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# GOVERNING AFRICA'S BLUE ECONOMY: THE PROTECTION AND UTILISATION OF THE CONTINENT'S BLUE SPACES

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## Abstract

*In Agenda 2063 the African Union (AU) prioritised the utilisation of the resources in oceans as the new frontier of its blue economy. Africa's "inland waterways" were added to the scope of the blue economy in the 2050 AIM Strategy. Most of Africa's marine ecosystems and large water spaces are shared by different countries which requires the transcendence of national interests, the harmonisation of national and regional policies and multi stakeholder participation in strong institutions guided by a legal framework. The protection, securitisation and sustainable utilisation of blue spaces are key pillars for the governance of the blue economy. The first part focuses on the contribution of Africa's blue spaces to the development of the continent, the growing challenges to these spaces in the twenty-first century and UNCLOS' legal zoning of oceans to manage their protection and utilisation. The second part focuses on the governance of Africa's blue economy and the security challenges to Africa's oceans. The last part focuses on the Benguela Current Large Marine Ecosystem (BCLME) and finds the Benguela Current Commission (BCC) to be legitimate, accountable and its*

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*policies adaptive and guided by human needs, ecosystem sustainability, and long-term economic growth.*

**Keywords**: Africa's blue economy; transboundary water governance; Africa's maritime security; The Benguela Current Large Marine Ecosystem (BCLME)

## Introduction

The Atlantic, Indian and Southern Oceans and the Mediterranean and Red Seas border Africa, while 38 of Africa's 54 states, some of which are island states, have direct access to these blue spaces. Africa's oceans and seas enable 90 per cent of the continent's trade with the rest of the world[1]. Africa's rivers cross over 64 per cent of the continent's land area and provide food and fresh water for approximately 77 per cent of the population[2] while the continent's lakes host an abundance of food resources, oil and minerals highly valued in the twenty-first century, such as gold, tin, tantalum and tungsten.[3] Yet, Africa's oceans and inland water spaces are challenged and under stress. The World Bank[4] indicates that "only 58 per cent of Africans have access to safe drinking water, less than 5 per cent of cultivated land is irrigated, and only 10 per cent of hydroelectricity potential is utilized". In 1996 the Food and Agriculture Organization (FAO) found that even though Africa's population doubled between 1961 and 1996, fish only contributed one-fifth of the protein

[1] UNECA, Africa's Blue Economy. A Policy Handbook, 2016 <https://www.uneca.org/sites/default/files/PublicationFiles/blue-eco-policy handbook_eng_ 1nov.pdf> accessed on 22 August 2019.

[2] WWF, Congo Basin, 2019 <https://www.worldwildlife.org/places/congo-basin> accessed on 13 September 2019.

[3] Joanne Lebert, Conflict-Prone Minerals in the Great Lakes Region of Africa, 2016 <https://www.africaportal.org/publications/conflict-prone-minerals-in-the-great-lakes-region-of-africa-2> accessed on 13 July 2019.

[4] The World Bank, Cooperation in International Waters in Africa (CIWA), 2019 http://pubdocs.worldbank.org/en/737321470169352774/pdf/CIWA04pager0low_1.pdf> accessed on 4 October 2019.

consumed by Africans.[5] These facts raise questions about the security of the ecosystems and resources of Africa's blue spaces and the access of ordinary Africans to them. Africa's current population of 1.3 billion is expected to double by 2050[6] which explains the focus on the economic security of the blue economy and the ability of Africans to protect and sustainably utilise the resources in their blue spaces.

The blue economy concept originated during the 1992 Earth Summit in Rio and became an item on the international agenda during the 2012 Rio+20 Summit in Brazil. The concept tends to be rather fluid and ambiguous, and there is no clarity on the scope of the blue economy which also involves the harnessing of international waters, the global commons.

The blue economy depends on the sustainable harnessing of the resources in blue spaces to enable economic growth and the fulfilment of human needs for food security and social equity.[7] The World Bank therefore explain the aim of the blue economy strategy as "to promote economic growth, social inclusion, and the preservation or improvement of livelihoods while at the same time ensuring the sustainability of the oceans and coastal areas".[8] Michelle Voyer *et al* found a growing trend towards the commodification and valuation of nature, the designation and delimitation of spatial boundaries in the oceans and increasing securitization of the world's oceans.

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[5] FAO, The State of World Fisheries and Aquaculture Contributing to Food Security and Nutrition for All, 2016 <http://www.fao.org/3/a-i5555e.pdf> accessed on 3 September 2019.

[6] UNDESA, Growing at a Slower Pace, World Population is Expected to Reach 9.7 Billion in 2050 and Could Peak at Nearly 11 Billion Around 2100, 2019 <https://www.un.org/development/desa/en/news/population/world-population-prospects-2019.html> accessed on 22 September 2019.

[7] The World Bank, 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, 2017, <www.worldbank.org> accessed on 12 July 2019.

[8] Michelle Voyer *et al*., "Shades of Blue: What Do Competing Interpretations of the Blue Economy Mean for Oceans Governance?" in *Journal OF Environmental Policy & Planning*, no. 5, 2018, pp. 595-616.

