) covers 5.5 million km<sup>2</sup> of maritime space, with a colossal blue economy potential, constituting the main economic wealth of its members. The Commission endeavours to contribute to strengthening cooperation to facilitate the sustainable development of all the States and territories bordering the Indian Ocean (Royeppen, A. and F. A. Kornegay (2015)). The major economic activities being pursued by the Commission are fishing and aquaculture, renewable ocean energy, ports, maritime transport and the exploration for seabed mineral resources.

88. During the Fourth IOC Summit in 2014 in Moroni, member States reaffirmed their common will to benefit from the potential of the Indian Ocean in a reasoned, long-term approach, and reiterated their determination to make the blue economy the “new development pillar” for their economic community. In promoting the development of the blue economy in the Indian Ocean, IOC recognized and recommended for region-wide dissemination Africa’s Blue Economy: A policy handbook (ECA, 2016b) as a methodological tool for national interventions<sup>19</sup> according to the needs of member States, as well as for the elaboration of the IOC Regional Action Plan.

89. IOC is currently implementing a regional maritime security programme in collaboration with other regional and international institutions. The programme has two specific goals to be achieved by IOC by 2020: building and improving the capacities for surveillance and control at sea, and promoting and coordinating the exchange of maritime information.<sup>20</sup> Furthermore, maritime security is among the key priorities for the development of the blue economy.

### 4. Indian Ocean Rim Association<sup>21</sup>

90. Since its establishment in 1997, IORA has been in the forefront in promoting the blue economy sector. A Declaration of the IORA on Enhancing Blue Economy Cooperation for Sustainable Development in the Indian Ocean Region (Mauritius Declaration), which was adopted on 3 September 2015, is the testimony of the Association’s efforts in the promotion of the blue economy. This was reiterated in May 2017 at the Jakarta Conference, at which it was underlined that oceans, along with coastal and marine resources, play an essential role in human well-being and social development.

91. The Mauritius Declaration focuses on fostering sustainable development based on the blue economy in the Indian Ocean region, and the priority economic areas stipulated in the Declaration include: fisheries and aquaculture, renewable ocean energy, seaport and shipping, offshore hydrocarbons and the extraction of seabed minerals. It encourages countries to develop such industries in an environmentally sound manner, with the objective of espousing economic benefits for their populations.

92. To explore the full potential of the oceans, the Declaration encourages research, investment, technology transfer, capaci-

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<sup>18</sup> IOC members include Mauritius, Seychelles, Madagascar, the Comoros and France/Reunion Island.

<sup>19</sup> See “The Indian Ocean Commission endorses the Handbook on the Blue Economy published by the ECA”. Available from [www.uneca.org/stories/indian-ocean-commission-endorses-handbook-blue-economy-published-eca](http://www.uneca.org/stories/indian-ocean-commission-endorses-handbook-blue-economy-published-eca) (accessed 25 September 2019).

<sup>20</sup> {Retrieved from, <https://www.comesa.int/comesa-igad-eac-ioc-and-eu-strengthen-efforts-to-prevent-resurgence-of-maritime-piracy-and-organized-crimes/>. Accessed 8 January 2019}.

<sup>21</sup> IORA member States: Australia, Bangladesh, the Comoros, India, Indonesia, Iran (Islamic Republic of), Kenya, Madagascar, Malaysia, Mauritius, Mozambique, Oman, Seychelles, Singapore, South Africa, Sri Lanka, United Republic of Tanzania, Thailand, United Arab Emirates and Yemen.

**Table 3: Promotion of the blue economy: Regional economic communities and intergovernmental organization frameworks**

Organization	Policy/framework/plan	Blue economy narrative and activities
African Union	Agenda 2063 2050 AIM Strategy	Blue economy as major contributor to continental transformation and accelerated economic growth. Environmental sustainability and climate-resilient economies. Foster increased wealth creation from Africa's oceans. Utilization of the diverse marine and aquatic resources to anchor development.
SADC	SISR 2015–2063 Revised SADC Regional Indicative Strategic Development Plan 2015–2020	Utilization of the potential offered by ocean resources to catalyse industrialization and economic transformation. Optimal utilization of marine resources in harmonized environment. A new approach for economic and social development.
COMESA	Medium Term Strategic Plan 2016–2020	Blue economy as one of its strategic objectives to drive the regional integration agenda.
IOC	Strengthen Cooperation and Facilitate Sustainable Development	Major economic activities include fishing and aquaculture, renewable ocean energy, port, maritime transport and exploration for seabed mineral resources.
IORA	Declaration on Enhancing Blue Economy Cooperation for Sustainable Development, 2015	Fostering sustainable development based on blue economy.

**Source:** Developed by author.

ty-building, networking and dialogue. Furthermore, it calls upon States to facilitate and allocate sufficient funds to promote cooperation and technology transfer. The Declaration underlines and encourages equitable and sustainable economic growth through the empowerment and participation of women and facilitation of micro, small and medium-sized enterprises. Furthermore, the Declaration calls for the need to establish and/or review existing regional frameworks regarding development, drawing upon case studies, best practices and experiences and use the experiences to craft new policies.

93. The agreed priorities embrace a range of economic activities that can immensely contribute to sustainable development. There is liberty for each country to deter-

mine which sector should be priority, to accord the sector deserved attention with due regard to the state of natural endowments. To determine country priority sectors for the promotion of the blue economy, there is a need to establish the status of resources and the environment. It is ideal for countries to identify the sectors and areas of comparative advantage for focus.

94. The foregoing review has shown that there is recognition of the importance of the blue economy as a catalyst for economic development and improved well-being on the continent. It is also evident that a sustainable blue economy can facilitate industrial development in Africa. Therefore, It is imperative for individual countries to be cognizant of the regional policies and strategies for a harmonized approach towards the de-

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sired economic goals. Table 3 summarizes the sources of inspiration for national blue economy policies and strategies.

95. The African Union specifically embraced the blue economy agenda and put forward a 50-year strategy, together with a step-by-step plan to achieve the desired goals. Likewise, COMESA and SADC plans and strategies underscore the importance of the blue economy as a tool for industrial development, economic growth and regional integration. To entrench domestication, intergovernmental organizations encourage member States to pursue the blue economy through exchange of information, project implementation and partnerships. The intricate link between blue economy activities and Sustainable Development Goals is emphasized in regional and national programmes.

96. However, the success of blue economy strategies and frameworks discussed in the previous section in spurring economic growth lies in their domestication and implementation at national level. The review of country-level experiences on blue economy policies, strategies and socioeconomic activities presented in the following section enables the identification of success factors, gaps and the isolation of the specific challenges and opportunities. The review facilitates comparisons for lessons on cooperation going forward. The specific experiences of South Africa, Mauritius, Seychelles, Madagascar and the United Republic of Tanzania are examined in this section to answer questions of process and experiences, as well as what on actions taken.

## E. South Africa

97. South Africa is endowed with vast ocean resources and hence blue economy industries – such as commercial ports, fishing harbours, islands, and marine and offshore oil and gas – have flourished. Ports and fish-

ing together employ more than 215,000 people, while 30 per cent of the population of the country is settled along the coast. The value of fisheries' exports in 2005 was about \$395 million.<sup>22</sup>

98. South Africa is located at one of the world's most strategic maritime trade routes, connecting to other continents apart from its neighbouring countries. Bordering both the Indian and the Atlantic Oceans, the country has a coastline of about 3,900 km, and has more ocean space than land space. Seaborne trade accounts for about 90 per cent of South African imports and exports.<sup>23</sup> The South African maritime transport sector is growing and can potentially bring about much more support to the sustainable development efforts of the country (NDott, 2011).

99. The country's Comprehensive Maritime Transport Policy (CMTTP) of 2017 focuses on facilitating the growth and development of the maritime transport sector to reach its full potential in support of growth and sustainable development of the country and ultimate benefit of all South Africans. CMTTP recognizes the 2050 AIM Strategy as a long-term vision and recognizes the SADC Industrial Development Strategy and Roadmap as the guiding regional strategy for industrialization.

100. The policy addresses the development of blue economy industries, including port infrastructures and services, ship ownership and registration and ship-building and repair. Furthermore, the policy commits to: improving competitiveness of services; institutional and policy governance; participation of disadvantaged entrepreneurs, such as women and youth; funding and financing mechanisms; coordination of stakeholders for effectiveness and efficiency; and the participation of local entrepreneurs in marine manufacturing, including design, fabrication, construction, maintenance, repairs,

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<sup>22</sup> Available from [www.fao.org/fi/oldsite/FCP/en/ZAF/profile.htm](http://www.fao.org/fi/oldsite/FCP/en/ZAF/profile.htm) (accessed 26 September 2019).

