ADDRESS 3: OCEAN GOVERNANCE AND THE BLUE ECONOMY: THE CRITICAL NEXUS

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INTRODUCTION

The Nexus[1] between the "Blue Economy and Ocean Governance" is critical for sustainable growth, social and environmental development of the African continent as encapsulated in the various strategies and legal instruments such as United Nations (UN) Sustainment Development Goals (SDG's), African Union (AU) Agenda 2063, Africa's Integrated Maritime Strategy (AIMS) 2050, Southern African Development Community (SADC) Integrated Maritime Security Strategy (IMSS) and various other Regional Economic Communities (RECs) strategies.

The Blue Economy is gaining traction as governments are increasingly implementing mechanisms for creating economic development through the oceans economy and in order to realise the benefits of it, will require proper "Implementation" of the legal framework and "Action" to ensure Governance of the Blue Economy.

The late Mr Nelson Rolihlahla Mandela once quoted that:

> "Action without Vision is only passing time.
>
> Vision without Action is merely day dreaming,
>
> But Vision with Action can change the World."[2]

The Vision (Strategic directive and the Legal overarching framework of the Lomé Charter), ambitions are clear, the implementation and enforcement of them however are lacking which requires Action.

Ocean Governance is intrinsically linked to the Blue Economy, as it is the Means by which sustainability can be guaranteed. In promoting the Blue Economy the key issues of importance are increasing the expansion and Integration of Africa's Maritime Domain Centres allowing for effective Maritime Security. Much like the Combat Management System on board naval platforms, this neurological hub interfaces foreign and sovereign sensors and effectors to take action, the same neurological concept for the MDA regional hubs is required for Maritime Security initiatives to take effect and for the Blue Economy to prosper.

AIM

The aim of the paper is to discuss the concepts of both Ocean Governance (OG) and Blue Economy (BE), their inseparable relationship and generating options for enhancing OG and promoting the BE.

[1] Okafor-Yarwood, I., Kadagi, N.I., Miranda, N.A.F., Uku, J., Elegbede, I.O. & Adewumi, I.J. The Blue Economy – Cultural Livelihood – Ecosystems Conservation Triangle: The African Experience. Frontiers Marine Science. 2020, 7,586.

[2] https://www.goalcast.com.

SCOPE

The paper will discuss the issues of

- Identifying the relationship between OG and BE,
- Africa's BE Outlook, and
- Presenting Options to consider in order to enhance OG and promoting the BE.

IDENTIFYING THE RELATIONSHIP BETWEEN OCEAN GOVERNANCE AND BLUE ECONOMY

What does the Blue Economy mean?

The UN defines the BE as "an ocean economy that aims at improving human well-being and social equity, while significantly reducing environmental risks and ecological scarcities".[3]

The AU defines the BE as "a sustainable economic development of oceans using techniques such as regional development to integrate the use of seas and oceans, coasts, rivers and underground water for economic purposes, including but without being limited to fisheries, mining, energy aquaculture and maritime transport, while protecting the sea to improve social well-being"[4]. The AU expands on the UN BE concept to include all activities within all waters and furthermore refers to the BE as "Africa's next frontier" to realise its African Development Agenda 2063 requirements.[5]

The focus of the BE is on sustainable economic exploitation of the maritime environment. The Charter on Maritime Security and Safety and Development in Africa (Lomé Charter), defines the term BE as one that:

"Encompasses economic activities from marine and aquatic spaces in oceans, coasts, seas, rivers, lakes, groundwater, wetlands, floodplains and associated water resources"[6]

African Governments are increasingly implementing a blue or an ocean-based economy as a strategy for creating economic development with a view to improving human well-being and social equity, while significantly reducing environmental risks and ecological scarcities"[7].

Globally the concept of BE is recognised as being at the centre for sustainable development, incorporating socio-economic benefits and ecological conservation, however on the African continent much emphasis is

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[3] Lee,K., Noh, J and Khim,J,S. The Blue Economy and the United Nations' sustainable development goals: Challenges and opportunities, Environment International 137, (2020).

[4] Africa Blue Economy Strategy. https://www.au-ibar.org/sites/default/files/2020-10/sd_20200313_africa_blue_economy_strategy_en.pdf.

[5] Okafor-Yarwood, I., Kadagi, N.I., Miranda, N.A.F., Uku, J., Elegbede, I.O. & Adewumi, I.J. The Blue Economy – Cultural Livelihood – Ecosystems Conservation Triangle: The African Experience. Frontiers Marine Science. 2020, 7,586.

[6] Seventeenth Regular Session of the African Ministerial Conference on the Environment (AMCEN). 2019. Advancing the Sustainable Blue (ocean-based) Economy in Africa.