The first part of this article provides a broad overview of the unique contribution of Africa's large water spaces to the development of the African continent and its people. The second part explains the zonation of the world's oceans by the United Nations Convention on the Law of the Sea (UNCLOS) as a precondition for their protection and utilisation. The third part highlights continental and regional efforts to govern Africa's blue economy. The last part focus on the transboundary management of one of Africa's large marine ecosystems (LMEs), the resource-rich Benguela Current Large Marine Ecosystem (BLME) in Southern Africa, which is managed by the Benguela Current Commission (BCC), "the world's first fully institutionalised and operationalized intergovernmental, multi-sectoral LME commission."[9]

## The contribution of Africa's blue spaces to the development of the continent and its people

For millennia the lives of ordinary Africans, citizens in small villages, cities, states and large empires, have been constructed around their spiritual and physical experiences of the oceans, rivers, and lakes around them. These water spaces fulfil multiple economic purposes, ranging from providing fresh water, food, raw materials, employment and entertainment to hosting precious minerals, such as gold Markus Balkenhol and Michiel Swinkels[10] also highlight oceans' less practical role, "…the sea's amorphous boundlessness speaks to cultural imaginations of freedom, adventure and rites of passage". Africa's surrounding oceans have since antiquity enabled the inhabitants to explore other continents and their inhabitants. Archaeological findings confirm the existence of

[9] Taylor Henshaw, What Works in Water and Ocean Governance. Impact Stories from the UNDP Water and Ocean Governance Programme, 2018 <https://www.undp.org/content/dam/undp/library/Environment%20and%20Energy/Water%20and%20Ocean%20Governance/What_Works_in_Water_and_Ocean_Governance.pdf> accessed on 14 August 2019.

[10] Markus Balkenhol, Michiel Swinkels, "The Sea as an Eminently Human Affair" in *Etnofoor*, no. 1, 2015, pp. 7-11.

ancient transcontinental trade networks between Africa, and the civilisations at the border of the Mediterranean Sea, Atlantic and Indian Oceans. These trade routes brought wealth, but also slavery as they opened Africa for other's to trade with, conquer, enslave, and exploit.

A variety of products, such as crops, salt, sugar, amber, glass beads, animal skin, gold, ivory, and slaves were traded along these routes[11] thousands of years before Ibn Batutta left his Moroccan home early in the fourteenth century on his *rilha* (voyage) to the Middle East, Asia, Africa, and India[12] and even before Marco Polo, a Venetian merchant, journeyed across East Asia in the thirteenth century.[13] These trade networks introduced new crops into Africa thereby enriching the diets of inhabitants and transforming their agricultural activities. For example, barley, wheat, bananas, and spices came from Asia, and maize and cassava from the Americas.[14]

Africa's rivers played equally important roles in the lives of Africans. More than 5000 years ago the River Nile's gift to the inhabitants of the region, rich alluvial soil annually deposited during flooding, led to the rise of the powerful Egyptian Empire. Their cleverly designed irrigation systems ensured the utilisation of the Nile's water for the production of wheat, chickpeas, garlic, and papyrus.[15] The Egyptian Empire disintegrated after the invasion of Alexander the Great, leader of the Macedonian Empire

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[11] Claire Cock-Starkey, 8 Trade Routes That Shaped World History, 2016. <http://mentalfloss.com/article/86338/8-trade-routes-shaped-world-history> accessed on 1 August 2019.

[12] Kris Hirst, "The Life and Travels of Ibn Battuta, World Explorer and Writer" in *The New York Times*, 28 sept. 2018 <https://www.thoughtco.com/ibn-battuta-biography-travels-4172920> accessed on 20 july 2019.

[13] Adrianne Daggert, "The Indian Ocean: A Maritime Trade Network History Nearly Forgot" in *Discover Magazine*, 2016 <http://discovermagazine.com/2016/nov/trading-places> accessed on 13 August 2019.

[14] John Parker, Richard Rathbone, *African History. A Very Short Introduction*, New York: Oxford University Press, 2007, p. 14.

[15] Joshua Mark, Carthage, *Ancient History Encyclopedia*, 2018 <https://www.ancient.eu/carthage> accessed on 11 August 2019.

in 332 B.C. but for long thereafter Egypt fulfilled its role as the breadbasket of the Roman Empire.[16] In the twenty-first century national interests motivate Egypt's claims to the Nile at the expense of the claims of other states, such as Ethiopia. The Nile Basin initiative (NBI) of 1999 failed to give the 10 riparian countries a fair share of the river. The Nile River Cooperative Framework was only signed by six riparian countries, Egypt and Sudan excluded. The conflicting demands of riparian states to the Nile only intensified when Ethiopia began to build the Grand Ethiopian Renaissance Dam (GERD) in 2011.[17]

In West Africa the elaborate network of lakes, streams, and marshes of the Niger River have for centuries fulfilled the food and trade needs of the powerful empires of Ghana, Mali, Songhai, and Kamen–Borno and the kingdoms of Yoruba and Benin[18]. Products, such as gold, silk, velvet, iron, ivory, slaves and animal skin filled the boats that crossed the Niger long before the Trans-Atlantic slave trade.[19] The arrival of the Portuguese in the middle of the fifteenth century brought Christianity, the Trans-Atlantic slave trade and the development of coastal ports, such as Axim in Ghana, Luanda in Angola and Lagos in Nigeria.[20] In the twenty-first century one third of West Africa's population live in the coastal areas which generate approximately 56 per cent of the region's GDP.[21] The Niger basin is shared

[16] Oishimaya Sen Nag, Hellenistic Ancient Egypt (Argean and Ptolemaic Kingdoms), *World Atlas*, 2017 <https://www.worldatlas.com/articles/hellenistic-ancient-egypt-argean-and-ptolemaic-kingdoms.html> accessed on 10 August 2019.

[17] Salem Solomon, Mohamed Elshinnawi, Ethiopia Condemns Egyptian Proposal for Nile Water Usage, 2019 <https://www.voanews.com/africa/ethiopia-condemns-egyptian-proposal-nile-water-usage> accessed on 4 November 2019.

[18] Inger Andersen *et al.*, *The Niger River Basin: A Vision for Sustainable Management. Directions in Development*, Washington, DC: World Bank, 2005, p. 8.