<sup>23</sup> South Africa, Department of Transport. Comprehensive Maritime Transport Policy for South Africa (2017).

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ships, on-board technology systems and equipment, and the provision of services.

101. It also recognizes the role of private sector participation in funding and financing. Regional cooperation and arrangements for focus and value-chain improvement could not be overemphasized. Maritime awareness, skills and professionalism are key for the development of maritime industries. Technological innovations and collaborated research are paramount, State-wise and regionally. Interconnectivity between water and land transport is crucial for services to reach the hinterland and neighbouring landlocked countries efficiently.

102. South Africa's Comprehensive Maritime Transport Policy supports fundamental policies and guiding frameworks for social economic development, and supports the National Development Plan, National Industry Policy Framework and the National Transport Policy. Meanwhile, the South African National Industry Policy Framework emphasizes, among others, the development of transport infrastructure and the equal contribution of both the public sector and private sector to industrialization. It also encourages the development of low-skill-intensity manufacturing and service industries. It is further noticed that industrial policy involves more than one sector and institution within the country framework.

103. Although maritime transport is only one of the blue economy industries, CMTP not only addresses issues directly related to maritime transport, but also takes cognizance of other sectors of the blue economy, such as fisheries, mining and tourism. The policy directly emphasizes creating a conducive environment for the attainment of deliverables of Operation Phakisa.

104. Operation Phakisa is a government initiative to fast-track the implementation of solutions to critical service delivery issues

highlighted in the National Development Plan. Ocean economy is given priority among others to unlock the potentials of South Africa's oceans (Marine Protection Services, 2014). The operation focuses on six priority areas: maritime transport and manufacturing; oil and gas exploration; aquaculture; marine protection and governance; coastal marine tourism; and small harbours development.<sup>24</sup> These sectors are considered most important in deriving value for the country.

105. Under the programme, potential targeted activities in the transport and manufacturing value chains include storage and warehousing, ship-building and repair, rig repair and refurbishment, and boat-building. In the offshore oil and gas sector, South Africa aspires to create an enabling environment for exploration through policy, legislative environment, inclusive growth, and addressing skills gap and infrastructure challenges. Also targeted is the creation of jobs in fish processing and marketing for the transformation of economic and social status of coastal communities.

106. An Ocean Economy Laboratory was established in 2014 to develop an integrated approach to ocean governance to support and facilitate inclusive growth. Before embarking on the operation, a national analysis was undertaken which revealed that South African oceans could generate an estimated GDP contribution up to R177 billion per year and employ 1 million people by 2033. In 2015, the review of implementation of the operation revealed that total investments committed to aquaculture alone were R444 million, of which private sector investment was R338 million, while the rest was committed by the Government; an increase of 175 tons in production was registered compared with the previous year; and R29 million was contributed to GDP.<sup>25</sup> The challenges encountered during implementation of the operation include regulatory barriers,

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24 {Retrieved from: <https://www.innovasjon Norge.no/contentassets/e3dd1eb142d541e5ad72b66a7cb6747e/plenary2---sobantutilayi---samsa.pdf>. Accessed 13 August, 2018}.

25 See "Operation Phakisa". Available from [www.operationphakisa.gov.za/operations/oel/Ocean%20Economy%20Lab%20Documents/3.%20](http://www.operationphakisa.gov.za/operations/oel/Ocean%20Economy%20Lab%20Documents/3.%20)



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difficulty in accessing funding, fragmented research and development, limited infrastructure in rural areas and inclusivity in the sector.<sup>26</sup>

107. Among the strengths of the initiative in the promotion of the blue economy is the provision of room for assessment and prioritization of specific blue economy areas of intervention. It also focuses on achieving national development goals within specified time frames, and effective monitoring. The initiative centres on the outcome of the optimization of maritime resources utilization to include inclusiveness, participation, job creation, value addition and link with industrialization. Cross-sector interactions among specialists and other public and private stakeholders are important to attain these desired goals. The Department of Planning, Monitoring and Evaluation is the lead institution for interdepartmental cooperation, and the President's Office serves as a special-purpose vehicle to coordinate the initiative as a package. The two collaborate to grow the prioritized sectors for optimal value to the country.

108. Due to the overlapping spatial uses of ocean resources, as well as related environmental impacts, blue economy industries are dealt with in various government ministries and regulated by many legal and institutional frameworks. Operation Phakisa provides marine spatial planning, which is an important tool to minimize conflicts in operations and governance, to determine the best use of the ocean space and to determine the areas which need to be protected to maintain functioning of the ecosystem.

109. South Africa's National Framework on Marine Spatial Planning was published in May 2017 by the Minister for Environmental Affairs for implementation. The Department for Environmental Affairs has been designated as the lead for marine spatial planning. The framework provides high-level

direction for the use of marine space. The goals of the framework include: unlocking the ocean economy by stimulating the sustainable economic growth of marine sectors to increase the ocean contribution to the national GDP and job creation, and ultimately eradicating poverty; and engaging with the oceans (equity), ensuring healthy marine ecosystems (precautionary approach) contributing to good ocean governance (coherent planning and management) and facilitating trans-national planning, taking on board neighbouring countries and regional agreements.

110. From South Africa's perspective, the ocean economy is crucial for economic development and thus it is opportune to engage in unlocking economic potentials of the oceans' resources. Political will, strong leadership and the prioritization of the ocean economy have borne fruit through the innovative Operation Phakisa. Sector policies should be harmonized into a coherent blue economy policy.

## F. Mauritius

111. Mauritius has a total maritime zone of 2.3 million km<sup>2</sup>. The EEZ is 1.96 million km<sup>2</sup>. The continental shelf has 396,000 km<sup>2</sup> and is co-managed with Seychelles. The Mauritius economy grew by 3.7 per cent in 2016, while the unemployment rate was 7.6 per cent (Chung, 2016). The country is a regional services hub, which gives support to its economic growth. The blue economy has continued to grow, and contributed about 11 per cent of the country's GDP in 2013, 14 per cent in 2015, and is projected to reach 20 per cent by 2025 (Attri, 2016). The blue economy in Mauritius is dominated by three sectors: the seaside tourism industry, which accounted for about 60 per cent of income generated in the national economy since 2012; port activities (18 per cent); and the fishing industry (14 per cent).

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Operation%20Phakisa%20-%201%20Year%20Anniversary%20-%2015%20Oct%202015.pdf (accessed 26 September 2019).

26 {Retrieved from: [https://www.nda.agric.za/doaDev/sideMenu/fisheries/03\\_areasofwork/Aquaculture/Year%20One%20Annual%20Report%20-%20Low%20res.pdf](https://www.nda.agric.za/doaDev/sideMenu/fisheries/03_areasofwork/Aquaculture/Year%20One%20Annual%20Report%20-%20Low%20res.pdf)}.



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112. The blue economy is thus one of the pillars of Mauritius's economic development and in its transformation to a high-income economy by 2025. A special programme was developed by the Government to reflect its vision to transform the country into an ocean State.<sup>27</sup> Among other steps taken to promote the blue economy sector was the establishment of a ministry that is solely dedicated to ocean-related activities, including the economy, resources, fisheries, shipping and outer islands. The country is now working on the establishment of legal and regulatory frameworks to monitor the blue economy operators.<sup>28</sup> The Department of Ocean Economy within the Country's Board of Investment is dedicated to the co-ordination of blue economy projects.

113. Mauritius was among the first countries in the world to establish a maritime spatial planning system.<sup>29</sup> In this regard, special areas of investment have been identified in the promotion of the blue economy, which include seabed exploration for hydrocarbons and minerals, fishing, seafood processing and aquaculture, deep ocean water applications and marine services. In the seafood and related blue economy industries, the country provides cold room facilities, ship agency, vessel husbandry, freight forwarding, dedicated reefer carriers, bunkering and ship supplies, reefer container plug-in points, ship repair, health certification services and other logistic services. The country has an established preferential market for its seafood.<sup>30</sup>

114. Diversification of the fishing sector to include setting up of the National Fishing Fleet, transformation of fishing products, venturing into the aquaculture sector and related subsectors are among initiatives that are up for implementation. Also, research and development to detect potential resources in Mauritius waters is a priority.

The management of such projects demands technical expertise, which the country is also developing. The following is also required: cross-sector experienced human resources to manage the projects, with special emphasis on the social and environmental component of blue economy; interconnectivity among sectors of blue economy; participation of local entrepreneurs in new investment areas; and visible legal and administrative frameworks to attract investors for the development of the blue economy sector.