[7] Ibid. 2019.

placed on economic gains[8]. This results in the outcompeting of traditional livelihoods and small-scale local operations by international corporations and government initiatives, with little or no regard for social inclusion and environmental sustainability, something that initiatives such as Operation PHAKISA[9] is trying to do away with as it is an integrated approach to accelerating BE in South Africa.

Elements of the BE furthermore include:

- Resources. Having looked at the various definitions of the BE it becomes clear that resources play a significant part in ensuring a sustainable BE for the 'Africa we want'. Resource management and protection in relation to the BE are key to the critical management and protection of the maritime domain. Capabilities to access and protect resources, expand the infrastructure and capacity network to access and meet the Global and African market demands is required.

- Accessibility to Trade. Coastal and land linked nation economies and livelihoods are reliant on access to trade routes whether through ports, points of entry and especially through cooperation amongst nations at a regional and continental level. The African Continental Free Trade Agreement which is yet to be realised is important to ensure that trade routes through the oceans surrounding the continent make accessibility much easier and support intra-Africa trade. With more than 100 ports in Africa, of which 52 handle containers and transnational trade, expanding and linking trade sustainably is essential. Infrastructure includes not only the rail, road, port networks but expansion of energy grids and fibre / communications networks[10].

- Economy/Social Welfare Benefit. The total length of the coastline makes the African maritime domain extremely important from an economic, food security and employment perspective. The continent's maritime economy comprises approximately 90% of trade and accessing new resources or developing new industries such as within the aquaculture, marine renewable energy technologies for alternative energy production methods, bio products and support services to these both directly or indirectly grow the economy and reduce unemployment[11]. The Social Welfare improvement as a result of a secure, stable and growing economy impacts positively on the general and social wellbeing of its citizens furthermore allowing less dependence on the state for support and the resultant funding reallocated to further develop national imperatives.

- Sustainability. Sustainability extends across the spectrum from environmental protection/ extraction issues such as Marine (Coastal and Internal water) protection, Marine spatial planning, coastal zone management, monitoring and evaluate fish stocks, illegal unregulated and unreported (IUU) fishing, overfishing to economic sustainability issues in term of infrastructure expansion and growing the economic sectors[12]. Sustainability is the golden thread throughout BE.

- "Buy - in concept" and Political Will. An integrated, holistic approach which includes communities within BE initiatives in order to get local buy-in to the concept of BE such as fishing communities and the local populaces, this includes private public partnerships, academic and research institutions, and fusing interdepartmental/governmental involvement, contributing equally to the main effort. Operation Phakisa is a good example of this Integrative and all-inclusive approach by design[13]. The Political Will however, refers to the upper echelons of public servants whom to some extent support particular

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[8] Okafor-Yarwood, I., Kadagi, N.I., Miranda, N.A.F., Uku, J., Elegbede, I.O. & Adewumi, I.J. The Blue Economy – Cultural Livelihood – Ecosystems Conservation Triangle: The African Experience. Frontiers Marine Science. 2020, 7,586.

[9] Operation Phakisa was established in 2014 RSA as an initiative to fast track the implementation of critical development issues, such as the National Development Plan 2030 which addresses issues of poverty, unemployment and inequality. The BE was the vision to exploit a new frontier which, if accessed and effectively executed would address these fundamental issues making significant strides for the GDP of the country.

[10] The Marine Executive, Piracy and Armed Robbery Rise in 2020 especially off West Africa. https://www.maritime-executive.com/article/imb-piracy-and-armed-robbery-rise-in-2020-especially-off-west-africa.

[11] Ibid .2020.

[12] https://www.seapowerforafrica.com.

[13] Okafor-Yarwood, I., Kadagi, N.I., Miranda, N.A.F., Uku, J., Elegbede, I.O. & Adewumi, I.J. The Blue Economy – Cultural Livelihood – Ecosystems Conservation Triangle: The African Experience. Frontiers Marine Science. 2020, 7,586.

policy solutions to particular problems[14], in essence if the Political will is not "all in" or "bought in" then the ideal BE concept remains unattainable.

What does Ocean Governance encompass?

Ocean Governance is the <u>integrated conduct of the policy, actions and affairs</u> regarding the world's oceans to protect the ocean environment, the sustainable use of coastal and marine resources as well as to conserve its biodiversity. Bailet mentions three elements of oceans governance namely[15]:

- Legal.
- Institutional Framework.
- Mechanism of Implementation.

All three of these elements have been drafted to some extent and exist at various levels within the African continent.

