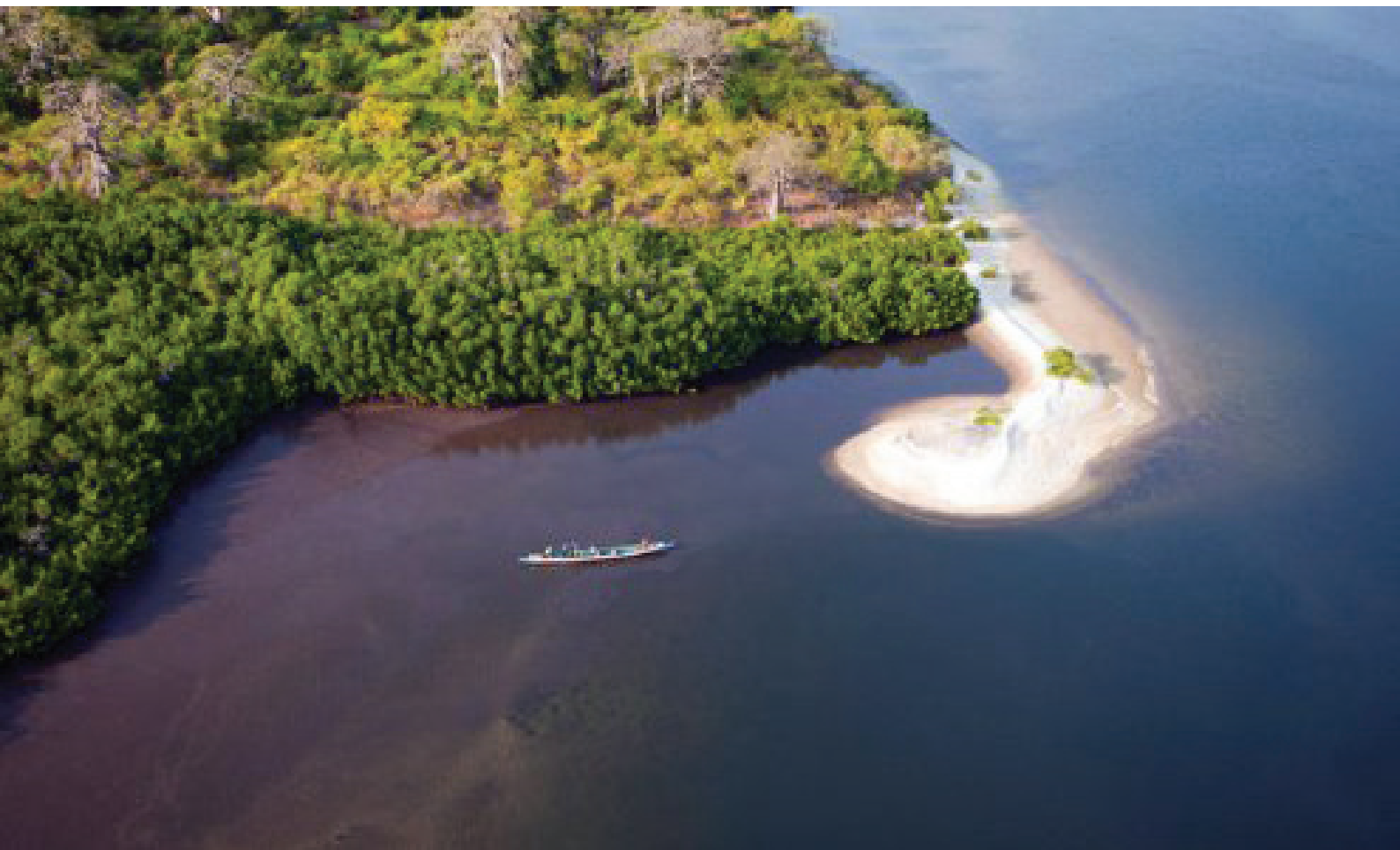




Continental Review of Existing Marine Protected Areas (MPAs), Document Lessons, Best Practices and Formulate Guidelines for their Sustainable Implementation and Governance in Conservation of Aquatic Biodiversity Resources within the African Union Member States (AU MS) and Regional Levels (West, Central and Northern regions of Africa)



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I. Rationale of the study and structure of the report

Worldwide, oceans and coasts are important to humankind because of their ecosystem services. They provide valuable benefits in terms of nutrition and food security, livelihoods and employments, and exports (Belhabib et al., 2015). African continent harbours an important resource in terms of marine biodiversity with six Large Marine Ecosystems (LMEs) among which the Canary Current, the Benguela Current and the Somali Coastal current are ranked second, third and fourth most productive LMEs in the world. Several factors constitute serious threats not only to the conservation of this biodiversity but also to the sustainability of the marine environment and to the sustainable exploitation of ocean and coastal resources on the continent. Habitat degradation, pollution (land-based municipal and agricultural activities), overexploitation of marine biodiversity, invasion by alien species, climate change and inadequate policy responses, legislation, and enforcement remain the main factors contribute to the loss of marine biodiversity in Africa. The creation of MPAs within national Exclusive Economic Zones (EEZs) has been widely publicised, in addition to international commitments to protect important areas of the high seas from human-induced threats (Sumaila et al., 2007). MPAs have been established in various parts of the world including Africa (Maestro et al., 2019). However, the implementation of the few MPAs established within EEZs in West, Central and Northern African coastal counties is limited as noted by AU-IBAR. In addition, many of them are not effectively managed mainly due to technical difficulties in planning process, governance issues and management problems.