115. However, climate change is a major challenge for the development of the blue economy in Mauritius. Deliberate measures must be taken for climate change mitigation and adaptation for sustainability. It is imperative for environmental protection and rehabilitation to be afforded strategic and coordinated innovation through various strategies, including the introduction of incentives or rewards for best practices and stringent sanctions for environmental violations.

## G. Seychelles

116. The blue economy is the primary engine for economic growth in Seychelles. The island's blue economy strategy aims to sustainably manage marine resources, ensure food security, diversify the economy and create high-value jobs. Tourism and fishing-related activities are the leading blue economy pursuits, together with the dynamic accommodation and food services sector. Realizing the potential of the blue economy as an essential social economic pillar for the country, Seychelles has been investing heavily in fisheries and related activities, thus creating a more promising future for development. The Ministry of Finance, Trade and Blue Economy is responsible for blue economy activities. The country is dedicated to the promotion of blue economy activities and

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27 {Retrieved from, <http://www.investmauritius.com/investment-opportunities/ocea-economy.aspx> Accessed 6 August, 2018}.

28 Ibid.

29 See "Ocean Economy: Sailing high or still trapped at the shore?" Available from <https://defimedia.info/ocean-economy-sailing-high-or-still-trapped-shore> (accessed 26 September 2019).

30 {Retrieved from, <http://www.investmauritius.com/investment-opportunities/ocea-economy.aspx>. Accessed 6 August, 2018}

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has been supporting the budget of the Ministry considerably (Attri, 2016).

117. Over the years, Seychelles has been developing a blue economy roadmap in line with the country's National Development Vision as well as the Seychelles Sustainable Development Strategy (2012–2020). During preparations of the blue economy roadmap, the Government has been working hand in hand with stakeholders, which include intragovernmental agencies, local communities, parastatal agencies, non-governmental organizations and the private sector. The roadmap defined a pathway to prosperity with special emphasis on sustainable use of marine resources.

118. The Seychelles Blue Economy Strategic Framework and Roadmap, approved by the Government in January 2018, is an integrated approach to ocean-based sustainable development. The framework aims to sustainably manage the country's marine resources, ensure food security, diversify the economy and create high-value jobs. It is holistic and brings together the economy, environment and society. The framework is consistent with the 2030 Agenda for Sustainable Development, Aichi Target 11 of the Convention on Biological Diversity and the Paris Agreement on Climate Change (2015).<sup>31</sup> The framework describes the Seychelles "Blue Economy Brand" as a unique comparative advantage based on its sustainability; builds on national and international legal and policy frameworks, successful initiatives such as marine spatial planning and innovative financing through blue bonds; and advances a prioritized agenda for action and investment to 2030.

119. Financing for blue economy activities in Seychelles will be supported by the blue bond. This is an innovative financing mechanism for implementing Sustainable Development Goal 14 and developing the blue economy. Financing of the blue bond came

from the International Bank for Reconstruction and Development and the Global Environment Facility (World Bank, 2017a). The aim of the bond is to improve fisheries and marine resources management, strengthen fisheries value chains and contribute to achieving the country's blue economy strategy. The blue bond is expected to make the fisheries sector investment-ready. The long-term impact of the blue bond project includes stock recovery and the restructuring of the fisheries sector. Also, as the fisheries recover, the returns on investment will flow to the Government and the sector.

120. Seychelles and the Paris Club agreed on a debt swap of \$21.6 million in exchange for turning 30 per cent of the maritime area under its jurisdiction into marine protected areas. It is a debt swap for marine conservation and climate adaptation.<sup>32</sup> The country announced its first protected area six years after negotiations. To obtain common understanding and buy-in for all stakeholders, the process of discussion with fishermen, environment and petroleum sectors took at least two years. Among other things, success in this innovative debt conversion relies on good governance and high-level political leadership (Fuller et al, 2017).

121. The institutional framework for the blue economy includes a dedicated Blue Economy Department, which was established within the portfolio of the Vice-President to oversee completion and implementation of the Strategic Policy Framework and Roadmap. The ultimate goals of the Strategic Framework are: (a) promotion of economic diversification and resilience to reduce economic vulnerability and reliance on a small number of sectors, and to increase the GDP derived from marine sectors; (b) promotion of shared prosperity through the creation of high-value jobs and local investment opportunities; (c) promotion of food security and well-being; and (d) protection of the in-

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<sup>31</sup> Aichi Biodiversity Targets. Available from [www.cbd.int/sp/targets/](http://www.cbd.int/sp/targets/) (accessed 26 September 2019).

<sup>32</sup> Fuller, F., and others (2017). *The nature.*

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tegrity of habitats and ecosystem services, their sustainable use and climate resilience.

122. The Seychelles experience demonstrates that a transparent and inclusive approach can build trust and representation, and is key to the development of the blue economy to deliver the right information at the right time and to the right person (UNEP, 2015). Co-creation workshops and availability of required information to all the responsible community are important for inclusiveness in the blue economy. Investments are crucial in development of the blue economy, and hence innovative ways to attract investment are needed. Furthermore, the time taken by Seychelles to develop the blue economy, at least at the level of putting together the strategies and plans, demonstrates that the process can be time-consuming. Importantly, the creation of an institutional framework which endears confidence among internal and international finance sources is a critical success factor.

## H. Madagascar

123. The Madagascar National Development Plan 2015–2019 sets a goal for development through inclusive and sustainable growth, taking into consideration the spatial dimension. Among other things, the plan focuses on rehabilitation and development of infrastructure, and the development of the energy sector (World Bank, 2017b). There are sectoral strategies established for the implementation of the National Development Plan. Fisandratana 2030 is a plan for growth and transformation of the country.<sup>33</sup> The plan extends the National Development Plan and prioritizes fisheries and aquaculture, mining, tourism and light industry. The plan also aims to create 5 million jobs by 2030.

124. Madagascar has been successful in managing small-scale fisheries in a village, in collaboration with the community, through

a long-term strategy. Fishing is the only means of livelihood for a local population of fishermen of about 80,000. Apart from fishermen, there are other actors in the local value chain.

125. Due to overexploitation of natural resources, the amount and size of fish catch were reduced significantly, and the local government introduced a temporary closure of approximately 20 per cent of the village fishing ground for two to seven months to allow the growth of living natural resources. The short-term closure resulted in improved catches, greater income and marine environmental replenishment (UNEP, 2015).

126. The success of the temporary closure was attributed to the common understanding and participation of the local community of fishers, local government and expertise. It established the value of community management of blue economy initiatives.

127. Experience shows that scientific research and innovations can form the basis of such initiatives for inclusive and sustainable development. It is important to promote and finance scientific research, so that decisions may be based on validated information. Countries should identify and update their research agendas at all levels, which will be helpful in planning and implementation. Research should involve experts in the field, academia and other stakeholders, including the local communities. In addressing inclusive participation, clear information on social and financial costs, potential benefits and opportunities must be effectively shared with involved stakeholders.

## I. United Republic of Tanzania

128. The United Republic of Tanzania is endowed with both marine and aquatic resources. Fisheries, maritime transport and coastal tourism are the major blue economy sectors. Natural gas extraction, production

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<sup>33</sup> <https://www.cnbcfrica.com/apo/2018/01/25/in-madagascar-the-fisandratana-2030-vision-plan-presented-today-proposes-a-national-pact-to-set-the-country-on-the-path-to-emergence-by-2030/>

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and transportation are still in their infancy, although significant resources have been delineated. Currently, agriculture and fisheries remain the main sources of employment, and together account for a quarter of the national GDP.

129. The fisheries sector provides direct employment to about 183,800 people, and more than 4 million people indirectly in related activities such as boat-building, fish processing, and net and engine repair. The sector provides income for local people from foreign earnings and food for coastal communities. In 2017, the fisheries sector contributed 2.2 per cent to national GDP.

130. The National Fisheries Policy (2015) visualizes a progressive fishing sector that contributes significantly to socioeconomic development through sustainable utilization of fisheries' resources, while conserving the marine environment. The policy seeks to develop a robust, competitive and efficient fisheries sector that contributes to food security and nutrition, growth of the national economy and improvement of the well-being of fisheries' stakeholders, while conserving the environment. The policy outlines opportunities for development of the sector, which include deep sea fisheries resources, manufacturing of fishing vessels, gears and other inputs, ecotourism, value addition and labelling of fisheries products. The policy is supported by programmes, strategies and plans that guide the implementation.