The Legal (Rule of Law) element exists ito the Lomé Charter which promotes and sustains the efforts of achieving a BE with OG making the AIMS 2050 legally binding to all signatories. Legislation at the UN (UNCLOS/SOLAS, SDG 14), AU, and REC's levels are key in guaranteeing the effective management of the maritime domain. The BE in Africa is aligned and directly linked to UN SDG 14 specifically, which promotes the "sustainable use of oceans, seas and marine resources for sustainable development." It proposes that such actions as "frontiers and progress" require a thorough integration of BE Governance ito how "resources" create new governable space and support certain ways of governing. OG is furthermore described as an "uncertain government concept" meaning an approach that is provisional, revisable, dynamic and open to experimentation and trialed[16].

The Institutional Framework already exists within numerous RECs, Codes of Conduct (Djibouti and Yaoundé), with maritime domain awareness centers, MASE programme (Fusion Centre) in the Indian Ocean including among many Bilateral and Multilateral agreements.

The Mechanism of Implementation exist in the form of Action Plans (some still in development) and Strategic Objectives within AIMS 2050, RECs, Economic Community of Central African States (ECCAS), Economic Community of West African States (ECOWAS) and Southern African Development Community (SADC) Integrated Maritime Security Strategy (IMSS).

The process of Ocean Governance should be integrated horizontally because it requires the participation of all governmental institutions, the private sector, Non-Government Organizations (NGOs), academics, scientists, and expands vertically across all levels of governance. The information sharing Architecture designed in West and Central Africa demonstrate similar horizontal cross national participation even at a regional level from the Maritime Inter-Regional Coordination Centre (CIC), the Centers for Multinational Coordination (CMC) to the regional CRESMAO (West Africa) to CRESMAC (Central Africa) allowing inclusivity from all nations.

At a national level in RSA for example "Operation Phakisa"[17] was well orchestrated cognizant of the OG horizontal and vertical participation of all relevant departments, institutions and interested stakeholders which is evident in the numerous Laboratories (Critical focus areas) and Initiatives (within these Laboratories which address key issues/ targets). The Ocean Economy Lab includes the concept of Ocean Governance as one of its critical areas which incorporates principles of Maritime Domain Awareness, surveillance and monitoring.

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[14] https://www.definitions.net.

[15] https://sustainabledevelopment.un.org/content/documents/22828Pratikto_PPT.pdf.

[16] Nagy, H. & Nene, S. Blue Gold: Advancing Blue Economy Governance in Africa. Sustainability. 2021, 13, 7153.

[17] https://www.operationphakisa.gov.za.

The following are some of the important ways in which Ocean Governance can be integrated and effective[18]:

- Effective communications which includes Voice and data streaming.
- Surveillance, monitoring at MDACs and response with assets such as:
  - Offshore Patrol Vessels (OPVs)
  - Fast boats,
  - Maritime Patrol Aircraft (MPAs),
  - Unmanned Aerial Vehicles (UAVs), surveillance will certainly aid in the sustainable use of the maritime environment by all the relevant stakeholders[19].
- From a REC or Code of Conduct perspective Militaries with these established assets could provide the lead and assist their regional partners in providing physical assistance ito OG.

The Relationship between BE and OG.

The relationship between BE and OG is simply inseparable, the BE in short is an ideal end state focused on sustainability whilst OG is the means to Action available resources or elements to attain the "ideal". The critical link between BE and OG is Maritime Security making the need for integrated approach on the continent a necessity[20]. There is a need for an integrated and sustainable approach to the developmental and economic opportunities of the maritime domain making OG a critical component in the "Management of the Sector". To fully guarantee a sustainable BE, priority should be given to "Governance", for the establishment of MDAs and enforcement of Maritime Security. The BE is said to be opening doors for African industrialisation and economic development, something that cannot be achieved effectively without OG.

According to Sustainability source "Good OG could unleash the full potential of the oceans toward reaching the desired outcomes in a sustainable BE. However, the AU needs to identify gaps in the existing frameworks for OG to support the path towards achieving a BE." [21] These gaps will be identified in the formulation of options in the last part of this paper but in order to do so requires some consideration concerning Africa's outlook on Ocean Governance.

WHAT IS AFRICAS OUTLOOK FOR THE BLUE ECONOMY

A Continent Rich in undiscovered minerals

Nagy and Nene describes the continent rich in natural living and non-living resources such as "water, flora, fauna, wildlife, minerals and hydrocarbons which are still being wasted through extreme poverty." African countries can and have the opportunity to diversify their economies from the vast oceans and lake resources that are present on the continent, however this is not the case despite the continent's abundance of natural resources and BE"[22]. Most resources remain unexplored / discovered due to a lack of financial resources, poor governance and lack of political will. The extraction of Africa's rich minerals and oil supplies since the colonial period until now have not made any significant changes to the man on the street nor to African economies, in fact it has contributed to greed, corruption and violence.