[19] *David Conrad, Empires of medieval West Africa: Ghana, Mali, and Songhay*, New York: Facts on File, 2005, pp. 8, 11-13.

[20] Filipa Ribeiro da Silva, "The Slave Trade and the Development of the Atlantic Africa Port System, 1400s–1800s" in *The International Journal of Maritime History*, no.1, 2017, p. 142.

[21] Inger Andersen, *op. cit.*, pp. x-xi.

by more than 200 million people, but the transboundary management of this river basin remains an challenge after twenty years of negotiations.[22]

The Afro-Arabic Swahili Empire in East Africa occupied an area of more than 3000 km, from Mogadishu in the north to Mozambique in the south. This Empire has for centuries dominated the Indian Ocean trade network until the Portuguese explorer, Vasco da Gama, sailed around the southern tip of Africa in 1498. Shortly thereafter, in 1505, Portuguese ships attacked the Mombassa port and thereafter dominated the East African trade networks.[23] [24] Today the long shore of Lake Victoria, once a life support system for the powerful East African Buganda Kingdom, extends into five countries, Kenya, Tanzania, Uganda, Burundi, and Rwanda and serves the food, religious, cultural and recreational needs of more than 30 million people.[25] This lake also provides hydropower and irrigation for the riparian states. Pollution and the unsustainable utilisation of the resources in the wetlands and catchment areas of Lake Victoria endanger 76 per cent of its freshwater species.[26] Moreover, illegal industrial-scale sand mining in the wetlands of rivers and lakes in Uganda's Kulungu district also destroys habitats and causes flooding and soil erosion because this process "…requires stripping the soil bare, meaning the topography of the area (vegetation, animals, soil, and bedrock) are transported to different

[22] The World Bank, *op. cit.*, 2019.

[23] Randall Pouwels, Chap Kusimba, "The Rise and Fall of Swahili States" in *The International Journal of African Historical Studies*, no.2, 2000, pp. 9-10, 156.

[24] Mark Cartwright, Swahili Coast, *Ancient History Encyclopedia*, 2019 <https://www.ancient.eu/Swahili_Coast/#:~:targetText=The%20Arrival%20of%20the%20Portuguese,the%20east%20coast%20of%20Africa> accessed on 16 October 2019.

[25] Daniel El-Noshokaty, "Big Lake, Big Problems. Is There Still Time to Secure the Water Resources Lake Victoria Provides?" in *Konrad Adenauer Stiftung International Reports* no. 3, 2017, p. 22.

[26] Catherine Sayer, Laura Máiz-Tomé, William Darwall, *Freshwater Biodiversity in the Lake Victoria Basin. Guidance for Species Conservation, Site Protection, Climate Resilience and Sustainable Livelihoods*, Cambridge: IUCN, 2018, p. 47.

areas".[27] Lake Tanganyika contains 17 per cent of the world's surface water but it was also labelled by the UNDP as the most "threatened Lake of 2017".[28]

The availability of fresh water and the discovery of gold in Southern Africa's Zambezi River led in the eleventh century to the rise of the Kingdom of Great Zimbabwe that settled between the Zambezi and Limpopo Rivers and dominated East African trade in cattle, pottery, gold and copper until drought led to its demise[29] In the twenty-first century 13 of the 15 Southern African river basins, such as the Limpopo, Zambezi and Cubango-Okavango, are shared by the members of the Southern African Development Community (SADC). For example, the Zambezi River basin is shared by approximately 40 million people who live in 8 riparian countries, Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia, and Zimbabwe. The transboundary management of these river basins remains a challenge. Furthermore, South Africa's extremely long coastline is not only crucial for the world's maritime trade, but also provides opportunities for the country's blue economy which can by 2033 contribute up to R177 billion to the country's GDP by creating a billion jobs[30] Current developments in offshore oil and gas exploration, aquaculture and marine tourism benefits South Africa's blue economy strategy.

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[27] Paul Tajuba, Uganda: How Sand Mining is Compromising Livelihoods Near Lake Victoria, *Daily Monitor* (Uganda), 2016 <https://www.business-humanrights.org/en/uganda-how-sand-mining-is-compromising-livelihoods-near-lake-victoria> accessed on 10 August 2019.

[28] UNDP, Lake Tanganyika, what the future holds, 2017 <https://stories.undp.org/lake-tanganyika-what-the-future-holds> accessed on 16 August 2019.

[29] Innocent Pikirayi, "Great Zimbabwe in Historical Archaeology: Reconceptualizing Decline, Abandonment, and Reoccupation of an Ancient Polity, A.D. 1450–1900" in *Historical Archaeology*, no.1, 2013, p. 26.

[30] Christian M. Rogerson, Jayne Rogerson, "Emergent Planning for South Africa's Blue Economy. Evidence from Coastal and Marine Tourism" in *Urbani Izziv*, Special Issue, 2019, p. 27.