131. Despite opportunities, there are challenges facing the fisheries sector in Madagascar, including inadequate investments, limited capacity to manage resource and constrained access to finance and credit facilities. The National Five-Year Development Plan 2016/17–2020/21 prioritizes interventions for acceleration of the development of the sector through improvement of research and training, increasing the availability and utilization of fisheries inputs, empowering

fishers through subsidies to facilitate fishing activities, strengthening control of fisheries, and better management of the marine environment. However, inadequate youth participation, gender mainstreaming, infrastructure development, and research and development, are among the other issues that need to be addressed to contribute better to the aspirations of the country of transforming into a middle-income and semi-industrialized nation by 2025 (National Development Vision 2025). Furthermore, there are challenges affecting prospects to generating more benefits from fisheries, including the mismatch between human population needs and fishery resources (United Republic of Tanzania Ministry of Agriculture, Livestock and Fisheries, 2016).

## **J. Towards developing a blue economy**

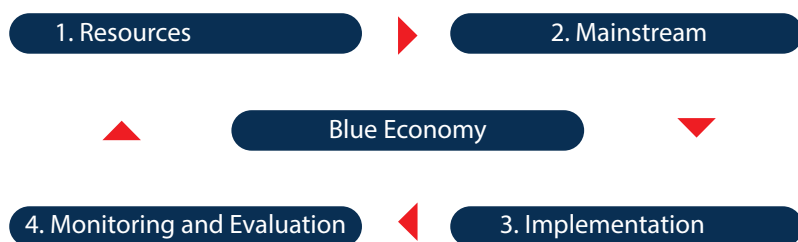
132. The preceding review has shown that development of the blue economy is a process that could take time and resources, and thus countries should be methodical in their approaches to developing the sector (see figure 1 and box 2). Above all, strong political will is paramount for successful venture into the blue economy approach for economic development. The promotion and development of the blue economy strategy involves four major stages: resource evaluation, mainstreaming of the strategy, implementation of the strategy, and monitoring and evaluation.<sup>34</sup>

133. Resource evaluation in terms of status, activities and opportunities is the starting point where visionary leadership exists. This step is important as the basis for setting priorities as well as in establishing legal, institutional and regulatory frameworks for the blue economy. Regarding promotion and management of the blue economy strategy, there should be established a comprehensive blue economy policy to include all blue

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<sup>34</sup> Gurumo, T. S. and M. G. Mitula (2018). STBE.

**Figure 1: Steps toward a blue economy**



Source: Gurumo and Mitula, 2018.

### Box 2: Steps towards a blue economy

Steps towards Blue Economy (STBE) is a path from poverty, path from poverty alleviation, underdevelopment, and underemployment to sustainable development. STBE has four steps (Figure 1) of which every step covers several tasks. Completion of each task creates a product to guide the subsequent step. Achievement of all steps serves as a blueprint for social sustainability, sustainable development as well as environmental sustainability. It is a foundation for taking natural approach to evaluating as well as intervening towards the blue economy and stimulating stakeholders' participation. STBE is a tool for planning and employing a blue economy strategy for economy sustainability. It sets the pathway from acknowledgment of a need or problem, to identification of a solution, poverty eradication. The procedure is so cumulative that every step is based on previous steps and lack of attention to a particular step may lead to non-achievement of goals. Before implementing STBE, a planner should evaluate the problem, in this case is, what exists on the ground as in the status of blue economy sectors.

economy sectors in the respective country. A specific office should be designated, especially at the high levels of government, to coordinate decisions and activities. The comprehensive blue economy policy should form an integral part of national development vision, strategies and plans, and should be aligned with regional and international frameworks.

## K. Summary

134. The review has shown that the existing blue economy frameworks seek to achieve economic growth and poverty eradication, and acknowledge the existing international, continental and subregional frameworks. The alignment of national blue economy frameworks with development visions is also evident in all countries. Nevertheless, it can also be noted that, in most countries, national blue economy frameworks and policies are fragmented, and this calls for an integrated approach to blue economy initiatives through the development of co-

herent blue economy policies and requisite support regulations, including institutional frameworks. Furthermore, the implementation strategies need to mainstream local community, women and youth, and private sector participation in blue economy development, and implementation processes and activities. The involvement of stakeholders from the grass roots is a necessary ingredient to blue economy success. It is also important that Governments work closely with the private sector to ensure investment and innovations, as well as project implementations, in an entrepreneurship manner. In addition, collaboration and partnerships with other countries should be part of the blue economy policy and strategies to optimize benefits of the regional value of blue economy. The sharing of resources and experiences could anchor regional development. A monitoring and evaluation process is paramount to evaluate progress, establish milestones reached, record successes, identify challenges and isolate failures for lessons.

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## IV. Risks and challenges in exploiting blue economy opportunities in Southern Africa

### Overview

135. The study has shown the immense potential of the blue economy to support and sustain social and economic development and environmental sustainability. Regional and international frameworks have been developed and endorsed to facilitate the development of the sector. Yet the full potential of the blue economy remains unrealized in most countries. Table 4 lists some of the challenges faced by both coastal and inland States, albeit at different levels of intensity.

#### 1. Limited knowledge of the economic importance and potential of the blue economy

136. The concept of the blue economy as an economic resource is an emerging idea that has yet to be well understood. Comprehensive understanding of the concept is key for countries to accord the sector the important consideration it deserves in socioeconomic development planning. Individual countries, singularly and in regional groupings, should

dedicate more efforts to the understanding of the concept, in order to fully derive benefits from the blue economy. Advocacy, communication and outreach on the blue economy will continue to be paramount to all stakeholders. Blue economy data should be readily available and accessible, to allow stakeholders to assess the matter, thus making informed investment decisions.

137. Knowledge of the blue economy and its economic benefits should be enhanced, and the information should trickle down to the level of communities living in the coastal areas, deliberately targeting the youth, women and grass-roots implementers, both public and private, to have a collective understanding of the concept. Convergence around a common vision for the blue economy will pave the way towards inclusive sustainable socioeconomic development based on a sustainable marine environment. The use of multidisciplinary experts in maritime and marine-related fields is essential for success in achieving blue economy objectives. The availability of local expertise

**Table 4: Challenges in exploiting blue economy opportunities**

1.	Limited knowledge of the economic importance and potential of the blue economy
2.	Environmental sustainability concerns and climate change
3.	Maritime safety and security
4.	Limited access to technology, and low levels of skills
5.	Poorly designed legal, regulatory and institutional frameworks
6.	Limited financing for deserving blue economy-related projects
7.	Poor transport and port infrastructure
8.	Limited collaboration among coastal and land-linked countries
9.	Inadequate capacity to comply with standards
10.	Inadequate access to market information
11.	Inadequate incentives to promote blue economy initiatives
12.	Limited support to SMEs

*Source:* Author, adapted from SISR.



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is important, and countries should strive to develop the local human resource base, taking into consideration the advantages of cooperation among States to support the growing sector.

## 2. Environmental sustainability concerns and climate change

138. Historically, aquatic ecosystems have been viewed and treated as limitless resources and cost-free repositories of waste. Increased populations settling along the coasts, increasing social and economic demands, technological advances and insufficient/lack of management have resulted in the excessive and irresponsible use of aquatic resources (World Bank and UN DESA, 2017). Consequently, approximately 20 per cent of the world's coral reefs have been lost, and another 20 per cent degraded/bleached by a combination of both direct human behaviour and global temperature rise. Mangroves have been reduced to about 30 per cent of their historical cover. It is also estimated that 29 per cent of seagrass habitats have disappeared.<sup>35</sup> Also, research has shown that 87 per cent of global fish stocks are overexploited.<sup>36</sup>

139. The potential of the blue economy to satisfy the Sustainable Development Goals is immense. However, climate change – along with its massive implication to the marine ecosystems because of human activities – undermines the gains from resource exploitation. For example, most untreated industrial and domestic waste ends up in the oceans and other water bodies. Seabed activities such as exploration and extraction of hydrocarbons and minerals are on the increase, and these degrade the water bodies. Furthermore, pollution from cargo and operations on board ships is a potential marine disaster. The impact of plastic materials and litter from coastal tourism and

recreation activities to the marine environment possess great dangers to the sustainability of oceans. Climate change effects are visible throughout the oceans; the oceans temperature have become higher, warmer and with more storms; thus, there is a need to promote climate change mitigation, and reduce ocean acidification and pollution, and the impact of overfishing. Clearly, climate change and its associated marine challenges – including sea level rise, changes in ocean chemistry and temperature – pose the largest environmental threat to sustainability of the blue economy. Sea level rises will threaten coastlines, and for low-lying areas this threatens human life and changes in temperature will affect fish stocks.

140. However, climate change may also generate economic opportunities, such as construction of sea barriers, sea walls, natural infrastructure, and conservation of coral reefs and mangroves, which can serve as tourist attractions.

141. The international legal architecture for the protection of the marine environment consists of conventions and guidelines that could be beneficial in Southern African waters if implemented. The United Nations Convention on the Law of the Sea, 1982, provides guidance on the rights and duties of States, coastal and landlocked. It is a duty of every country to protect the marine environment. Its laws, therefore, should reflect the duty and obligation to protect the marine environment from all the various sources of pollution.