Against this background, a consultancy assignment has been commissioned by AU-IBAR as part of the 3-year project on “Conserving Aquatic Biodiversity in African Blue Economy” to review existing MPAs, document lessons, best practices and formulate guidelines for their sustainable implementation and governance in conservation of aquatic biodiversity resources within AU Member States and Regional levels of West, Central and Northern Regions of Africa.

The present document is the summary of the final report submitted by the consultant and approved by the team at AU-IBAR. It is organised in nine different parts that include all the expected deliverables for the study as per the terms of reference and the contract. These are:

- Part 1: Synthesis of institutional framework and governance management systems of identified MPAs within AU member states and at West, Central and Northern regional levels;
- Part 2: Report on review and classification of the existing MPAs in AU MS at West, Central and Northern regional levels according to IUCN categories for MPAs;
- Part 3: Report on MPAs with endemic biodiversity hotspots with brief descriptions;
- Part 4: Brief note on transboundary MPA initiatives;
- Part 5: Documentation of lessons learnt and best practices in the management of identified MPAs within AU MS at West, Central and Northern regional levels;
- Part 6: Detailed note on a range of goods and services within the existing MPAs in AU MS and West, Central and Northern regional levels;
- Part 7: Gaps or weaknesses (SWOT analysis) including among others institutional capacity for the management of MPAs that need to be addressed;

- Part 8: Developed guidelines on mechanisms and priority actions for intervention to support strengthening of implementation and effective governance of identified MPAs for the conservation of aquatic biodiversity in AU MS and at West, Central and Northern regional levels;
- Part 9: Note on additional activities/best practices that need to be undertaken in the management of MPAs with the AU MS and at West, Central and Northern regional levels for transboundary MPAs.

It contains also the methodology used and the formulated recommendations based on the findings.

2. Methodology

2.1 Geographical coverage of the study

The assignment was done in three of the five geographical regions in Africa as classified by Africa Union. In all these regions, the 25 coastal countries (Table below) were included.

WESTERN AFRICA (12 countries)	CENTRAL AFRICA (6 countries)	NORTHERN AFRICA (7 countries)
<ul style="list-style-type: none"> • Benin • Cabo Verde • Côte d'Ivoire • Gambia • Ghana • Guinea-Bissau • Guinea • Liberia • Nigeria • Senegal • Sierra Leone • Togo 	<ul style="list-style-type: none"> • Cameroon • Congo Republic • DR Congo • Equatorial Guinea • Gabon • São Tomé and Príncipe 	<ul style="list-style-type: none"> • Algeria • Egypt • Libya • Mauritania • Morocco • Sahrawi Republic (Western Sahara) • Tunisia

2.2 Methodological approaches used

2.2.1 Literature review

A literature search was carried out using the Google scholar search engine. Keywords were defined for the search of documents relevant to the study. The following keywords were used in combination: Marine protected areas, creation, management, governance, West Africa, Central Africa, Northern Africa as well as the name of each of the 25 countries listed above. Scientific publications and technical reports were the main documents of interest.

An additional search was carried out on Google; similarly, the websites of the protected areas/marine protected areas networks in the three regions were exploited. These include RAMPAN (Regional Network of Marine Protected Areas in West Africa), MedPAN (The Mediterranean Protected Areas Network), and RAPAC (Network of Protected Areas of Central Africa). The website of the Regional Partnership for Coastal and Marine Conservation in West Africa (PRCM) and that of Regional Activity Centre for Specially Protected Areas (RAC/SPA) were also used to source information. Information were collected on the general literature on MPAs, inventory of existing MPAs (national and transboundary), characteristics of MPAs, institutional framework and governance arrangement for the management of MPAs, examination of the effectiveness of MPAs, identification of MPAs with endemic biodiversity hotspots and documentation of goods and services provided by MPAs.