The result of prolonged "human – induced" degradation of the ocean and aquatic resources is deteriorating human welfare and health, which is in contrast to that advocated for in the UN SDG 14. Nagy & Nene

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[18] https://au.int/en/documents/20130225/2050-aim-strategy.

[19] https://au.int/en/documents/20130225/2050-aim-strategy.

[20] Royerppen, A. & F.A. Kornegay. 2015. A Focus on Current Issues: South (ern) Africa and the Indian Ocean – South Atlantic Nexus: Blue Economy and Prospects for Regional Cooperation. Issue 119/September 2015

[21] Nagy, H. & Nene, S. Blue Gold: Advancing Blue Economy Governance in Africa. Sustainability. 2021, 13, 7153.

[22] Ibid 2021.

proposes that "Africa needs to coordinate policy and chart its own path identifying, defining and understanding what prosperity and progress is for the continent, while encouraging innovative thinking and practices that will enhance human and ecological growth".

The International Energy Agency estimates the ocean renewable power potential which the continent can provide is 400% of the current global demand[23]. Such potential, whilst countries such as RSA currently are plagued by rolling unplanned blackouts and scheduled load shedding programs to handle the energy demand of a hungry economy, one of many emerging African markets. The lack of power on the African continent directly impacts on the performance of our economies and livelihoods. These are some of the main reasons why Africa requires a holistic approach to harness the potential energy and resources within the maritime economy.

Disputes / New Frontiers

As the BE is prioritised as the "new frontier of African Renaissance" it can also led to potential new frontiers, boundaries and disputes (expansion of EEZs for example) to emerge within the maritime domain as new resources and potential economic benefits emerge. This requires commitment to a more integrated and shared continental vision and strategy to guide responses to maritime insecurity.

According to Nagy and Nene, the new emerging industries over the last decade highlight various opportunities that exist for industrialisation and economic development, with over 200 million people depending on resources such as fresh water and marine fish resources for food security from which approximately 10 million people derive an income[24]. This invites foreign interest from richer nations and businesses whom have the capital and financial muscle to capitalise on these opportunities, buy over the bureaucrat and marginalise the African population as a result of Capitalistic influence.

Several territorial disputes and fishing ground demarcations have arisen on the continent to varying degrees, supported by external and international bodies and is foreseen to continue to develop over time especially with the discovery of valuable resources.

Governance Challenges

It is important to have "good governance and political will" in order to mitigate the negative effects of the lack of financial resources by ensuring that governments align social and environmental problems with innovation objectives. The African BE is aligned and directly linked with the UN SDG's and specifically SDG 14 which "promotes the sustainable use of oceans, seas and marine resources for sustainable development"[25]. However, real challenges of corruption, political influence, colonialism capitalism and lack of infrastructure and accessibility, hamper the enforcement of the "rule of law" in ensuring effective governance within the Africa's maritime domain.

Moss states within her Gulf of Guinea regional report that "institutions alone are not enough to ensure effective rule of law due to a lack of ability to prosecute illicit crimes by many countries in the region,

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[23] Ibid. 2021.
[24] Nagy, H. & Nene, S. Blue Gold: Advancing Blue Economy Governance in Africa. Sustainability. 2021, 13, 7153.
[25] Ibid,4.

something that is compounded by widespread corruption in the public sector".[26] The various forms of systemic corruption to individual opportunism through levels of fraud, tariff and tax evasion, bribes, embezzlement and extortion to name but a few. Corruption by different interest groups that benefit from dominant socio-technical systems is prevalent within the African maritime space[27]. The blue economy is highly multifaceted and interdependent therefore difficult to monitor and manage, meaning that it is important to establish and enforce regulatory frameworks amongst African nations. The AU Advisory Board can provide a significant role in encouraging African nations to deal with corruption –related investigations and thereby promoting transparency which improve investor confidence and stability.

Moss furthermore adds that there is a lack of domesticated international and regional maritime security agreements in parts of Arica where nations have never fully implemented all the provisions of the UN Convention on Transnational Organised Crimes, which is a fundamental framework for addressing illicit crimes such as IUU fishing and narcotics trafficking.[28]

OPTIONS TO ENHANCE OCEAN GOVERNANCE

"Strategic Objectives or Ends" exist within and amongst the numerous African nations through structured continental and regional co-operation bilateral, multi-lateral agreements or arrangements. One of the common Strategic objectives is the intent to establish and enforce the concept of "Ocean Governance" for the idealistic "Blue Economy" to prosper and address National development agendas to eliminate poverty; reduce inequality and unemployment through inclusive economic growth (integrate and diversify economic activities); job creation, foster social inclusion and sustainable opportunity to reconcile natural resource use through conservation.

