

Addressing shifting governance contexts and development objectives in the Quirimbas National Park, Mozambique

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1. Background and rationale

Marine protected areas (MPAs) are one of the most commonly applied spatial management tools for biodiversity conservation. Considering their history, MPA planning and management have evolved to address multiple objectives and consider different approaches to ensure their success and sustainability^{1–3}. In terms of planning, MPA objectives have included ecological processes and various threats to ensure persistence of biodiversity, and various social, economic, and political considerations to reduce conflict between protected area management and stakeholders, and increase compliance^{3–5}. Management has also evolved to become more adaptive to increase MPA effectiveness^{6,7}. Despite the considerable strides, MPA planning and management have yet to learn to be more dynamic to keep up with shifting governance contexts and development objectives to ensure their success and sustainability⁸.

2. Link to regional and global processes

Currently, there are 154 MPAs in the Western Indian Ocean (WIO), and these were established with different objectives and are managed using different approaches⁹. In addition to government-led MPAs, Kenya, Tanzania, Mozambique and Madagascar have locally-managed marine areas (LMMAs) that were established by communities with support from various bridging organisations¹⁰. Whilst the WIO have come closer to achieving biodiversity targets set by various international agreements, East African nations still struggle to maintain the level of effort needed to implement their MPAs effectively^{9,11,12}. The majority of the MPAs and LMMAs in the WIO have limited management performance due to changes in governance structure, insufficient finances, weak enforcement, and lack of human resources and technical capacity^{10,12}. Hence, it is important to understand the history and limitations of existing management approaches and the shifts in governance priorities, to be able to make meaningful recommendations to adapt to the changing MPA contexts.

Using the Quirimbas National Park (QNP) in Mozambique as a case study, we describe the lessons learned from the protected area review process. The lessons presented in this paper are envisioned to provide insights as to how the development trajectories of Mozambique have influenced governance of the QNP, and consequently the proposed downgrading of regulations and expansion of protected area boundaries.

3. Expansion of the Quirimbas National Park

The QNP is located in Cabo Delgado province in Northern Mozambique. It has a total area of 9,130 km², which includes 7,945 km² of terrestrial and 1,185 km² of marine components (Figure 1A). It is also surrounded by a buffer area that has a total area of 5,730 km². The QNP was established in 2002 by the national government with support from the World Wide Fund for Nature (WWF-Mozambique) and other stakeholders^{13,14}. Unlike most of the protected areas in Africa, one of the main reasons for the QNP's establishment was to conserve biodiversity and support rural development for local communities in Cabo Delgado.^{15,16}

More specifically, the QNP was also established to support the needs of communities residing in the park, which included: i) addressing human and wildlife conflict; ii) supporting the economic and infrastructure development within the park and Cabo Delgado; and, iii) diversifying livelihood opportunities to benefit communities^{13,14}.

Since its establishment, the QNP has gone through different management models¹³. WWF-Mozambique played a more active role apart from providing technical and financial support to build government capacity during the establishment phase. In 2011, the WWF-Mozambique shifted to an advisory and technical support role, because they (with donor encouragement) realised that the Mozambican government should take on the leadership role to increase their management capacity. Since the shift in governance structure, management of the QNP has weakened, and recent assessments have shown declines in forest vegetation, wildlife populations, and coral reef condition inside the park due to various human activities, and encroachment of mining operations^{11,13,15}.

With the enactment of the Conservation Law in 2017 and its corresponding regulation in 2018, the government started a process to review the status, objectives and governance of conservation areas and their alignment with the new management categories defined by the law. The review of the QNP was undertaken between 2019 and 2020 and engaged various stakeholders from the QNP management, government officials and staff from Cabo Delgado, and representatives from other institutions that have been involved in planning and management of the park in multiple stakeholder workshops. Originally, the focus of the review was to identify, under the new conservation law, the management category that could allow better management of protected areas, and for the case of the QNP, with an increasing resident population highly depend on natural resources for livelihood. The objectives of the review then shifted to re-thinking and redesigning the protected area management zones and restrictions.