The utilisation of the resources in Africa's oceans and seas have for centuries given foreigners with big ships and more resources preferential access to these waters. Sovereignty over the resources in the internal waters of Africa's littoral states remained problematic until the adoption of the United Nations Convention on the Law of the Sea (UNCLOS) in 1982. UNCLOS recognised the power of littoral states over their exclusive economic zones (EEZs) and as Barry Ryan explains, "Zones assign a function and ascribe a hierarchy of value to space".[31]

## The 1982 United Nations Convention on the Law of the Sea (UNCLOS)

UNCLOS entered into force on 16 November 1994 and provides a legal framework for the spatial division, protection and utilisation of the world's oceans.[32] UNCLOS divides the world's oceans and seas in five maritime zones. Littoral states have the right to protect and utilise the first zone, the i*nternal waters* which borders them. These states also have unlimited jurisdiction in the second zone, the *territorial sea*, subject to the right of the 'innocent passage' of the ships of other states (Article 12). Littoral states also have the right to "prevent infringement of its customs, fiscal, immigration or sanitary laws and regulations within its territory or territorial sea" in the third zone, *contiguous sea*, which only extends "24 nautical miles from the baselines…" (Article 33). Littoral states have sovereignty to explore, exploit, conserve and manage the living and non-living natural resources in the fourth zone, the *Exclusive Economic Zone* (EEZ), which is the 200 nautical mile zone between the territorial and high seas (Articles 56 to 75). UNCLOS thus gives Africa's littoral states a legal claim over their maritime resources which have for centuries been threatened by the illegal activities of criminal groups and foreign fishing

[31] Barry Ryan, "The Disciplined Sea: A History of Maritime Security and Zonation" in *International Affairs*, no. 5, 2019, p. 1055.
[32] UNCLOS, 1982 <www.un.org/Depts/los/index.htm> accessed on 10 July 2019.

fleets. The EEZ has gained new importance in the twenty-first century as the site of the blue economy. The high seas and deep seabed form the fourth zone, *internal waters,* the "common heritage of mankind (Article 136), its exploitation is regulated by the 1994 *Agreement Relating to the Implementation of Part XI of the Convention on the Law* and the International Seabed Authority (ISA).

Illegal, unregulated and overfishing in African waters depletes fish stock and decreases the food security of local communities and the ability of littoral states' to sustainably manage their own marine resources. To regulate the harvesting of fish resources in the EEZs of littoral states and in the high seas, the UN adopted the Agreement for the Implementation of the Provisions of the Convention relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UN Fish Stocks Agreement 1995.[33]

## Governing Africa's blue economy

Africa's commitment to harness its blue economy as a vehicle for sustainable development is evident in Agenda 2063: The Africa We Want, The 2050 AIM Strategy, and The Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa. Article 1 of the African Charter on Maritime Security and Safety and Development in Africa (Lomé Charter) includes oceans, inland water spaces, and underground water in the blue economy and states the core aim as the improvement of "social wellbeing".[34] The 2018 Sustainable Blue Economy Conference in Nairobi, Kenya, focused on the development of a blueprint for the implementation of Agenda 2063 goals and identified the protection and utilisation of

[33] UNECA, *op. cit.*, p. 52.

[34] AU, African Charter on Maritime Security and Safety and Development in Africa (Lomé Charter), 2016 <https://au.int/sites/default/files/treaties/37286-treaty-0060__lome_charter_e.pdf> accessed on 25 July 2019.

oceanic fisheries and aquaculture resources as key areas.[35] In 2019 the African Development Bank (ADB) announced its Blue Economy Flagship under the Feed Africa Strategy 2016-2025 and identified key aims as increasing "food and fish self-sufficiency" and integrating "inland and coastal resource management for climate-resilient economic development".[36]

The successful governance of Africa's blue economy requires the political will to share the management of transboundary water spaces and to commit to collective decision making guided by a legal agreement and a legitimate, accountable and efficient institutional framework. Policies must be "well-informed, precautionary, and adaptive; accountable and transparent".[37] The harmonisation of national, regional and continental policies and frameworks are vital for the governance of the blue economy.[38] The success of the blue economy strategy depends on the protection, securitisation and sustainable utilisation of Africa's water ecosystems. Protecting the sites of "extractive industries and practices"[39] involves the maintenance of their "diversity, productivity, resilience, core functions, and

[35] AUDA-NEPAD, Development of the AUDA-NEPAD Blue Economy Programme, Messages from the stakeholders, 2019 <https://www.nepad.org> accessed on 4 September 2019.

[36] ADB, Blue Economy Flagship. A Briefing Note for Partnership. A Flagship under the Feed Africa Strategy 2016-2025, 2018, p. 6 <https://www.riob.org/sites/default/files/documents/AfDB%20Blue%20Economy%20Flagship%20_%20Briefing%20Note_November%202018.pdf> accessed on 4 September 2019.

[37] WWF, Principles for a Sustainable Blue Economy, 2015 <https://www.greengrowthknowledge.org/sites/default/files/downloads/resource/Principles%20for%20a%20Sustainable%20Blue%20Economy.pdf> accessed on 12 July 2019.

[38] Jonty Rawlings, Harmonisation of Transboundary Water Governance: Advance or Align?, One World. Africa Portal, 2019 <https://www.africaportal.org/features/harmonisation-transboundary-water-governance-advance-or-align> accessed on 3 October 2019.

[39] Timothy Walker, Securing a Sustainable Oceans Economy: South Africa's Approach. Pretoria. Institute of Security Studies, 2018, p. 6 <https://www.africaportal.org/publications/securing-sustainable-oceans-economy-south-africas-approach> accessed on 3 October 2019.

intrinsic value".[40] Bueger and Edmunds explain maritime security as comprising four security domains.[41] This view is broadened by the blue economy because its scope includes "oceans, coasts, seas, rivers, lakes and groundwater, and associated resources".[42] National security refers to the sovereignty of littoral states over their EEZs and the ability of riparian states to ensure that they acquire a fair share of lakes and rivers. Efforts to protect the ecosystems of littoral states' EEZs and of large river basins contribute to environmental security, while economic security requires access to and the sustainable utilisation of the resources in the inland water spaces and marine environments. Enhancing the infrastructure of ports to improve maritime trade and the improvement of tourism infrastructure can increase economic growth. Human security exists when human needs, such as access to food are satisfied. Ultimately, social justice and social well-being are the key drivers of the blue economy. The fulfilment of Africa's blue economy expectations are therefore based on the economic potential of resources in the EEZs of littoral states and in freshwater inland lakes, river basins. The deep seabed, a common space with no national jurisdiction, hosts the majority of non-living resources and access to these resources requires the permission of the IMO. Nevertheless, challenges to the security of littoral states' maritime resources often originate on land.