142. Specific conventions address sources of marine pollution: pollution from ships (International Convention for the Prevention of Pollution from Ships (MARPOL) 1973 and 1978)<sup>37</sup>, liability and compensation for pollution from hydrocarbons carried on board ships (International Convention on Civil Li-

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<sup>35</sup> {Retrieved from, [www.unep\\_swio\\_sm1\\_inf11\\_blue\\_economy.pdf](http://www.unep_swio_sm1_inf11_blue_economy.pdf). Accessed 01 August, 2018}

<sup>36</sup> {Retrieved from, [www.unep\\_swio\\_sm1\\_inf11\\_blue\\_economy.pdf](http://www.unep_swio_sm1_inf11_blue_economy.pdf). Accessed 01 August, 2018}.

<sup>37</sup> Available from [www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-\(MARPOL\).aspx](http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-(MARPOL).aspx) (accessed 27 September 2019).

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ability for Oil Pollution Damage, 1992 (CLC 1992),<sup>38</sup> convention for preparedness and response for oil pollution at sea (International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC), 1990)<sup>39</sup> and the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM), 2004.<sup>40</sup>

143. As oceans transcend country boundaries, countries should work together for the protection and preservation of the marine environment. Apart from national laws and regional policies, frameworks should also be developed and implemented to manage activities in the oceans and seas. National laws and regional frameworks should include both stringent penalties for critical violations and incentives for efforts to save the oceans and seas.

144. Marine pollution from oil and gas exploration and extraction is the most visible and expensive to clean up, and attracts a lot of international attention. Globally, as no international convention is in force to address this challenge, national law needs to address the matter thoroughly. It is advisable that oil and gas exploration and extraction contracts should be well articulated to accommodate environmental protection and preservation concerns. Oil pollution from ships prevalent in the Southern Africa region due to Benguela currents demands collaborated efforts among the countries of the region.

145. Fishing activities, coastal tourism and recreation activities should be well regulated through legal instruments and specialized authorities to overcome overfishing activities; illegal, unreported and unregulated fishing hazards; and marine habitat destruction.

146. In addition, the mitigation of ocean plastic waste pollution requires punitive measures. Incentives should be introduced to protect and preserve sea grass, mangrove and other reproductive sites for marine living resources, to ensure that the marine environment is well conserved, and continues to contribute to nature's abundance and benefit humankind for current and future generations.

### 3. Maritime safety and security

147. Most countries have limited infrastructure and capacities to provide adequate maritime security and coastal protection, both of which are essential for establishing a viable blue economy. Safety is paramount, not only in shipping activities, but also in other activities pertaining to the seas and oceans. The safety of people, cargo and vessels, equipment and infrastructure must be guaranteed. Compromised maritime safety can negatively impact maritime security and business. Many coastlines continue to be dangerous waters, and have seen an unprecedented rise in piracy, armed robbery, illegal fishing, human trafficking, drug smuggling and maritime terrorism, all of which have further scaled back efforts to tap into their potential. The lack of elaborated and firm policies to govern maritime operations has contributed to a proliferation of crime in ungoverned territories.

148. There is a need to ensure that Southern African waters are patrolled continuously, to ensure safety and security for all users of the oceans and deter illegal activities. Offshore rigs and floating platforms must be protected from illegal interventions. Ports and terminal facilities could be potential targets for terrorist attacks. It is the duty of the countries under the international law of the sea to ensure the safety of their waters. It is not an easy task for individual countries, but

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38 Available from <https://lawexplores.com/international-convention-on-civil-liability-for-oil-pollution-damage-1992-clc-1992/> (accessed 27 September 2019).

39 Available from [www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-on-Oil-Pollution-Preparedness,-Response-and-Cooperation-\(OPRC\).aspx](http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-on-Oil-Pollution-Preparedness,-Response-and-Cooperation-(OPRC).aspx) (accessed 27 September 2019).

40 Available from [www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Control-and-Management-of-Ships%27-Ballast-Water-and-Sediments-\(BWM\).aspx](http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Control-and-Management-of-Ships%27-Ballast-Water-and-Sediments-(BWM).aspx) (accessed 27 September 2019).

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coordinated patrols of the waters could be ideal for the region. Offshore rigs and platforms, port facilities and terminals must take deliberate measures to ensure safety and security. Among others, the International Ship and Port Security Code<sup>41</sup> is an international instrument that provides guidance on minimum standards that should be applied for the security of ports and ships. Safety of navigation at sea is internationally regulated by several conventions, including the International Convention for the Safety of Life at Sea (SOLAS), 1974.<sup>42</sup> These international frameworks require domestication and the provision of human and financial resources for implementation.

149. Likewise, enhanced safety and security ashore is vital for sustainable development. It is a common phenomenon for countries with political unrest and countries at war to be economically held back. Therefore, peace and tranquillity in individual countries must be strongly sought and sustained to establish a blue economy.

150. Enhancing national and international cooperation to strengthen coastal safety and security is vital to guaranteeing the attainability of blue economy goals and enhancing confidence in prospective foreign investors. Striking a delicate balance between sustainably exploiting the ocean's resources and creating numerous jobs for millions who rely on this ecosystem for survival, coupled with a concerted and firm approach to addressing maritime threats, will herald a vital economy.

#### **4. Limited access to technology, and low levels of skills**

151. The region is not fully primed for blue economy-related activities, even in those countries in the forefront of the blue economy, due to limitations of science, technology and skills. There is a huge skills gap in

the sector, due to the paucity of requisite training opportunities. As the region is embarking on blue economy initiatives, there is a need for skilled human resources at all levels. The shortage and, in some cases, the total absence of skilled manpower to service blue economy industries undermines development.

152. Naval architects, maritime lawyers, maritime economists, maritime logisticians, port and ship managers and offshore engineers are essential for the blue economy, and are in short supply. Equally important are multi-disciplinary persons who could serve well as regulators, advisors and managers of various blue economy activities and institutions in the region's countries.

153. The region should collectively invest in human and technical capacity-building for blue economy activities through adopting a deliberate strategy to develop careers to satisfy the demands of an evolving sector. People are needed who have skills in ship-building and repair, marine manufacturing and construction, seafood processing, marine and coastal tourism, and coastal flood defences. Equally, emerging sectors – such as marine aquaculture, ocean renewable energy, marine and seabed mining, and marine safety and security – all require more personnel. Education and training institutions have not yet incorporated the requirements of the sector into their training curricula.

154. Maritime education and training institutions and centres of excellence should be established or strengthened. Similarly, assessment of existing human resource strengths should be undertaken to establish where there are shortages in terms of both numbers and areas of expertise. In the meantime, technical assistance from regional and international institutions should be sought to support the skills-building process. This is also a job creation opportunity for the local

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41 Available from [www.imo.org/en/OurWork/Security/Guide\\_to\\_Maritime\\_Security/Pages/SOLAS-XI-2%20ISPS%20Code.aspx](http://www.imo.org/en/OurWork/Security/Guide_to_Maritime_Security/Pages/SOLAS-XI-2%20ISPS%20Code.aspx) (accessed 27 September 2019).

42 Available from [www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-\(SOLAS\)-1974.aspx](http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Safety-of-Life-at-Sea-(SOLAS)-1974.aspx) (accessed 27 September 2019).

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communities. As a long-term plan, young men and women should be targeted for the diverse areas of the blue economy. Supply of seafarers to global fleets is among the areas where the region has a competitive advantage. Entrepreneurs should be vigorously supported in case of skills needs and access to technology. As a result, there will be an increase in the number of breadwinners in families, thus alleviating poverty.

## **5. Poorly designed legal, regulatory and institutional frameworks**

155. The current legal, regulatory and institutional frameworks in Southern Africa do not efficiently support and promote development of the blue economy. Blue economy activities are under several ministries and are managed and regulated by different institutions at national level. This is inefficient, especially for a sector which in most countries is in its infancy. Therefore, the establishment of legal and dedicated institutional frameworks for the blue economy is crucial for its growth. The central issue for consideration is to develop policy, legal, regulatory and institutional frameworks for the blue economy in a transparent and fully consultative manner, to enhance ownership and buy-in by all stakeholders, including coastal communities, women, youth, entrepreneurs, financiers, regulatory authorities, agencies and educational institutions.

156. The key elements that should be captured in the policy and regulatory frameworks include: domestication of relevant tenets of international, regional and subregional legal frameworks for blue economy activities; nomination of priority areas of implementation; spatial planning; coordination of sectors; coordination of institutions; training, skills development and capacity-building; climate change adaptation; participation of the private sector and inclusion of social groups; and an integrated strategy. Institutions to lead blue economy policy implementation should be empowered legally and in terms of resources.