These "Objectives" are achievable through the "Actions plans" determined and agreed upon amongst the signatories and role players at the Continental, Regional, Sub- Regional and National/Government Departmental levels. The Action Plans ito its feasibility of accomplishing tasks have been hampered by (Challenges and Political Will) a lack of funding, especially within the current economic climate (Covid 19 and logistical supply chain backlogs), making the time frames largely unattainable and the accomplishment of the End State unrealistic. Despite many such challenges, small progress even at the lowest national level is growth in the right direction such as the procurement of recent maritime assets, the establishment of sovereign maritime domain capabilities across the African continent and fusing connectivity of maritime information in support of regional partners.

The recent supply chain management backlog crisis which reverberated across the globe as a direct result of the Coronavirus (COVID-19) pandemic and the changing procurement mind-set of the global populace as a result of it, is only congesting the problem. With the world already heavily reliant on the maritime sector for global trade and ultimately our personal and regional livelihoods, this should provide more motivation to not only expand the maritime supply chain infrastructure but to govern and protect the Maritime Space effectively.

In pursing this section of the paper it would be beneficial in considering what is in place to enhance governance and what is not? Reinventing the "wheel" is not necessary, strategies, mechanism already exist but rather refining the "tread and pattern of the wheel" to put the "Wheel into Action" is simply required. Organisations such as the "Stable Sea"[29] for example, a transnational non-profit institution, provides a performance index on Maritime Security and Governance for numerous African nations which is done

[26] Moss, K. Policy beyond Counter-Piracy: Improving Maritime Enforcement Capacity, Fisheries, Coastal Welfare, and Rule of Law in the Gulf of Guinea (2020).

[27] Nagy, H. & Nene, S. Blue Gold: Advancing Blue Economy Governance in Africa. Sustainability. 2021, 13, 7153.

[28] Moss, K. Policy beyond Counter-Piracy: Improving Maritime Enforcement Capacity, Fisheries, Coastal Welfare, and Rule of Law in the Gulf of Guinea (2020).

[29] http://www.stableseas.org.

continuously and allows for identifying areas of weakness and strengths. The inclusion of such invested organisations provides support to improve awareness on maritime issues and should remain relevant and inclusive to the proposed options. This remains one of the AIMS 2050 strategic objectives[30] to engage and incorporate civil society on maritime issues.

At the continental level the AIMS 2050 clearly describes the creation and need for Regional Maritime Operational Centres in partnership with interested stakeholders allowing information sharing and regional governance[31]. Figure 1 below illustrates the Regional Maritime Headquarters (MHQ) concept with Maritime Operational Coordination Centres (MOC) or Maritime Information and Co-ordination Cells (MICC) in all RECs. The Regional MHQs and MICCs / MOCs shall be inter-operable and inter-linked to each other and to the AU-based MHQs and MICCs / MOCs.