2.2.2 Online surveys

Online surveys were conducted among Regional Economic Communities (RECs), Regional Fisheries Organisations (RFOs), international organization working on environmental issues and biodiversity conservation, and national institutions for all the countries (Fisheries Directorates, Environmental Directorates and Agencies, and Universities/Research Institutes). Two questionnaires were developed and sent to the targeted institutions by emails. The main questions in the survey instruments were on:

- Type of MPA
- Transboundary or national
- IUCN category
- Key biodiversity inhabiting the MPA (ecologically and economically important species, threatened and endemic species)
- Goal and measurable objectives for establishment (biodiversity protection, fisheries enhancement)
- State of establishment (proposed/committed, designated, implemented, and actively managed)
- Date of creation
- Age of the MPA
- Scientific grounding for establishment
- Size/area
- Location and boundaries
- Zonation schemes
- Range of goods and services
- Primary uses
- Restrictions/level of protection
- Financial status
- Legal structure (document of establishment and regulations)
- Existence of formal management plan
- Management board (legal mandate, roles and responsibilities, dedicated staff and composition)
- Model of governance (top down or centralised, bottom down or community-based, co- management, traditional management, private management)
- Existence of monitoring framework for evaluation
- Existence of conflict resolution mechanisms
- Lessons learnt and best practices
- Positive and negative consequences of MPAs
- Problems and challenges identified in the implementation
- Gap analysis through the SWOT (Strengths, Weaknesses, Opportunities and Threats) matrix
- Priority actions/recommendations to improve governance and managements in immediate (2-3 years), short-to medium-term (before 2030) and longer terms (beyond 2030 or even 2050)
- Needed supports/interventions to improve management and governance of MPAs
- Strategies to implement the proposed recommendations

The type of MPA was assessed using the classification of OceanTracks (2017). Concerning the categories of MPAs the following classification of IUCN (2019) was used:

- 1a. Strict nature reserve – Strictly protected area for biodiversity and possibly, geological or geomorphological features, where human visitation, use and impacts are controlled and limited to ensure protection of the conservation values.
- 1b. Wilderness area – Large, uninhabited, unmodified or slightly modified areas which have retained their natural character and influence, protected and managed to preserve their natural condition.
2. National park – Large natural or near-natural areas protecting large-scale ecological processes with characteristic species and ecosystems which allows for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitation activities.
3. Natural monument or feature – Areas set aside to protect a specific natural monument (for example, a landform, seamount, marine cavern, cave or ancient groove).
4. Ecosystem/species management area – Areas set aside to protect particular species or ecosystems.
5. Protected landscape or seascape – Areas that have become distinctly valuable because of humans' interaction with nature over time, and safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.
6. Protected areas with sustainable use of natural resources – Areas which are large and mainly in a natural condition with low-level, non-industrial natural resource use under sustainable natural resource management systems to promote conservation.

2.2.3 Fieldwork activities

Field trips were conducted to Gabon and Tunisia for two days in each country. These two countries were chosen based on their success stories and experience with the creation and management of MPAs. In the fields, we interacted with government institutions, Non-Governmental Organisations and local communities.

Gabon

In Gabon, we interacted with several stakeholders from the following institutions:

- Regional Fisheries Committee for the Gulf of Guinea (COREP);
- Economic Community of Central African States (ECCAS);
- Aventures Sans Frontières (ASF), a Non-Governmental Organisation ;
- Ministère de la Pêche et de l'Economie Maritime (MPEM) ;
- Direction Générale des Pêches et de l'Aquaculture (DGPA)/MPEM ;
- Direction Générale des Ecosystèmes Aquatiques (DGEA)/ Ministère des Eaux, de la Forêt, de la Mer, de l'Environnement, chargé du Plan Climat et de l'Affectation des Terres (MEFME) ;
- Direction Générale de la Faune et des Aires Protégées (DGFAP)/(MEFME).

Discussions were mainly on the number of MPAs, the existence of transboundary MPAs, endemic biodiversity inside MPAs, SWOT analysis to identify gaps to be addressed, best practices and lessons learnt, priority actions/recommendations and proposed mechanism to implement the recommendations. Assisted by two agents designated by the DGEA in concert with the National Agency for National Parks (ANPN), site visit was done at Cap Estérias. This fishing community is home to an aquatic reserve (Réserve Aquatique du Cap Estérias, 156.1 Km²). A focus group discussion was held with a group of fishermen belonging to the Coopérative des Associations des Pêcheurs de Cap Estérias.

Tunisia

In Tunisia, the subjects of discussion were the same as enumerated for Gabon. The following institutions were engaged on the field:

- Direction Générale de la Pêche et de l'Aquaculture (DGPAq)/ Ministère de l'Agriculture, des Ressources Hydrauliques et de la Pêche (MARHP) ;
- Agence de Protection et d'Aménagement du Littoral (APAL)/ Ministère de l'Environnement (ME) ;
- Notre Grand Bleu, a Non-Governmental Organisation.

3. Results

Part I: Synthesis of institutional framework and governance management systems of identified MPAs within AU member states and at West, Central and Northern regional levels

In terms of the number of existing MPAs, West Africa is the first region, comes the North Africa and the Central region; Senegal and Gabon are the first two countries with high number of MPAs. Findings reveal that MPAs that contain terrestrial, inter-tidal and subtidal components and those that contain terrestrial and inter-tidal ecosystems only are dominant as compared to entirely marine MPAs. For instance in Senegal, out of more than 20 MPAs, five (Saint-Louis, Kayar, Joal, Sangomar and Abéné) are exclusively marine, and they are all within national jurisdiction. MPAs are confined to the littoral, estuaries and lagoons. Efforts need to be put for the creation of MPAs on the high seas (large offshore MPAs). Although the shoreline is an extremely important area to conserve, the coasts seem not to be the most suitable MPA areas because of the presence of about 60% of the population of in the littoral fringe (Failler, 2015). There is no existing formal Transboundary Marine Protected Areas (TBMPAs) in the studied regions.