## The security of Africa's oceans

Piracy is one of the oldest illegal activities in the world's oceans but modern piracy in the Horn of Africa impacted profoundly on maritime security in the twenty-first century. Somalia, an extremely poor, destabilised country with a population very depended on the fish supplies in its coastal waters, has taken centre stage in the piracy activities that have taken place in the Horn of Africa since the 1980s. Living in a country with

[40] WWF, *op. cit.*, 2015.
[41] Christian Bueger, Timothy Edmunds, "Beyond Seablindness. A New Agenda for Maritime Security Studies" in *International Affairs*, no. 6(93), pp. 1299-1300.
[42] UNECA, *op. cit.*, p. 2.

no central authority and with no coastguard to protect their fish against the illegal fishing activities of trawlers from Yemen, Taiwan, and South Korea, Somali fishermen[43] decided to attack these ships. The illegal dumping of nuclear waste in Somali waters, which is a contravention of Article 19 of UNCLOS, also strengthened their resolve. Pirate attacks on commercial ships passing the Horn of Africa have since 2000 intensified when, edged on by their successes and greed, the pirates adopted new equipment, such as speedboats and rocket-propelled grenades, and reached more targets faster and at further distances than before. Between 2006 and 2007 Somali pirate attacks increased by 134 per cent[44] and also spread along the East African coast, thus forcing South Africa, Tanzania, and Mozambique to sign a tripartite agreement to counteract the piracy threat[45]

UN Security Council Resolution 1851 of 2008 was the first of a series of resolutions which approved the deployment of international naval forces against the pirates. Meanwhile, twenty states from the Arabian Peninsula and Africa's Indian Ocean region, adopted the Code on the Repression of Piracy and Armed Robbery against Ships in the Western Indian Ocean and the Gulf of Aden (The Djibouti Code).[46] This Code was supported by the IMO which focused on the protection of the shipping industry and the sovereignty of littoral states over the EEZs. The IMO failed to link maritime, environmental and human security[47] and thus ignored the

[43] Abdi Samatar, Mark Lindberg, Basil Mahayni, "The Dialectics of Piracy in Somalia: The Rich Versus the Poor" in *Third World Quarterly*, no.8, 2011, pp. 1377-1379.

[44] Ermina Voccia, The Economic Consequences of Somali Piracy in the Mediterranean Region, 2015 <http://mediterraneanaffairs.com/the-economic-consequences-of-somali-piracy-inthe-mediterranean-region> accessed on 10 August 2019.

[45] Francis Kornegay, "South Africa and SADC in the Indian Ocean Maritime Security Equation" in *Journal of the Indian Ocean Region*, no. 1, 2012, pp. 71-89.

[46] IMO, The Djibouti Code of Conduct, 2017 <http://www.imo.org/en/OurWork/Security/PIU/Pages/Content-and-Evolution-of-the-Djibouti-Code-of-Conduct.aspx> accessed on 3 August 2019.

[47] Edwin Egede, Maritime Security: Implementing the AU's AIM Strategy, 2018 <https://www.africaportal.org/features/maritime-security-implementing-aus-aimstrategy> accessed on 20 August 2019.

humanitarian crisis in Somalia and the contribution of illegal fishing and the dumping of nuclear waste to piracy.

Ongoing illegal activities in the Gulf of Guinea motivated 25 Central and West African nations to sign the Yaoundé Declaration, a regional anti-piracy agreement, on 25 June 2013.[48] This Declaration views maritime security as a human security concern, and prioritises poverty eradication and the protection of the region's maritime environment.[49] For example, the Declaration highlights the protection of the rich biodiversity of the Guinea Current large Marine Ecosystem (GCLME) which sustains the populations of 16 African countries.[50] It also aims to create a "Coordination Centre on Maritime Safety and Security for Central and West Africa" and to implement a new "Code of Conduct Concerning the Prevention and Depression of Piracy, Armed Robbery Against Ships, and Illegal Maritime Activities in West and Central Africa".[51] This Code highlighted the need for a continental vision of human centered maritime security.

By adopting the 2050 AIM Strategy in January 2014, the AU agreed to a shared continental vision and strategy to guide appropriate responses to maritime insecurity.[52] This Strategy links maritime insecurity to "events on the land"[53] and adopts an inclusive, multidimensional approach to maritime security threats based on "the understanding of existing and potential threats to the adoption of a coordinated approach, a common plan

[48] Ian Ralby, A Human Security Approach to Maritime Security in the Gulf of Guinea, 2016 <https://comparativejurist.org/2016/08/31/a-human-security-approach-to-maritimesecurity-in-the-gulf-of-guinea> accessed on 1 August 2019.

[49] European External Action Service, EU Maritime Security Factsheet: The Gulf of Guinea, 2018 <www.eeas.europa.eu> accessed on 14 August 2019.

[50] UNEP, Blue Economy Concept Paper, 2012 <https://sustainabledevelopment.un.org/content/documents/2978BEconcept.pdf> accessed on 1 July 2019.

[51] Wendy Zeldin, Africa: New Regional Anti-Piracy Agreement, *Global Legal Monitor*, Library of Congress, 2013 <http://www.loc.gov/law/foreign-news/article/africa-new-regional-anti-piracy-agreement> accessed on 12 August 2019.

[52] Edwin Egede, *op. cit*.