Figure 1: AIMS 2050 Regional Maritime Operations Concept
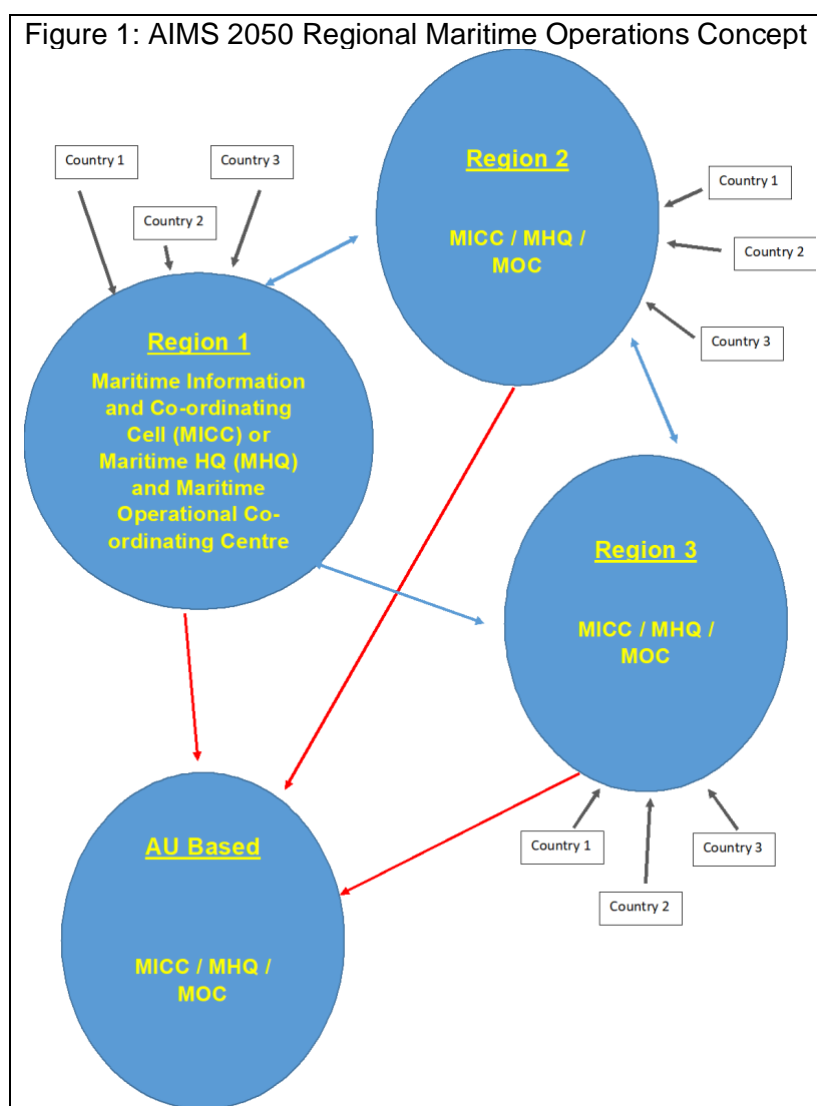
At the Regional Level there are numerous existing (some partially completed) information coordination centres such as:

- o Information Sharing within West and Central Africa (depicted in figure 2). Regional Coordination Centres of CRESMAO (ECOWAS, Côte d'Ivoire), CRESMAC (ECCAS, Congo), zone centres and the Inter-Regional Coordination centre in Cameroon.

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[30] https://au.int/en/documents/20130225/2050-aim-strategy.

[31] https://au.int/en/documents/20130225/2050-aim-strategy.

- o Indian Ocean Region Commission MASE programme (depicted in figure 3), Regional Maritime Information Fusion Centre (Madagascar) and Regional Coordination Operations Centre (Seychelles).
- o Djibouti Code of Conduct (depicted in figure 4), with Regional Maritime Rescue Coordination Centres in Yemen, Kenya and Tanzania.
- o SADC Maritime Domain Awareness Centres (MDACs) or Maritime Coordination Centres (MOCC).
- o Regional projects such as the Marine and Coastal Operations for Southern Africa (MarCOSouth) coordinated by RSA Council of Scientific and Industrial Research (CSIR) sharing limited capabilities from institutions to Regional Partners.

However a Gap exists in terms of the "North to North West Regions" of the Continent which needs to be factored into the African MDA Space.

Figure 2: Regional Coordination Centres

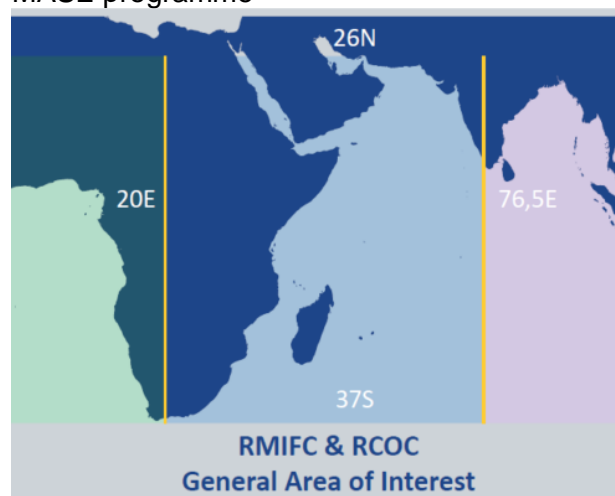Figure 3: Indian Ocean Region Commission MASE programme