In all the regions, there are countries still with no formally established and nationally designated MPA. This is the case of Ghana, Liberia, Nigeria and Togo for West Africa. No formally established and nationally designated MPA exist in DR Congo, Equatorial Guinea and São Tomé and Príncipe for Central Africa and Sahrawi Republic or Western Sahara in the northern part of the continent. However, some feasibility studies have been conducted. Considering a region, some national MPAs are not part of networks of MPAs defined as a collection of individual marine protected areas that operates cooperatively and synergistically, at various spatial scales, and with a range of protection levels, in order to fulfil ecological aims more effectively and comprehensively than individual sites could alone (Laffoley, 2008). Consequently, there is often a difference between the number of MPAs stated on their website and those in other sources or from the individual country. Failler et al. (2020) also reported that a larger number of MPAs are present in countries but they are not RAMPAO members. The same issue of accuracy of data on number of MPAs in online databases has been reported with the WDPA database (<https://mpatlas.org/>) (Failler et al., 2020).

The model of governance is the centralised ones with low use of community-based and co-management for most of the MPAs. We did not find an MPA with pure traditional management and private management. There is no designated managing authorities of MPAs for most of the countries. The management entity is under the Ministry of Environment for the studied countries and collaborates with fisheries institutions at national level. Overall, MPAs in West, Central and Northern Africa do not also have a designated

management board with legal mandate and clear roles as well as a dedicated staff. Where there is management committee, which do among other things those related to MPAs, and the attention to MPAs needs are not sufficient and needs to be reinforced. This is because of other administrative duties that can often monopolize the committee member or personnel at the expense of work related to MPAs, in particular surveillance activities in the field.

The conflict resolution mechanisms are not established for most of the MPAs in the three regions. This poses an issue with the management of conflicts that happened often between local communities and MPAs managers. Most of number of the MPAs do not a management plan and its implementation plan yet. The Regional Coastal and Marine Conservation Programme for West Africa (PRCM), have help in the development of management plans for only eight MPAs in Senegal, Cape Verde and The Gambia. The development of management plans must be completed right once coastal and/or marine area to be protected has been selected before the official declaration.

Part 2: Report on review and classification of the existing MPAs in AU MS at West, Central and Northern regional levels according to IUCN categories for MPAs

National MPAs were based on scientific studies, according to the respondents, but the reports of these studies are rarely made public. The use of MPAs to conserve marine resources is still a new exercise for most countries and most of the MPAs have been created in the last fifteen years. The three objectives associated to the creation are to conserve biological diversity, preserve the marine ecosystems and contribute to the economic and social development of coastal communities. However, for most of the MPAs, specific measurable, quantifiable and verifiable objectives need still to be formulated for the purpose of monitoring their effectiveness. The zonation approach used for the MPAs allows to have three different zones namely Core Area, Transition Area and Buffer Zone. There are other appellation system such as High protection zone, buffer zone and adhesion/transition zone but the roles assigned are similar with the first. For some MPAs, the zonation is yet to be done; examples are the Grand-Béréby MPA in Côte d'Ivoire and four MPAs in Sierra Leone.

According to types of permitted activities, two types of MPAs are mostly created namely Multiple use (MPAs that allows extractive uses like fishing with some restrictions) and No-take (MPAs that allow people to use the area but prohibit extraction or any destruction to the area). Some allowed uses are navigation with non-motorised canoes (or with canoes with low power), research activities, and ecotourism and education programs. Some restrictions are a ban on industrial fishing, a ban on all gas, oil and mining operations, and regulated small-scale fishing activities. The main means of regulating small-scale fisheries are the prohibition of certain type of fishing gears and methods, and the ban on fishing in some areas.

According to the duration of protection, all the studied MPAs are permanent (MPAs with indefinite protection, aborted only on future legislative requirement).

The four encountered MPAs according to the IUCN category are:

- Typ1a (Strict nature reserve): Strictly protected area for biodiversity and possibly, geological or

geomorphological features, where human visitation, use and impacts are controlled and limited to ensure protection of the conservation values;

- Type 2 (National park): Large natural or near-natural areas protecting large-scale ecological processes with characteristic species and ecosystems which allows for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitation activities;
- Type 4 (Ecosystem/species management area): Areas set aside to protect particular species or ecosystems;
- Type 6 (Protected areas with sustainable use of natural resources): Areas which are large and mainly in a natural condition with low-level, non-industrial natural resource use under sustainable natural resource management systems to promote conservation. The type 6 remains the most the most dominant within AU member states and at West, Central and Northern regional levels.