[53] Timothy Walker, *op. cit*., p. 2.

and strategy".[54] This Strategy is ambitious and struggles to allocate resources and implement decisions. For example, the High-Level College of Champions and the Strategic Foresight Marine Task Force still needs to be established and the Combined Exclusive Maritime Zone of Africa (CEMZA) is also only in a planning phase. Nevertheless, the 2050 AIM Strategy confirms Africa's preference for an inclusive African approach to the causes of maritime security, the protection of maritime resources and human development needs.

In 2016 the AU adopted the African Charter on Maritime Security and Safety and Development in Africa (Lomé Charter). This Charter linked maritime security with the blue economy.[55] It focuses on maritime economic activities in the EEZs of littoral states, but also acknowledges the contribution of seas and oceans to Africa's socio economic development. The 2050 AIM Strategy motivated the revision of the Djibouti Code in 2017, signed at Jeddah, Saudi Arabia by fifteen states. The Jeddah Code broadens maritime security to include the security of resources and recognises the importance of oceans for the blue economy. The Jeddah Code also adopts a broad view of transnational organised crime by including "arms trafficking; trafficking in narcotics and psychotropic substances; illegal trade in wildlife; crude oil theft; human trafficking and smuggling; and illegal dumping of toxic waste".[56]

Maritime security and the protection of the biodiversity of ocean ecosystems are also important issues in the Southern African region where members of the SADC protect coastlines in both the Atlantic and Indian Oceans. The SADC adopted a draft maritime security strategy document in 2011 which was reviewed in July 2019 when 36 delegates representing 11 countries met in South Africa to finalise the draft SADC Integrated

[54] AU, 2050 Africa's Integrated Maritime Strategy (2050 AIM Strategy), 2012 <https://wedocs.unep.org/bitstream/handle/20.500.11822/11151/2050_aims_srategy.pdf> accessed on 14 August 2019.
[55] AU, *op. cit.*, 2016, p. 2
[56] IMO, *op. cit.*

Maritime Security Strategy (IMSS).[57] The SADC also adopted a protocol and an Industrialization Strategy and Roadmap (2015-2063) which linked oceans to the blue economy.

## Africa's Current Large Marine Ecosystems (CLMEs)

Current Large Marine Ecosystems (CLMEs) are approximately 200,000 km$^2$ long coastal upwelling ecosystems and include "coastal waters from river basins and estuaries to the seaward boundary of continental shelves and the outer margins of coastal currents".[58]Africa has five CCLMEs. The Somali CLME is in the western Indian Ocean and stretches from the Comoros Islands and Madagascar to the Horn of Africa. The Canary CLME flows off the coast of Northwest Africa while the Guinea CLME covers an area extending from Guinea-Bissau in the north to Gabon and Angola in the south. The warm Agulhas CLME flows in the southern Indian Ocean and borders the cold Benguela CLME.[59] The announcement in 2018 of the discovery of a new CLME, the Southwest Madagascar Coastal Current (SMACC) flowing south along the southwestern coast of Madagascar, indicates that Southern Africa is uniquely blessed with large current marine ecosystems[60] Nevertheless, Kenneth Sherman and Hashali Hamukuaya[61] explain that even though LMEs produce 80% of the world's annual marine fish catch, their overexploitation impacts negatively on the

[57] Catherine Austin, *op. cit*.

[58] GEF, The Benguela Current, 2016 <https://www.thegef.org/news/benguela-current> accessed on 10 July 2019.

[59] Nnaemeka Chukwuone *et al.* "Valuing the Guinea Current Large Marine Ecosystem: Estimates of Direct Output Impact of Relevant Marine Activities" in *Ocean & Coastal Management*, no. 3-4, 2009, pp. 189-196.

[60] Juliano Ramanantsoa, *et al*., Uncovering a New Current: The Southwest Madagascar Coastal Current, Geophysical Research Letters, 2018 <https://agupubs.onlinelibrary.wiley.com/doi/abs/10.1002/2017GL075900> accessed on 12 July 2019.

[61] Kenneth Sherman, Hashali Hamukuaya, "Sustainable Development of the World's Large Marine Ecosystems" in *Environmental Development*, no.1, 2016, p. 1.

development of LME resources which can potentially contribute $12 trillion annually to the global economy.

## The Southern African region

Various blue economy opportunities, such as shipping, fisheries, the aquaculture industry, mining and marine tourism exist in the SADC region. The discovery of new non-living resources in the EEZs of Southern African littoral states adds to the demand for coordinated multi-stakeholder management. The SADC Industrialization Strategy and Roadmap (2015-2063), focuses on oceans as development spaces and instruments for sustainable growth in the region.[62] In 1995 the SADC adopted a Protocol on Shared Water Courses which was revised in 2000 to harmonise SADC goals with the Millennium Development Goals (MDGs). This Protocol guides the SADC 1999 Regional Strategic Action Plan (RSAP) on Integrated Water Resources Development and Management, which serves as a framework for the "sustainable, integrated and coordinated development, utilisation, protection and control of national and transboundary water resources in the region".[63] The RSAP follows an incremental approach and created 5 year plans, starting in 1999, to govern the water sources in the Southern African region. Yet, the equitable sharing of water spaces often remains an elusive ideal as is manifested in Kenya's dispute with Somalia over an oil and gas rich territory in the Indian Ocean, the longstanding border dispute between South Africa and Namibia involving the Orange River and the diamond rich waters of South Africa's northern Cape region and the dispute between Malawi and Tanzania over Lake Malawi.