Figure 4: Djibouti Code of Conduct

At the National Level in RSA case, "Operation Phakisa" through CSIR provides the National Oceans and Coastal Information Management System (OCIMS) with tools for National Departments to access and coordinate efforts to govern the RSA maritime space.
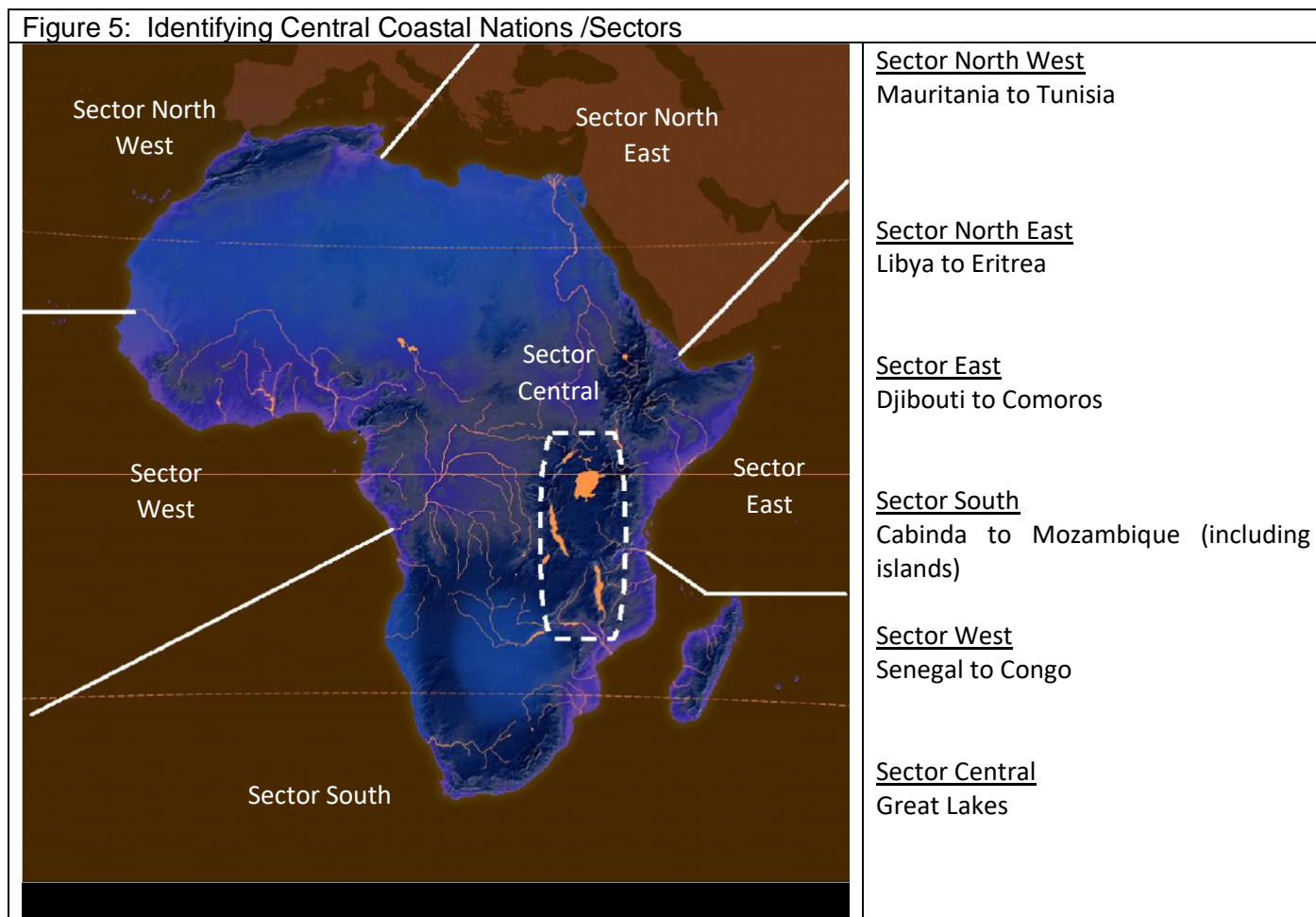
At the Sea Power for Africa Symposiums (SPAS) Level, it was already determined through the resolutions / agreements amongst the previous attendee nations that the necessity to adopt a network of maritime security information to improve MDA, to furthermore integrate AIS for continental maritime communication and to contribute meaningfully to the security of maritime assets with support from the more established naval nations in guiding and assisting other African nations whom are less developed. The SPAS 2006 resolution

indicated that a Naval component comprising 4 Naval Task Groups be part of the AU Standby Forces, namely North-Egypt, West-Nigeria, South-South Africa and East-Kenya. The requirement for a structured continental / regional co-operation to address maritime governance was decided to be in any form of agreements or arrangements as can be seen in the numerous regional agreements above.

RECOMMENDED OPTIONS TO ENHANCE OG ARE AS FOLLOWS:

- ➢ The implementations of existing Strategic Objectives in support of "Ocean Governance" such as the SADC IMSS which is similar to its regional partners ECOWAS and ECCAS IMSS.

- ➢ Support the AIMS 2050 Regional Maritime Operation Centres amongst RECs concept to improve both situational awareness and the effectiveness / efficiency of the African Standby Force. This includes the exchanging of information amongst the nations linked to their respective Regional Operation Centres, exchange of information between the Regional Operation Centres and furthermore linking this information to the AU based ASF centre as depicted in figure 4.