Part 3: Report on MPAs with endemic biodiversity hotspots with brief descriptions

Overall, species of fish, mammals, reptiles, birds and vegetation are the key marine biodiversity targeted by the establishment of MPAs (PRCM, 2023). These are:

- Marine fish: Sharks and Rays, Sea horse and other ecologically and economically important fish species
- Marine mammals: Whales, Dolphins and Manatees
- Marine reptiles: Sea turtles
- Birds: Seabirds and migratory birds
- Vegetation: Seagrass and mangrove forests

There is a variation of the exact species for a given country. This is because native geographic areas and areas of expansion vary among species. Most of the MPAs served as reproduction and nursery habitats for those targeted species.

Most of the targeted species by MPAs are either IUCN threatened species or ecosystems (Vulnerable, Endangered, and Critically Endangered) or CITES-listed species. However, there are also countries such as Gabon that have species declared protected (totally or partially) at national level, and endemic species to some geographical area.

Below are the brief descriptions of key marine biodiversity in Gabon and Tunisia.

The case of Gabon

In Gabon, the MPAs are home to emblematic species such as the humpback whales, Atlantic humpback dolphins, sharks and rays, sea turtles and the manatee. Both resident and migratory marine mammals. The latter spend only part of the year in Gabonese waters. Some of important species are:

- **Humpback whale (*Megaptera novaeangliae*)**

Megaptera novaeangliae feeds in the cold waters of the Antarctic Ocean and migrates to tropical waters during the southern hemisphere winter to breed. They occur in Gabonese waters between June and

November, with a peak in August. Humpback whale numbers were severely reduced before the ban on commercial whaling. The major threats to the species are entanglement in industrial fishing gear and collisions with ships.

- **Atlantic humpback dolphin (*Sousa teuszii*)**

The Atlantic humpback is rare and endemic to the tropical and subtropical waters of Africa's Atlantic coast (from southern Morocco to Angola). There are only a few small isolated populations. Classified as critically endangered in the IUCN red list of species, the species is well found in coastal areas of West Africa. The main threats facing the species are habitat degradation and accidental entanglement in fishing nets. It is also one of the least known species of dolphin.

Gabon harbours the biggest leatherback, *Dermochelys coriacea* population in the world, the highest nesting density in Africa and, possibly, as much as 30% of the global population of this IUCN critically endangered species. In Gabon the leatherbacks and other sea turtle species such as green turtles (*Chelonia mydas*), hawksbills (*Eretmochelys imbricata*) and olive ridleys (*Lepidochelys olivacea*) are threatened by poaching of eggs and adults, intentional and accidental fishing, and habitat disturbance and degradation, such as pollution, development, erosion, lighting, debris and logs.

More than 60 species of Elasmobranches have been identified in Gabon of which at least 10 species are listed on the IUCN red-list of species; including whale sharks (*Rhincodon typus*), tiger sharks (*Galeocerdo cuvier*) and manta rays (*Manta birostris*).

African manatee (*Trichechus senegalensis*) lives rivers and lagoons of MPAs such as la Delta de l'Ogooué Aquatic Reserve and Embouchure de la Banio Marine Park.

The case of Tunisia

MPAs in Tunisia are entirely marine. Galite, Zembra et Zembretta, Kuriat, Kneiss are the main four islands used as MPAs in the country. They are home to sharks and the common species are the angel shark (*Squatina squatina*), the sand tiger shark (*Carcharias taurus*), and the spiny dogfish (*Qualus acanthias*).

The most encountered dolphins in the Tunisia MPAs are the rough-toothed dolphin (*Steno bredanensis*), bottle-nose-dolphin (*Tursiops truncatus*) and the common dolphin (*Delphinus delphis*).

Three species of sea turtle namely green, leatherback and loggerhead are encountered in Tunisia. However, only one the loggerhead (*Caretta caretta*) that nests in the Tunisian Coasts. Loggerhead turtles are the most common turtle in the Mediterranean and classified as vulnerable in the IUCN red list of species.

The coasts of Tunisia is home for *Posidonia oceanica* meadows. Commonly known as Neptune grass or Mediterranean tapeweed, *Posidonia oceanica* is an endemic seagrass species the Mediterranean Sea.