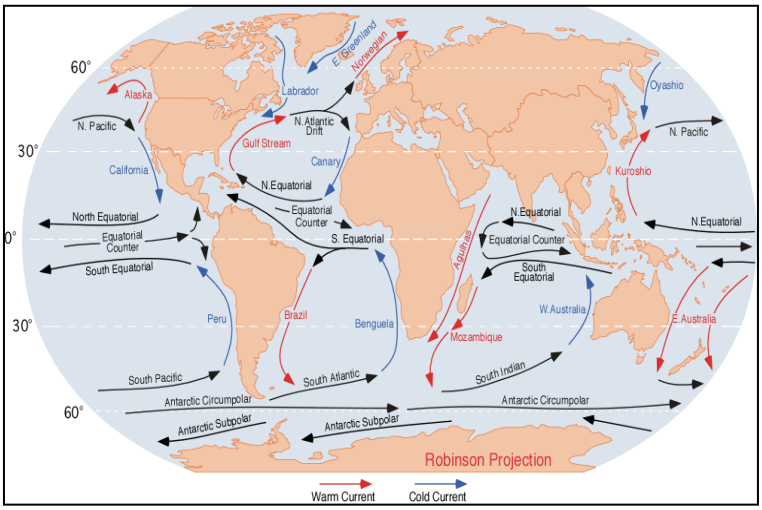
[62] Republic of South Africa, South Africa's Oceans Economy, Operation Phakisa, 2017, p. 5 <https://www.gov.za/sites/default/files/gcis_document/201706/saoceaneconomya.pdf> accessed on 1 July 2019.

[63] SADC, Regional Strategic Action Plan on Integrated Water Resources Development and Management Phase IV, RSAP IV, Gaborone, Botswana, 2016, p. 4

## The Benguela Current Large Marine Ecosystem (BCLME)

Flowing for more than 3000 km north along the coasts of Angola, Namibia, and South Africa, the BCLME is located between the Atlantic, Indian and Southern Oceans and manifests a combination of unique characteristics which gives the BCLME the reputation of "one of the most productive ocean areas in the world"[64], "the current of plenty"[65] and "a liquid conveyor belt…" which "…ensures a prolific food production for marine animals and humans".[66] The ocean current maps shows the direction and location of the BCLME.

***Map 1.*** *Ocean Currents*[67]




[64] Lynne Shannon and M. O'Toole, "Sustainability of the Benguela: Ex Africa semper aliquid novi" in Hempel, Gotthilf and Sherman, Kenneth (eds.), *Large Marine Ecosystems of the World: Trends in Exploitation, Protection, and Research*, Amsterdam: Elsevier Science, 2003.

[65] Sandy Davies *et al*,, Benguela Current Large Marine Ecosystem: State of the Marine Environment 2014, Namibia: Benguela Current Commission, 2015, p. 4.

[66] Hu Berry, The Benguela Current – A Vital Link in the Global Oceanic Chain, 2009 <http://www.travelnewsnamibia.com/news/stories/featured-stories/the-benguela-current-a-vital-link-in-the-global-oceanic-chain/> accessed on 1 July 2019.

[67] Physical Geography, Surface and Subsurface Ocean Currents: Ocean Current Map <http://www.physicalgeography.net> accessed on 8 November 2019.

The Benguela Current flows slowly, has open boundaries, an irregular coastline, and is bordered by two warm currents, the Angola Current in the north and the fast flowing Agulhas Current in the south. The slow speed of the Benguela creates an abundance of phytoplankton food for fish[68] The form of the coastline provides excellent fish breeding zones which contributes to a food chain of rich fish supplies and an abundance of fish predators, such as large seal colonies, penguins, barracuda, and cormorants.[69]

The three countries sharing the BCLME, Angola, Namibia and South Africa, are extremely diverse in terms of their historical background but they all have development challenges and derive socio-economic benefits from the BCLME. The mismanagement of this shared ecosystem resulted in the degradation of the ecosystem due to "unsustainable utilisation of living marine resources, marine pollution, disturbance and physical modification of coastal and marine habitats, invasive species, and climate change".[70] Nevertheless, the BCLME supports food security, tourism and recreation and provides employment opportunities while its oil and mineral resources contribute to economic growth in the three countries sharing its waters. Fish resources mostly benefit South Africa and Namibia while South Africa's Cape Town is known as one of the world's a leading coastal destination. Angola prosper from the oil reserves in the BCLME and plans to increase its oil production as announced in 2019 by President João Manuel Gonçalves Lourenço when he launched a new six-year oil

[68] Jessica Burger *et al*., Controls on New Production and Carbon Export in the Southern Benguela Upwelling System, Paper delivered at the 16th Southern African Marine Science Symposium, 4-7 July 2017 <www.samss2017.co.za> accessed on 12 July 2019.

[69] Mark Gibbons and Bonga Govuza, "The Nature of International Collaboration in the Benguela Upwelling Region, 2000–2016" in *South African Journal of Science*, no. 1-2, 2019, pp. 15-19.

[70] Sandy Davies, *op. cit*., p. 15.

licencing strategy for oil production in the Namibe and the BCLME.[71] Namibia runs lucrative offshore diamond operations in the Lüderitz region and near the Orange River mouth. In 2018 Debmarine, a joint venture between the De Beers Group and the Namibian government, recovered approximately 1.4 million diamond carats form the BCLME. Phosphate deposits on the continental shelf stretching from Port Elizabeth to northern Namibia motivated the Sandpiper Project which has since 2013 been on hold pending the result of an environmental impact study[72] In September 2019 Namibian fishing companies appealed to the Namibian High Court to nullify the 2011 mining permit granted for this project.[73] South Africa also has alluvial mining in the Northern and Western Cape and offshore mining operations on its west coast.[74] The BCLME also enables the trade activities of the three countries through three harbours at Cape Town, Walvis Bay and Luanda which put additional pressure on the ecosystem and its biodiversity. Taylor Henshaw[75] estimates the overall economic benefits derived from the BCLME as approximately US$ 270 billion.