157. To elevate sectoral coordination, some countries have established a blue economy coordination point in the office of the President or the Prime Minister. This inculcates high-level decision-making and coordination of several ministries at a very high level. The advantages of such a mechanism should be evaluated and adapted as suitable by other countries in the region.

## **6. Limited financing for deserving blue economy-related projects**

158. Blue economy initiatives require access to affordable long-term financing, yet countries have thus far experienced limited success in catalysing public and private investment. The development of blue economy sectors and infrastructure requires financing plans. Port infrastructure development, shipboard equipment, training, research, marketing and technological equipment all need to be well established and vigorously updated to realize the ambitious blue economy goals.

159. Large-scale maritime infrastructure investments, such as extraction, are normally capital-intensive. As such, public financing alone may not be sufficient, and collaboration with the private sector should be encouraged. An UNCTAD (2017) report reveals that port infrastructure and superstructures, and specialized and multipurpose terminals, are to a large extent financed by private investment. Southern Africa's blue economy development should and must take cognizance of these realities and fully embrace ensuing opportunities. Public-private partnerships (PPPs) could be one effective way of developing infrastructure and superstructure. As there are challenges in most countries' PPP legislation, private partners shy away from investing in projects. PPPs' legal and institutional frameworks should be reviewed. Likewise, qualified persons should be monitoring and managing such projects. Management of port and other infrastructure should also be put into the hands of qualified managers with sufficient knowledge of the relevant projects and related activities.

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160. Although SMEs mainly produce for national markets, mostly due to capacity, they are key in employment creation and income generation (OECD, 2018). Southern African countries could explore ways of facilitating SMEs to enable them to expand into blue economy-related industries. The establishment of new policy initiatives – which would provide opportunities for informal access to bank lending and alternative financing instruments, such as asset-based finance and equity instruments – could mitigate the challenge.

161. Countries should also focus on offering entrepreneurship competency skills and management to the local community, as well as in school programmes, to inculcate an entrepreneurship culture. Also, SME owners need financial skills and knowledge for them to plan and explore new financing opportunities. It is recommended to create a regional forum or system for private sector development to support a blue economy.

162. To engage the private sector, there is a need to plan and identify areas and projects along the blue economy value chain. Also, the blue economy should be a co-creation with the private sector from the beginning; representatives of the private sector should not be invited to join later. They are potential players in technology, innovations, skills mobilization and networking activities. They also respond fast to innovations, and respond well with speed to academia, research and government. They could be useful partners with the Government in port and logistics to support supply chains, manufacturing and civil works.

163. Processing and manufacturing industries in blue economy undertakings should be accorded priority. Such industries can be capital-intensive but also labour-intensive – an opportunity for local employment and, in turn, a contribution to the improvement of social well-being and overall economic status. Data should be compiled and shared to harness private sector participation.

164. Innovative sources of funding should be considered for properly packaged projects. For example, diaspora remittances could also be considered for financing various blue economy-related activities, such as ship ownership. Ship ownership by local entrepreneurs, along with registration of the same within the region, serves to mitigate capital flight from regional member States. This would also create employment opportunities for local communities. Ship investments could also benefit the region's landlocked country investors within the envisaged blue economy alliances.

## **7. Poor transport and port infrastructure**

165. Transport and logistics are vital in trade and the movement of goods; hence the need to carefully plan the transport linkages to and from oceans. Containerization and storage facilities should be improved. Development of the blue economy needs a well-developed transport network. Transport infrastructure and connectivity are important for movement of goods and services within the region and beyond. Goods from maritime ports to the hinterlands as well as to the landlocked and land-linked countries demand reliable transport for regional value chains and competitiveness. The Eswatini dry port established in 1993 works with Durban and Maputo maritime ports, and is a cost-effective way of linking coastal and landlocked areas, and for transport cost reduction. Timely delivery of fisheries and related products from production area to the consumers, transit goods from overseas to the landlocked countries, and movement to the respective attractions are equally necessary. Unfortunately, regional Member States perform poorly on transports logistics, due to poor infrastructure as well transit facilitation bottlenecks.

166. Most regional ports are currently operating near or over capacity, causing delays and high transport costs (SADC, 2012). Poor transport interfaces, poor cargo handling equipment, inefficient layouts, and insuffi-



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cient berths and drafts are among the factors affecting port efficiency in the region. Currently, most regional ports handle only 30 to 50 per cent of transit traffic to landlocked and land-linked countries (SADC, (2012). On goods in transit, coastal States should easily facilitate transit, reducing idle time as much as possible. Collaboration among States in the provision of markets and services can facilitate linkages between landlocked and land-linked countries.

167. The development of the blue economy should promote the full integration of oceanic and land activities. An integrated blue economy development is required. For example, investing in transport and port infrastructure should be part of the broader blue economy development strategy. Specialized ports and terminals need to be constructed or expanded to handle ultra-large container ships, cruise ships and fishing fleets. Also, to enhance multimodal transport linkages and improve interconnectivity, there is a need to increase port capacity and landside access. Similarly, the establishment of a blue economy corridor could be promoted in the region, with the active support of the private sector. Investment in infrastructure development and terminal operations is highly capital-intensive and should be made attractive for the private sector.

## **8. Limited collaboration among coastal and land-linked countries**

168. The blue economy value is built on collaboration among coastal and landlocked/land-linked countries. The collaboration could be in regional waters' safety and security in; undertaking major projects, including infrastructure development; the management of maritime space, such as the special arrangement between Mauritius and Seychelles; deep sea mining; ocean research; and human capacity-building. This approach furthers and facilitates mutual benefits and allows countries to benefit from economies of scale.

169. A regional approach to the blue economy is imperative; geographical and political boundaries should not be barriers to regional economic development. It is economically sound for the countries in the region to commit financial, technological and financial resources for mutual benefit. Regional blue economy strategies allowing for the maturity of such collaboration should be adopted and implemented.

170. Furthermore, collaboration is necessary to brand and grow the blue economy in the region. The experience of the Indian Ocean Commission (IOC) in collaboration is informative of the benefits of cooperation and collaboration. Among others, cruise ship terminal is an area that is pinpointed for collaboration in the region. If every country expands and builds ports and terminals in isolation, this could theoretically result in overcapacity. The Port Management Authority of Eastern and Southern Africa (PMAESA) has developed a plan for African cruise ship and pleasure yacht business for regional value addition. IOC has been helpful in addressing the safety and security issues in the area, through an observation scheme and electronic monitoring scheme, among others.

## **9. Inadequate capacity to comply with standards**

171. Blue economy activities and products must comply with acceptable international standards at all sectors to be competitive. Port facilities and turnaround time must be competitive by world market standards to attract more ships to make frequent calls. Shipping services must also be reliable to attract customers to choose Southern African countries rather than elsewhere. Ship-building and ship registration also demand compliance to internationally-agreed standards of equipment, management and survey for safety of maritime transport and marine environment protection.

172. Inadequate capacity to comply with standards will set back the efforts to establish the



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blue economy. On the part of fisheries' activities and products, standards are highly valued to be able to compete in the international market as well as the local market. Fish and fish products from the region will not be acceptable in the world market if illegal, unreported and unregulated fishing is not combated, and other health and hygiene measures are not properly taken. Only certified fish and fisheries products are acceptable in the international market, especially Europe, Japan and North America. Ships registered in the region will have a hard time trading around the world if requirements of international conventions will not be fully implemented. Ships need to be classed and certified to be able to operate freely.

173. Therefore, States must consent to be bound by the provisions of international conventions relevant to blue economy activities, and put efforts into their implementation. Conducive national policy should be adopted to enable producers to produce in accordance with required standards. Also, investments in training and skills development, equipment and facilities in the areas of need should not be ignored to maintain observation of standards for the sustainable blue economy. In most cases, where individual States find it difficult to live up to the standards, it is advised to team up with those who are already in the forefront and learn from them.

## **10. Inadequate access to market information**

174. Adequate market information is crucial in trading blue economy activities and products. Market information includes information on price and quantity of the mostly traded products, from the market to the producers. Such information allows producers to produce the required products and thus meet market needs. It also allows the producers to make the right decisions on investment levels and the products' quality

and quantity. To be useful, market information must reach the producers and other stakeholders in a timely way.

175. In Africa, most producers face a challenge in accessing market information regarding their products. This is exacerbated by poor means of communications, non-public disclosure of information from the market and poor technology, among other things. Consequently, there is a mismatch between production and market value of products, unequal bargaining power among stakeholders, and loss of profit. Likewise, blue economy products could face the same challenge.