The MPAs in Tunisia are also egg-laying and nesting areas for seabirds such as:

- The little egret (*Egretta garzetta*)
- The little tern (*Sternula albifrons*)
- The yellow-legged gull (*Larus michahellis*)
- The Scopoli's shearwater (*Calonectris diomedea*)

Part 4: Brief note on transboundary MPA initiatives

According to Sandwith et al. (2001), transboundary marine protected area (TBMPA) means: an area of land/or sea that straddles one or more boundaries between States, sub-national units such as provinces and regions, autonomous areas and/or areas beyond the limits of national sovereignty or jurisdiction, whose constituting parts are especially dedicated to the protection and maintenance of biological biodiversity, and of natural and associated cultural resources, and managed co-operatively through legal and other effective means. It is important to note that the term “transboundary” refers to an area covering both sides of a border, whether or not a maritime boundary has been delimited (IUCN-WCPA, 2009). The need to establish TBMPAs is justified by the fact that the distribution of species, habitats and ecosystems do not frequently match jurisdictional or political boundaries. Unfortunately, the finding from our investigations revealed that there is no existing formal Transboundary Marine Protected Areas (TBMPAs) in the three studied regions. However, it is worth noting that in frame of MAMI WATA project implemented in the Abidjan Convention Region, there was a commitment of Ghana and Cote d'Ivoire to cooperate for the creation of a transboundary MPA between Assinie (Côte d'Ivoire) and Half Assini (Ghana).

There is also an avenue to extend some already established MPAs especially in Gabon to other neighbouring countries such as Congo and Equatorial Guinea in Central region, to create transboundary marine protected areas.

- Gabon and Congo
 - Grand Sud du Gabon Aquatic Reserve in Gabon;
 - Embouchure de la Banio Marine Park in Gabon ;
 - Mayumba National Park in south-western Gabon that stretches for 15 km out to sea and was Gabon's first marine park
- Gabon and Equatorial Guinea
 - Cap Estérias Aquatic Reserve in Gabon
 - Ile Mbanie Marine Park in Gabon

There is a need to establish cooperative mechanisms for a sustainable protection of coastal and marine ecosystems and their associated biodiversity in the regions shared by the abovementioned countries.

The creation of TMPAs will help addressing common challenges and issues though effective collaboration. Full and effective participation of indigenous and local communities, political will and government commitment are key and needed to realise this.

Part 5: Documentation of lessons learnt and best practices in the management of identified MPAs within AU MS at West, Central and Northern regional levels

According to Metcalfe et al. (2022), the following four steps already applied in Gabon, can be used by other African countries and donors to successfully create MPAs and move towards achieving the post-2020 global biodiversity commitments in Africa.

- Countries must build and maintain their research and implementation capacity, ensuring scientific evidence underpins policy decisions.
- Nations should make public pledges on marine conservation targets, signalling their commitment to the international community and potential donors.
- The conservation community should respond by helping to create or strengthen the country's environmental agencies either directly or, if financial safeguards are weak, via international organisations.
- Each implementation agency should lead on developing national marine conservation frameworks, working with stakeholders and donors to produce plans that are ambitious but politically feasible, combining top-down initiatives with bottom-up approaches as much as possible.

Other lessons learnt are that the use of the below listed practices allows the sustainable implementation and governance of MPAs in conservation of aquatic biodiversity resources within AU Member States and Regional levels of West, Central and Northern Regions of Africa.

- Creation of a national inter-ministerial framework (commission or committee) to facilitate administrative procedures and institutional collaborations
- Implication of ministry representative, agencies and directorate's representatives, NGOs and CSO, academia and research, legal experts and private sector at the beginning of the process and in the management of MPAs
- Strengthening of institutional capacity through training and mentoring
- Capitalisation on data from the implemented development projects and establishment of long-term formal partnerships among institutions to mobilise external funding
- Building the evidence on the necessity of protecting a marine area by gathering relevant scientific data that can be used to convince stakeholders
- Organisation of marine expedition and site visits with high levels authorities such as President and ministers to potential sites to receive their commitment
- Refining of zoning proposals for MPAs to include feedback from multiple rounds of stakeholder consultation and participative workshops

Gabon has well applied most of those practices to recently establish 20 marine protected areas. This has increased the formal protection of Gabon's marine waters from <1% to 26% between 2014 and 2017. Gabon was among the rare African country that far exceeded the Aichi target (10%) in 2020 (Metcalfe et al., 2022). Gabon is now among countries, which commitment will favour the achievement of the GBF 30 X 30 initiative to protect 30% of their waters by 2030.

All the 25 studied countries may need to explore the use of debt for-nature swaps. According to Thapa

(1998), debt for-nature swap transactions are mechanisms to combat the debt and environmental crisis in developing countries. Recently in 2023, Gabon announced a 500 Million USD debt for-nature swap to fund marine conservation and became the second African country, Seychelles being the first on the continent.

Part 6: Detailed note on a range of goods and services within the existing MPAs in AU MS and West, Central and Northern regional levels

MPAs provide natural areas with lower human impacts especially on fisheries resources; and allow sustainable conservation of biodiversity through five documented mechanisms (Edgar et al., 2014). These are:

- Organisms are protected within an MPA for a significant proportion of their life span allowing populations to recover from exploitation and other human-induced impacts;
- Organisms are protected within an MPA during demographically-important periods such as allowing populations to recover
- Incidental impacts of fishing on non-target species and benthic habitats are eliminated in MPAs
- Increase of biomass of adults within MPA spills over into adjacent fishing grounds increasing fisheries yields
- Increased reproductive potential within MPA seeds surrounding fished areas with eggs and larvae aiding stock recruitment and promoting stock recovery

With regard to goods and services, respondents were unable to provide information specific to each MPA due to the number of MPAs per country, but rather a general picture of all the MPAs in the country to which they belong. It should be noted that the goods and services listed are almost identical from one country to another.