## Transboundary management of the BCLME

The Namibian government initiated the collective transboundary management of the BCLME by hosting a workshop on Fisheries Resource Dynamics in the Benguela Current Ecosystem. During this workshop two programs were created, the Benguela-Environment-Fisheries-Interaction

[71] Bob Koigi, Angola Launches 10 Oil Blocks in the Namibe and Benguela Basins, 2019 <https://africabusinesscommunities.com/news/angola-launches-10-oil-blocks-in-the-namibe-and-benguela-basins/> accessed on 1 November 2019.
[72] Davies, *op. cit.*, pp. 9-10.
[73] Shem Oirere, Namibian Fishing Sector Protests Marine Mining Project, 2019 <https://www.seafoodsource.com/news/environment-sustainability/namibian-fishing-sector-protests-marine-mining-project> accessed on 1 November 2019.
[74]Davies, *op. cit.*, p. 10.
[75] Taylor Henshaw, *op. cit.*, p. 49.

and Training (BENEFIT) Program and the BCLME Program.[76] The UNDP, the Global Environment Facility (GEF), Norway, and the EU provided financial support. The three countries committed to equal representation of stakeholders in national and transboundary discussions. Public, private and commercial interests were represented in the workshops which focused on finding solutions to the challenges in the BCLME. These workshops assisted the Transboundary Diagnostic Analysis (TDA), established in 1999 to find solutions for threats to ecosystem sustainability and the utilisation of the BCLME and its resources. A Strategic Action Plan (SAP) was developed for the implementation of the policies of the TDA. The SAP focused on the utilisation of the living and non-living resources, pollution, and biological diversity. The SAPs are constantly updated and play a vital role in the harmonisation of national policies.[77]

In August 2008 an interim Benguela Current Commission (BCC) was established in Namibia and on 28 March 2013 the three governments signed the Convention on the Establishment of the Benguela Current Commission (BCC).[78] Hashali Hamukuaya, Executive Secretary of the BCC identified three main priorities as, "the minimisation of marine pollution", the "harmonisation of the policies, laws and regulations of the three countries related to industrial activities", and "the management of transboundary fishing activities".[79]He also praised the suitability of the ecosystem approach for the governance of the BCLME, which he described as "…aims to maintain ecosystem goods and services for sustainable use, while recognising that humans are an integral part of the process". The BCC strengthens transboundary cooperation based on a "science-based

[76] Nicole Rohr, The Benguela Current Large Marine Ecosystem: A Social, Cultural, and Ecological Profile, Large Marine Ecosystems Program, 2008, p. 5.
[77] Henshaw, *op. cit*., pp. 50-51.
[78] *Ibidem.*
[79] Benguela Current Convention, 2013, p. 3 <http://www.internationalwatersgovernance.com/uploads/1/3/5/2/13524076/benguela_convention_english.pdf> accessed on 16 August 2019.

understanding as a necessary precursor to political action".[80] Nevertheless, the degradation of the BCLME remains a challenge. Similar to other LMEs, the BCLME faces more pollution caused by human activities which result in "hazardous wastes from mine tailings, dredge spoils, deforestation of coastal mangroves, soil erosion, oil spills, marine debris, and invasive species".[81] Concerns remain about the ability of the BCC to protect this fragile ecosystem against the impact of global warming and the ever increasing demands to extend and increase oil and mining activities.

## Conclusion

The intricate network of large water spaces in and around Africa have for centuries played important roles in the development of the continent and its people. However, in the twenty-first century many of Africa's magnificent blue spaces are more degraded, overexploited and weakened by human activities than ever before due to global warming, pollution, overpopulation, the flow of fertilisers and agrochemicals into rivers and lakes, and mining activities which destroy the habitat of ecosystems. The management of these water spaces has since antiquity been fragmented, neglected and often ignored, particularly in the case of transboundary spaces shared by millions of people in different countries. The issue is not the Africa's 'forgotten waters', but rather the 'forgotten management' of their ecosystems and resources.

As part of the blue economy strategy, the AU identified the utilisation of Africa's oceans, seas and inland spaces as new frontiers for long-term development and economic growth. The 2050 AIM Strategy

[80] GEF, From Coast to Coast: Celebrating Twenty Years of Transboundary Management of Our Shared Oceans, 2015, p. 21 <https://www.thegef.org/sites/default/files/publications/From_Coast_to_Coast__Celebrating_20_years_of_Transboundary_Management_of_our_Shared_Oceans_2.pdf> accessed on 20 July 2019.

[81] Hashali Hamukuaya *et al*., "Science to Governance in the Large Benguela Marine Ecosystem" in Kenneth Sherman, Sara Adams Stress, *Sustainability and Development of Large Marine Ecosystems During Climate Change: Policy and Implementation,* New York: UNDP, 2013, p. 131.

and the Lomé Charter linked the blue economy to the protection and security of blue resources, human needs and social development. However, the contradiction between the new demands on these ecosystems and their protection and security have profoundly negative consequences.

Nevertheless, efforts to govern the blue economy in Southern Africa indicate that strong legal and institutional frameworks can successfully contribute to the management of shared water spaces aimed at harmonising national and regional policies with continental frameworks. The BCC also shows remarkable efforts to collectively manage the BCLME, but the long-term success of the BCC depends on its ability to protect the BCLME against the consequences of overexploitation, such as extensive and uncoordinated oil exploration and mining of minerals. Ultimately, the blue economy depends on satisfying human needs and the conservation of blue ecosystems.

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