The stakeholder engagement process adopted a top down approach, where spatial design scenarios were prepared using biodiversity conservation and socioeconomic objectives. These design scenarios were then presented to stakeholders for review and discussion. During the participatory review process, stakeholders suggested expansion of the QNP to extend regulatory and management frameworks for unmanaged areas of Cabo Delgado with high importance for conservation. However the high level of restrictions in national parks (i.e., total protection areas) would not allow resident communities to use natural resources in the area, leading to an increase in conflicts related to access to natural resources and exacerbation of poverty in the region. Because the conservation law defines new conservation area categories, it was concluded that the most populated areas of the QNP should be downgraded to the category of Environmental Protection Area (EPA) (i.e., sustainable use conservation area) in order to allow sustainable use activities and promotion of the inclusive conservation approach, where local communities can effectively contribute to the conservation of biodiversity. Additionally, the EPA is also the only conservation area category that allows creating other conservation inside its boundaries, and therefore, zoning can be done in two ways: (1) considering the zoning categories defined by the law, and (2) for areas inside the EPA that would need a dedicated management or higher level of protection, it could be considered the creation of other conservation areas inside the EPA. Thus, in order to provide a higher status of protection to areas with high value for conservation (i.e. habitats and ecosystems relevant for conserving biodiversity), stakeholders opted for keeping some areas categorized as national park inside the EPA. If ratified, this will increase the total area managed in Cabo Delgado and ensure sustainable use of ecosystem goods and services in the province (Figure 1B).

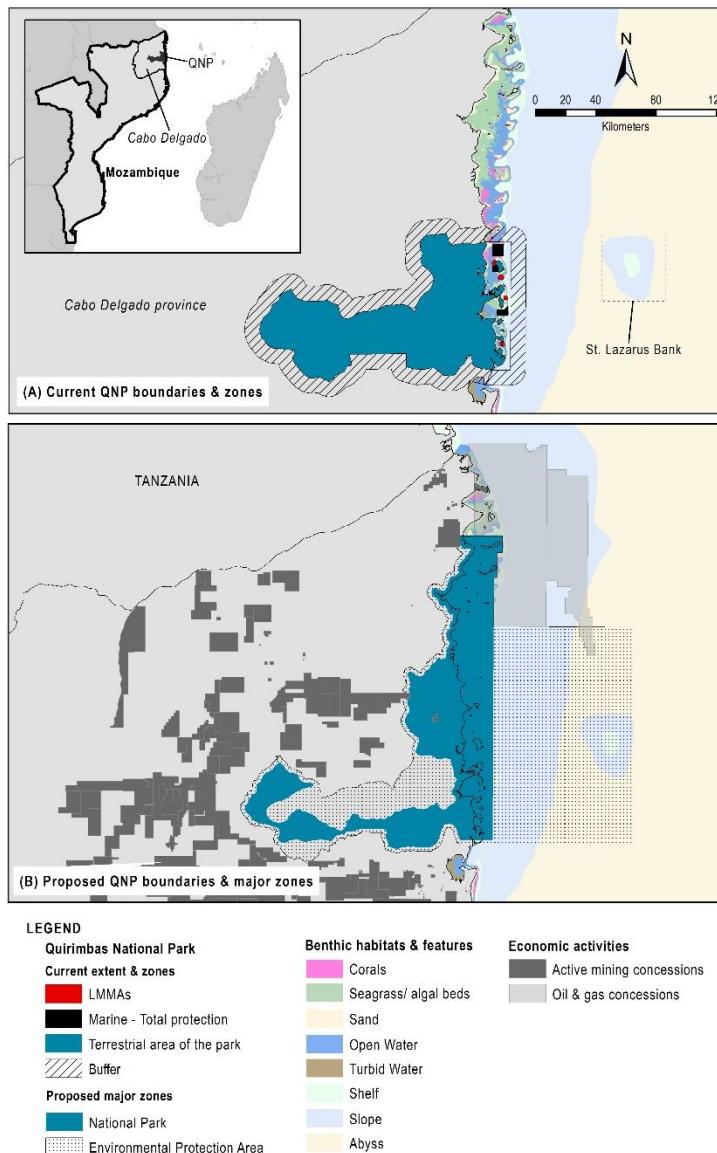


Figure 1. Current (A) and proposed (B) QNP boundaries and major zone categories. Note that the terrestrial zones in the current zoning scheme is not presented.

The proposed EPA has a total area of 27,520 km², which could potentially conserve and manage 10,022 km² of terrestrial and 17,497 km² marine ecosystems and habitats (Figure 1B). Whereas, the proposed national park area (QNP inside the EPA area) could potentially protect an area of 9,827 Km², of which about 4,262 Km² is marine. The two major zones (i.e., QNP and EPA zones) in the proposed expansion will be zoned further based on different objectives. For the marine component, the QNP and EPA are envisioned to protect coastal and marine ecosystems, including the northern islands up to Vamizi island, an area of about 700 Km² of mangrove forest, and the offshore area of St. Lazarus Bank (about 100 km from the coast).