The following are the enumerated goods and services provided by MPAs according to results of the survey and the field activity.

- Supply of fishery resources (various fish and seafood);
- Areas for scientific research;
- Areas for recreational activities (swimming, regulated recreational fishing);
- Areas for ecotourism (coastal tourism and dolphin watching);
- Combating climate change through sequestration of carbon in mangrove forests;
- Provision of natural barrier against coastal erosion through role of protected mangrove ecosystems (nature-based solutions);
- Provision of cultural and religious services by MPAs that host deities and gods;
- Generation of income through ecotourism and sustainable fishing.

Part 7: Gaps or weaknesses (SWOT analysis) including among others institutional capacity for the management of MPAs that need to be addressed

In the results of the SWOT analysis presented below, the identified weaknesses and threats constitute gaps that need to be addressed to strengthen sustainable implementation and governance of MPAs for

conservation of aquatic biodiversity resources within the African Union member states and at West, Central and Northern regional levels.

Strengths	Weaknesses
<ul style="list-style-type: none"> • Sustainable management of fisheries resources • Protection and conservation of marine biodiversity • Preservation of marine ecosystems • Conservation of sensitive areas such as spawning grounds • Conservation of already threatened species • Reduction of human footprint on marine resources • Tools to reduce fish stock depletion • • 	<ul style="list-style-type: none"> • Insufficiency of human resources • Poor public-private collaboration • Inexistence of reference document on baseline data backing the creation of MPAs • Inexistence of framework for MPAs for the monitoring of changes and effectiveness of MPAs • Limited funds allocation for conservation in national budget • Inexistence of management plans for most of the MPAs • Inexistence of periodic review system of management plans if exist • Poor collaboration among MPAs at national level • Open conflicts between artisanal fisher folk and administrations • Weak surveillance and enforcement capacity of MPAs • Low educational programs to inform public • Penalisation of small-scale fishermen who do not have capacity to fish in high seas by creation of coastal protected areas • Reduction of space available for artisanal fishing • Low support of fishermen with alternative livelihood options
Opportunities	Threats
<ul style="list-style-type: none"> • Existence of external funding opportunities • Existence of well-established NGOs that have good ability to mobilise funds for their activities in MPAs • Existence of tangible and intangible cultural heritage in Africa that can be used to achieve objectives associated to MPAs • Possibility of establishing effective surveillance system with local and indigenous community • • Existence of AU and other Centres of Excellence to conduct research on MPAs • Development of responsible ecotourism to generate incomes to fund activities within MPAs • Existence of MedFund, a conservation trust fund for Mediterranean Marine Protected Areas for Northern Africa • Implementation of Blue Economy concept to bring together stakeholders with different interests for marine ecosystems 	<ul style="list-style-type: none"> • Land-based pollution (chemical, biological and organic) • Plastic pollution and marine litter • Poor political willing and commitment • Use of bad and illegal fishing practices • IUU fishing and devastating impacts of distant water fleet fishing vessels • Habitat degradation and loss • Climate change and its related risks • Poaching and encroachment • Oil and gas leaks and spills • Exploitation of minerals and oil • Inexistence of a common regional vision on AMPs • Low knowledge of perception of local communities on MPAs to adapt sensitisation toolkits • Expansion of marine aquaculture • Negative impacts of coastal development •

Part 8: Developed guidelines on mechanisms and priority actions for intervention to support strengthening of implementation and effective governance of identified MPAs for the conservation of aquatic biodiversity in AU MS and at West, Central and Northern regional levels

The following priority actions are proposed by the respondents to support strengthening of implementation and effective governance of identified MPAs for the conservation of aquatic biodiversity in AU MS and at West, Central and Northern regional levels. They have been grouped into fourteen immediate priorities (2-3 years) and ten short-to medium-term priorities (before 2030). No proposed actions is in longer-term category (beyond 2030 or even 2050).

Immediate priorities

1. Establishment of a sustainable financing mechanisms to fund the MPAs operations;
2. Develop a national strategy for MPAs;
3. Development of monitoring frameworks in terms of monitoring indicators (environmental, ecological, social, and governance, data collection and management and performance evaluation);
4. Supporting of public and institutional consultations for the creation of TBMPAs between Gabon and Congo and between Gabon and Guinee Equatorial;
5. Drawing up of an action plan or roadmap to create TMPAs between Gabon and Congo and between Gabon and Guinee Equatorial;
6. Recruitment of dedicated and specialized staff to support implementation and management of MPAs;
7. Strengthening local capacity for data collection, management, and analysis to enhance monitoring MPAs;
8. Creation of website for national MPAs for information and data sharing publicly
9. Integration of all MPAs in the networks;
10. Development of management plans for MPAs especially in West Africa
11. Strengthening surveillance capacity of administration;
12. Multiplication of advocacy and public awareness campaigns;
13. Instauration of annual/ bi-annual reporting system on MPAs
14. Creation of scientific steering committee for MPAs to support the work of managers and ensure efficient science-based management of the protected area.