176. States should provide adequate assistance to the producers, to enable them to adequately access market information. There should be an established legal framework for market information access, and adequate infrastructure and market information services should be provided. Improved access to market information will create more sustainable outcomes for producers, and drive new investment opportunities.

## **11. Inadequate incentives to promote blue economy initiatives**

177. Incentives are an important element in the promotion of the blue economy, which is dependent on the availability of ocean resources, among other things. To successfully establish the blue economy, there is a need to provide incentives to economic actors. The incentives may be economic or social, and have the potential to change the utilization of oceans. Stakeholders of the blue economy should consider incentives such as buy-outs, conservation agreements and alternative livelihoods, to promote blue economy initiatives, especially beyond established legal requirements. Such incentives will promote innovations for the sustainability of the blue economy in the region.

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## 12. Limited support to small and medium-sized enterprises

178. The role of SMEs in growth and development cannot be overemphasized. As the region embarks on a blue economy-anchored development path, it is expected that the role of SMEs in economic growth will become even more important. Therefore, there is a need to promote formation and growth of SMEs in the region. SMEs are important for specialization in blue economy activities, thus productivity and increased competitiveness of the products and services. Also, they provide support to large firms in input and services.

179. However, the role of SMEs to the development of the blue economy could be hin-

dered by many factors, corruption, poor or no access to finance, and complex regulatory frameworks. Complicated business registration and licensing, and unfriendly tax rates, are among the complex policies and practices that hinder SMEs' formalization. There is a need to review policies and regulations to ease SMEs' formation and thus pave the way for their access to finance, growth and fair contribution to a sustainable blue economy. SMEs should find a way for partnerships to increase their strength and participate fully in the development of the blue economy.

180. The challenges elaborated above require elaborate national efforts and strategies, complemented by regional collaboration and partnerships, among all stakeholders.

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## V. Conclusions and recommendations

### A. Conclusions

181. The study has shown that blue economy resources can anchor diversification in Southern Africa through various interrelated economic activities, including fisheries; shipping; tourism; oil, gas and minerals exploitation; renewable energy development; development of backward linkages to the ship-building and repairing industries; and aquaculture.

182. Currently, the region is benefiting from the contribution of economic sectors, especially fisheries, shipping, tourism and minerals, but there remains untapped potential for further industrial activities in other sectors – for example: the manufacture and repair of ships, ship parts and ship equipment; construction of ports infrastructure, dry ports, and terminal facilities and equipment; mineral beneficiation and value addition; and small-scale fish processing and marketing.

183. The blue economy sector also provides employment opportunities as well as an avenue for investments and support to inclusive industrialization. With the increase in demand for blue economy sector products and services such as fish, seafood, energy, ports, ships and seafarers, there are opportunities to expand activities in the sector and thus create more jobs for the youth, women and other marginalized groups in both coastal and landlocked countries.

184. The study has shown that coastal and island countries in the region have the greatest advantages in the development of the blue economy, but must collaborate with inland States. Landlocked countries could use the resources of the inland waterways – together with other connecting activities, such as education and training, ship registration and hi-tech manufacturing – to similarly benefit from the blue economy value

chain. Since each country is endowed with various natural resources, which include manpower, production of blue economy-related activities could be based on national competitive advantages. Nevertheless, both individual and collaborative efforts are needed to unlock the potential of the blue economy in the region.

185. The blue economy can catalyse inclusive industrialization and sustainable economic development in Southern Africa. States should strongly consider the blue economy and nurture a conducive environment for it to prosper in the industrialization process. Industrialization strategies should, therefore, be implemented hand-in-hand with a blue economy. Also, education, research, environmental management and private sector participation should be prioritized. Safety and security should be strengthened, while legal, regulatory and institutional frameworks need to be established for proper management and implementation.

186. The continental level efforts by the African Union to promote the blue economy through a harmonized policy framework and plans through the 2050 Africa Integrated Maritime Strategy is applauded. Similarly, the SADC and COMESA frameworks and plans, which seek to promote the blue economy as a major economic activity and mainstream the sector into regional industrialization efforts provide hope for future endeavours. Nevertheless, there are only a few indications of implementation of those policies and plans at the level of individual countries.

187. The experiences of South Africa, Mauritius and Seychelles on the blue economy could inform the decisions and strategies of other countries. Their success is mainly the result of the presence of a development vision and plan, a high level of political leadership, common understanding and buy-in for all

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stakeholders, strong monitoring, deliberate investment in priority areas, innovative financing, and a well-developed institutional and administrative framework.

188. The study has identified the following as being among the major constraints and challenges to the optimal exploitation of blue economy resources:

- a) General limited knowledge of the understanding of a blue economy and the available opportunities;
- b) Poor Safety and security in the sector;
- c) Environmental and sustainability issues of blue economy activities;
- d) Limited technology and skills;
- e) Poorly designed legal, regulatory and institutional frameworks;
- f) Limited financing for deserving projects;
- g) Limited collaboration among coastal and land-linked countries; and
- h) Poor inland transport and ports infrastructure.

189. These need to be addressed to enhance the contribution of the blue economy to inclusive industrialization, poverty reduction and employment creation.

## **B. Recommendations**

190. To facilitate the blue economy's growth as a major transformative economic sector for the improvement of peoples' well-being, economic development and environmental sustainability, various actions are needed at both national and subregional levels by the various stakeholders.

191. To provide national frameworks for development of the sector and its integration into overall national development visions and

strategies and enhance collaboration, member States should:

- a) Foster collaboration in implementation of blue economy policies and strategies among coastal, island and landlocked countries to strengthen regional value chains and benefit collaboratively from the blue economy sector;
- b) Reorient national development policies, plans and strategies to incorporate blue economy opportunities for employment creation, poverty eradication and inclusive industrialization;
- c) Establish and implement national blue economy initiatives in the light of the initiatives in the 2030 Agenda for Sustainable Development and Agenda 2063;
- d) Develop an integrated legal, regulatory and institutional framework to enable connectivity of various ocean-based and ocean-related economic sectors, and the coordination of the various activities in the blue economy sector;
- e) Promote full stakeholder participation in the development of blue economy strategies and activities for effective and informed decision-making;
- f) Develop frameworks and strategies (conducive environment) to facilitate private sector participation in blue economy opportunities, including the active involvement of SMEs along the blue economy value chains;
- g) Invest in training and development opportunities to create awareness among youths at secondary and tertiary levels, and develop blue technical and vocational education, and training institutions and programmes;
- h) Develop, strengthen and implement effective ocean management and governance frameworks for marine resources' sustainability.

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192. To facilitate the collective strategic development and implementation of regional mechanisms on the blue economy, regional economic communities and intergovernmental organizations should:

- a) Facilitate the development of harmonized regional policy, legal and regulatory frameworks and strategies to exploit blue economy resources to address the current uncoordinated approach to the sector;
- b) Expedite the implementation of prioritized regional infrastructure programmes, including those for dry and coastal ports and inland transport (road, rail and waterways);
- c) Expedite the setting up of centres of excellence for knowledge and skills development to bridge the existing capacity gap on blue economy opportunities among stakeholders – ship-building and repair skills. For example, building on the recent commitment by SADC Heads of State and Government to implement the development of virtual centres of excellence, an integrated regional skills development strategy on the blue economy is needed to be anchored by national institutions operating on some harmonized curricula;
- d) Facilitate the documentation of knowledge of the benefits of blue economy activities (develop a knowledge hub) and the development of comprehensive maritime safety and security in the sector;
- e) Provide a platform for member States to learn from other experiences of countries that have developed comprehensive

frameworks and strategies for the blue economy – for example, Madagascar, Mauritius and Seychelles;

- f) Promote the use of innovative methods of raising resources for infrastructure development to help address the transport and ports infrastructure gap, including PPPs, natural resources–infrastructure swaps, pension funds, diaspora remittances, infrastructure bonds, sovereign wealth funds, joint resource mobilization and regional infrastructure funds;
- g) To take up and develop business opportunities in the sector, the private sector should be proactive and engage regional Governments with investment proposals in the blue economy sector, taking advantage of the conducive environment.

193. To support initiatives to deepen the importance of the blue economy to regional industrialization, development partners should:

- a) Support capacity development in the member States, including the development of policies, legal and regulatory frameworks and institutional mechanisms to anchor the growth of the blue economy sector;
- b) Support mechanisms and initiatives for engagement with all stakeholders in developing policies and strategies, as well as for sharing experiences;
- c) Support initiatives by member States to mobilize financial resources to anchor blue economy investment opportunities, including through supporting domestic resource mobilization.