4. Lessons learned from the QNP expansion

The proposed expansion of the QNP was also a result of efforts by the Mozambican government to update the category of several conservation areas in the country to align the status of these areas to the terms of the new conservation law. Shifting the most populated areas to sustainable use management will relax park regulations, and allow the government to accommodate and engage local communities in various sustainable use activities and some economic activities within EPA boundaries. This will also allow the creation of additional

sources of income to the conservation area and contributing to its financial sustainability. Whereas, keeping the ecologically important areas under a total protection management as a national park will help prevent future degradation of these areas.

The shift from total protection to sustainable use management of the most populated areas of the QNP is a form of protected area downgrading, downsizing, and degazettement (PADDD). The potential increase of the total area conserved occurred in the backdrop of encroachment human settlements and other activities inside the strict protection zones of the QNP. Although the increase in total area of protection may be seen as a win for biodiversity conservation, establishing and managing it might become more challenging. Protecting such a large area will require properly crafted policies to support park regulations, strict enforcement of management zones, and high governance capacity. Moreover, managing a much larger area would require more human and financial resources, which the government have already found challenging to provide, therefore sources for financing the conservation area must be identified and promoted. Lastly, downgrading the entire area of QNP to a sustainable use area could still potentially impact the conservation area management negatively and contribute to succeeding changes to the park boundaries and regulations. Studies have shown that the probability of an enacted PADDD event increases with the size (total area) of the protected area, and that this is likely to occur with increasing local population densities and economic growth¹⁹. Thus, the increase in the total area could put it into higher risk of being amended again in the future, but the review in zoning may help define strategies to manage the growing population and promote improved inclusion of these communities in conservation initiatives.

Although there are a lot of potential negative implications of downgrading part of the QNP to a sustainable use management area, communities and other stakeholders in Cabo Delgado have been greatly encouraged by the review process that took place. The review process also facilitated several other discussions about including participatory processes in decision-making and management to sustain the QNP. The renewed interest and commitment of various stakeholders in the QNP will hopefully contribute to improved governance of this area.

5. Policy recommendations for implementing spatial management efforts in the WIO

Oftentimes, MPAs are considered as permanent spatial closures. However, governments around the world enact PADDD when human activities encroach protected area boundaries, or when development is prioritised over conservation objectives. PADDD is not unique to Mozambique, and it has been recorded globally including some of the WIO countries. Some of the terrestrial protected areas in Kenya, Madagascar, Tanzania and South Africa were either downgraded, downsized, or degazetted, because of encroachment of pastoralist communities, land titling, logging concessions, timber licensing, and government corruption²⁰.

Lessons from these terrestrial parks point out the importance of increasing the governance capacity of various government levels and stakeholders that are involved in protected area management. This also holds true for MPAs and other spatial management tools that can be used to regulate coastal and marine areas in the WIO. Increasing governance capacity of WIO nations is very important, because it can ensure that MPA and other management zones and relevant laws and regulations are strictly enforced, and that sufficient resources are allocated. Increasing the governance capacity of relevant stakeholders will require improving their awareness and education of the importance of the maintaining ecosystem function to sustain the benefits provided by various coastal and marine ecosystems. This will hopefully help government and non-government stakeholders explicitly discuss trade-offs between conservation and development objectives to make informed and better decisions.

From this experience, we recommend that the WIO states consider the following recommendations to limit PADDD in both MPA and terrestrial protected areas:

Technical recommendations

- Ensure management effectiveness assessments are included in MPA management plans, and are conducted regularly as part of the adaptive management cycle;
- Support and develop research on PADDD to understand its implications on achievement of conservation, social, and economic objectives

Policy recommendations

- Promote a more inclusive approach to MPA management by considering access, use rights, and cultural and historical values of local communities to reduce PADDD;
- Identify complementary financing sources (e.g., sustainable tourism, nature based solutions, biodiversity offsets) and encourage broader stakeholder engagement to sustain MPA management; and,
- Formulate criteria and guidelines as part of the regional MSP implementation process to accommodate current and future transformations caused by social, economic, political and climate change events to minimise the negative impacts of PADDD.

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