Short-to medium-term priorities

1. Assistance to ECCAS to finalise its maritime policy that includes MPAs;
2. Mapping all the special areas that need to be protected;
3. Assessment of cost benefits of MPAs;
4. Assessment of the effectiveness of MPAs (changes in biodiversity, compliance to regulations and the level of involvement of stakeholders, frequency of conflicts, rate of habitat degradation and pollution, level of achievement of initial objectives, level of enforcement);
5. Exploration of the use of public-private partnerships for management of MPAs;
6. Making monitoring data on MPAs data publicly accessible via online portals to increase transparency, accountability, and trust;
7. Scientific studies to document evidence of effectiveness of MPAs at national levels;
8. Integration of long-term management and funding of MPAs into the creation process, rather than seeing creation and management as two independent entities;
9. Creation of MPAs in High seas (large-scale offshore MPAs) to achieve international commitment in terms of spatial conservation since it is impossible inconceivable to protect the entire coastline the African countries with a cordon of MPAs;
10. Establishment of livelihood programs to support artisanal fisher folk and decrease their dependence on marine biodiversity.

To implement the proposed priority actions, different mechanisms that can be applied at both national and regional levels were suggested. These include training workshop, capacity building and development, exchange and learning visits, merit-based funding supports through competitive call for applications, donation

of materials and equipment, commission of studies and recruitment of national experts, development of projects by AU-IBAR and acquisition of funding, joint proposal writing, and project implementation with RFOs and Member States.

Part 9: Note on additional activities/best practices that need to be undertaken in the management of MPAs with the AU MS and at West, Central and Northern regional levels for transboundary MPAs

From this study, four additional activities are considered as best practices to be undertaken in the management of MPAs with the AU MS and at West, Central and Northern regional levels for transboundary MPAs. These are:

- **Creation of a special corporation such as eco-guards and recruitment of indigenous people for the monitoring and surveillance in MPAs**

Eco-guards will be responsible for implementing regulations on the ground at national level on the management and governance of MPAs. They will work under the dedicated MPA managing authority (Agency or Commission) and ensure the compliance with regional and international MPAs. The eco-guards will collaborate with all the local public authorities and communities and execute surveillance and monitoring activities with the MPAs.

- **Development of management plan for each established MPA**

For the effective management of MPAs, there is need to develop management plans with their action plans. The desired conditions of the MPA and the objectives of the plan have to be well defined. The plan will determine the stratification of land and sea uses within the MPAs. The action plan will contain all the activities to be realised to achieve the strategic objectives in the plan and desired conditions. The MPA managing authority at national level will have the role to administer the plan.

- **Nomination of conservator for each established MPA**

The nominated conservator will have the role to manage the natural or cultural heritage of the MPA and oversee the overall protection and management actions. The conservator will also promote awareness raising and sensitisation activities.

- **Creation of autonomous entity to coordinate creation process and management of MPAs**

There is a need to create MPA managing authority that has technical and financial autonomy. The administrative processes should be facilitated by special arrangement. The entity should be the executive secretariat of the national inter-ministerial committee/commission on MPAs and manage collaboration with NGOs for the sustainable management and achievement of objectives associated to MPAs.

4. Recommendations

Among the immediate identified priority actions, we recommend the following five to AU-IBAR to tackle in the frame of the “Conserving Aquatic Biodiversity in African Blue Economy” project for strengthening the sustainable implementation and governance of MPAs for conservation of aquatic biodiversity resources, based on the availability of funds.

- Supporting of public and institutional consultations for the creation of TBMPAs between Gabon and Congo and between Gabon and Guinee Equatorial, especially the binational Mayumba Conkouati-Congo, Gabon;
- Drawing up of an action plan or roadmap to create TMPAs between Gabon and Congo and between Gabon and Guinee Equatorial;
- Develop national strategies for MPAs;
- Development of monitoring frameworks in terms of monitoring indicators (environmental, ecological, social, and governance, data collection and management and performance evaluation)
- Development of management plans for MPAs especially in West Africa
- It will be important to develop new projects targeting the realisation of the remaining actions. In addition, we propose the following recommendations to AU-IBAR:
- Organisation of learning and experience sharing tours on MPAs especially in Central Africa;
- Organisation of regional workshop per region to identify opportunities related to TMPAs and develop roadmap;
- Support the formalisation of MPA in Tunisia Gulf of Gabes, a Mediterranean zone with important biological resources and rich coastal, marine and freshwater ecosystems (Northern Africa);
- Support the creation of first formal MPAs in some of the following countries: Ghana, Liberia, Nigeria Togo, DR Congo, Equatorial Guinea and São Tomé and Príncipe, and Sahrawi Republic.

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