- ➢ Identify African Nations which belong to multiple RECs or African Nations which only pledge to one REC in order to ensure regional MDA interconnectivity through existing diplomatic channels.

- ➢ Cognisant to Institutional Frameworks already in place, the Realignment of existing Regional / Code of Conduct (Yaoundé and Djibouti), Bilateral, Multilateral MDA coordination or fusion centres, national projects with the following considerations to finalise the architecture:

  - ▪ Choke points, high traffic density areas including internal African waters (Straits of Gibraltar, Red Sea, Gulf of Aden, Mozambique Channel, Southern Africa, Gulf of Guinea, Great Lakes Region).
  - ▪ Prominent "Hot spots" (Maritime Transnational crimes) around the African continent.
  - ▪ Identifying Central Coastal Nations /Sectors (as depicted in figure 5) between these "Choke points", "Hot spots", **equidistantly**, which **have established**:

    - Advanced Maritime Forces with MDA capabilities whom are able and willing to monitor, respond and support neighbouring coastal nations.
    - Significant Infrastructure (Ports, Road, Rail, Internet) and Energy security to expand and support an integrated MDA infrastructure.
    - Nations with the ability to "Process significant amounts of Metadata" for onward dissemination.
    - Nations which already have a comprehensive International Maritime Rescue Coordination Centre footprint in support of MDA expansion.
    - Nations which have existing MDA sovereign capabilities both terrestrial and/or satellite aspirational intentions.
    - Nations with advanced Stable Sea Indicators.
    - Consider the same 4 Naval Task Group Nations be considered for this, with the inclusion of another (North West Nation).

- ➢ The inclusion of the North West African Nations of the REC, Arab Maghreb Union (AMU) region, to establish similar MDA central coordination centres to those seen elsewhere on the continent.

- ➢ The inclusion of a Regional Maritime Operation Centre within the Great Lakes region to include Fresh Water Governance.

- ➢ The expansion and pursuit of Satellite technology on the continent to support Ocean Governance in detecting Dark contacts (those no transmitting contacts), utilising Synthetic Aperture Radar (SAR) technology to assist in correlating spurious and spoofing contacts with AIS data received.

➤ The inclusion of Sovereign Camera Surveillance and UAV capabilities should be integrated to the MDA architecture to assist in Target identification and classification.

Figure 5: Identifying Central Coastal Nations /Sectors	
	Sector North West Mauritania to Tunisia **Sector North East** Libya to Eritrea **Sector East** Djibouti to Comoros **Sector South** Cabinda to Mozambique (including islands) **Sector West** Senegal to Congo **Sector Central** Great Lakes

CONCLUSION

The Critical Nexus between the "Blue Economy and Ocean Governance" is sustainable growth, social and environmental development of the African continent. Ocean Governance is intrinsically linked to the Blue Economy, as it is the Means by which sustainability can be guaranteed.

The relationship between BE and OG is simply inseparable, the BE in the "ideal end state" focused on sustainability whilst OG is the means to Action available resources or elements to attain the "ideal". The critical link between BE and OG is Maritime Security (Action) making the need for an integrated approach on the continent a necessity.

To fully guarantee a sustainable BE, priority should be given to "Governance mechanisms" such as the establishment of MDAs and the enforcement of Maritime Security.

Africa remains richly gifted in its mineral wealth with new discoveries waiting to be unearthed. These discoveries however will continue to create new frontiers and disputes amongst nations which presents challenges to the Continent. The Governance challenges are expected to remain largely unchanged ito poor political governance, political will, lack of infrastructure development, corruption, colonialism capitalism

unless frameworks are implemented to address these concerns so that cooperation efforts can be promoted to unleash the full potential of the BE.

Recommendations were made having considered the existing Strategic Objectives, Action Plans and intentions from the Continental and Regional body levels. The implementation of the conceptual Regional Maritime Coordination Centres (AIMS 2050) on the continent with the main objective of integrating and observing MDA is paramount and should remain the focal point in support of the ASF efforts.

Regional information / fusion / coordination centres from the numerous agreements at the Regional and National level where highlighted and furthermore identified the exclusion of the Great Lakes and North West Sector of the continent, which also needs to be addressed and factored into the MDA architecture.

Recommendations were made from a "Continental Sector Approach" matching existing MDA network architectures utilising equidistant "Established Maritime Nations", centrally located within choke points and High Risk Areas with the idea of expanding their regional MDA to neighbouring nations and to physically support or enforce "Maritime Security" by means of allocating maritime assets to "Govern their allocated Ocean Space".