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## References

- African Development Bank Group (2017). The New Deal on Energy for Africa. Abidjan, Côte d'Ivoire. Available from [www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/Brochure-New\\_Deal\\_2\\_red.pdf](http://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/Brochure-New_Deal_2_red.pdf) (accessed 22 September 2019).
- African Union (2012). 2050 Africa's Integrated Maritime Strategy. Addis Ababa. Available from [https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&ved=2ahUKEwjwKvVwfPkAhUqAmMBHcvADIkQFJA-CegQIAhAC&url=https%3A%2F%2Fcggrps.com%2Fwp-content%2Fuploads%2F2050-AIM-Strategy\\_EN.pdf&usq=AOvVaw1Jtd4vrk6aFK04E-UPvsKcH](https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=3&ved=2ahUKEwjwKvVwfPkAhUqAmMBHcvADIkQFJA-CegQIAhAC&url=https%3A%2F%2Fcggrps.com%2Fwp-content%2Fuploads%2F2050-AIM-Strategy_EN.pdf&usq=AOvVaw1Jtd4vrk6aFK04E-UPvsKcH) (accessed 28 September 2019).
- African Union (2015). African charter on maritime security and safety and development in Africa (Lome Charter). Addis Ababa, Ethiopia.
- Attri, V.N. (2016). An emerging new development paradigm of the blue economy in IORA: A policy framework for the future. Indian Ocean Rim Association (IORA). Available from (accessed 22 September 2019).
- Chung, J. (2016). Economic snapshot H2 Mauritius. South Africa: KPMG International Cooperative.
- COMESA (2014). Annual report: inclusive and sustainable industrialization. Lusaka, Zambia.
- Economic Commission for Africa (ECA) (2012). Economic Report on Southern Africa 2011. Addis Ababa: United Nations Economic Commission for Africa.
- \_\_\_\_\_ (2016a). Transformative industry policy. Addis Ababa: United Nations Economic Commission for Africa.
- \_\_\_\_\_ (2016b). Africa's Blue Economy: A policy handbook. Addis Ababa: United Nations Economic Commission for Africa. Available from [www.uneca.org/sites/default/files/Publication-Files/blueeco-policy-handbook\\_en.pdf](http://www.uneca.org/sites/default/files/Publication-Files/blueeco-policy-handbook_en.pdf) (accessed 25 September 2019).
- \_\_\_\_\_ (2017). Economic growth, inequality and poverty in Southern Africa: Issues and policy options. Subregional Office South Africa (SRO-SA): United Nations Development Programme, Addis Ababa.
- Food and Agriculture Organization of the United Nations (FAO) (2018). Fisheries. Available from [www.fao.org/fisheries](http://www.fao.org/fisheries) (accessed 21 September 2019).
- Fuller, F., and others (2017). The nature: Case study of Seychelles debt conversion for marine conservation and climate adaptation, impact briefing on debt for climate swap. Seychelles.
- Grey, E. (2018). Can landlocked countries develop a blue economy? Ship Technology, 29 January. Available from [ship-technology.com/features/can-landlocked-countries-develop-blue-economy/](http://ship-technology.com/features/can-landlocked-countries-develop-blue-economy/) (accessed 22 September 2019).
- Gurumo, T. S. and M. G. Mitula (2018). Steps towards blue economy - STBE. Tanzania:
- Holmyard, N. (2018). Sustainable Blue Economy Finance Principles may shape future ocean investment. Seafood Source, 27 March. Available from <https://www.seafoodsource.com/features/sustainable-blue-economy-finance-principles-may-shape-future-ocean-investment> (accessed 22 September 2019).
- Hunt, B. and A.C. Vincent (2006). Scale and sustainability of marine bioprospecting for pharmaceuticals. New York, USA: United Nations Environment Programme - UNEP.
- ITF Seafarers (2019). Women seafarers. London: United Kingdom. International Transport Workers Federation. Available from [www.itfseafarers.org/ITI-women-seafarers.cfm](http://www.itfseafarers.org/ITI-women-seafarers.cfm).
- Khoodaruth, A., and others (2017). Exploring options for a 100% renewable energy system in Mauritius by 2050. Utility Policy, 44:38–49.



- Maritime Protection Services and Governance (2014). Unlocking the economic potential of South Africa's oceans. Retrieved from, <https://www.operationphakisa.gov.za/operations/oel/pmpg/Marine%20Protection%20and%20Govenance%20Documents/Marine%20Protection%20and%20Govenance/OPOceans%20MPSG%20Executive%20Summary.pdf>.
- Martin, R. (2016). Floating Wind Farms: Great Concept, Implausible Economics. MIT Technology Review, 18 May. Available from [www.technologyreview.com/s/601481/floating-wind-farms-great-concept-implausible-economics/](http://www.technologyreview.com/s/601481/floating-wind-farms-great-concept-implausible-economics/) (accessed 21 September 2019).
- Missouri Botanical Garden (MBG) (2002). Food from the Sea. Available from <http://mbgnet.info/salt/oceans/food.htm> (accessed 21 September 2019).
- Moyo, T. (2017). Promoting Inclusive and Sustainable Industrialization in Africa: A review of progress, challenges and prospects. South Africa: University of Limpopo.
- NDoT (2011). Growth of South African Maritime Transport Industry. Retrieved from, <http://www.transport.gov.za/documents/11623/20720/Part+1GrowthSAMaritimeTransportIndustry.pdf/353cc851-cb16-4c55-aeec-21a6cc2c0dae>.
- Organization for Economic Cooperation and Development (OECD) (2016). The Ocean Economy in 2030. Available from [www.oecd.org/sti/ind/Session%201\\_b%20-%20Claire%20Jolly%20-%20Web.pdf](http://www.oecd.org/sti/ind/Session%201_b%20-%20Claire%20Jolly%20-%20Web.pdf) (accessed 21 September 2019).
- \_\_\_\_\_ (2018). Strengthening SMEs and entrepreneurship for productivity and inclusive growth. Mexico City, Mexico.
- Royeppen, A. and F. A. Kornegay (2015). Southern Africa and the Indian Ocean – South Atlantic nexus: Blue economy and prospects for regional cooperation. Pretoria South Africa: Institute for Global Dialogue.
- Southern African Development Community (SADC) (2012). Regional Infrastructure Development Master Plan, Executive Summary.
- \_\_\_\_\_ (2015). Industrialization Strategy and Roadmap 2015–2063. Gaborone, Botswana.
- United Nations Conference on Trade and Development (UNCTAD) (2014). The Oceans Economy: Opportunities and Challenges for Small Island Developing States. Geneva.
- \_\_\_\_\_ (2017). The oceans economy: Opportunities and challenges for small island developing States. Geneva.
- \_\_\_\_\_ (2018). Review of Maritime Transport 2017. Geneva.
- United Nations Environment Programme (UNEP) (2015). Blue economy: Sharing success stories to inspire change. Available from <http://wedocs.unep.org/handle/20.500.11822/9844> (accessed 26 September 2019).
- \_\_\_\_\_ (2015). The role of technology and innovation in inclusive and sustainable industrial development overview. Vienna, Austria.
- United Republic of Tanzania Ministry of Agriculture, Livestock and Fisheries (2016). The Tanzanian Fisheries Sector Challenges and Opportunities.
- World Tourism Organization (UNWTO).(2017).. UNWTO Tourism Highlights. Madrid. Available from [http://people.unica.it/carlamassidda/files/2017/06/UNWTO\\_Tourism-Highlights\\_2017.pdf](http://people.unica.it/carlamassidda/files/2017/06/UNWTO_Tourism-Highlights_2017.pdf) (accessed 22 September 2019).
- World Bank (2017a). Board Approves over \$20 Million for Seychelles' Sustainable Fisheries and Marine Resources Conservation. Available from [www.worldbank.org/en/news/press-release/2017/09/29/board-approves-over-20-million-for-seychelles-sustainable-fisheries-and-marine-resources-conservation](http://www.worldbank.org/en/news/press-release/2017/09/29/board-approves-over-20-million-for-seychelles-sustainable-fisheries-and-marine-resources-conservation) (accessed 26 September 2019).
- \_\_\_\_\_ (2017b). Report No. 120680-MG, 8 November. Available from <http://documents.worldbank.org/curated/en/854591512874822715/pdf/MADAGASCAR-PD-11142017.pdf> (accessed 26 September 2019).

---

World Bank and United Nations Department of Economic and Social Affairs (UN DESA) (2017). The Potential of the Blue Economy: Increasing Long-term Benefits of the Sustainable Use of Marine Resources for Small Island Developing States and

Coastal Least Developed Countries. World Bank, Washington, D.C. Available from

<https://openknowledge.worldbank.org/handle/10986/26843> (accessed 27 September 2019).



