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Governance and Community Participation in Marine and Coastal EbA in SADC

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Abstract

Climate change is affecting all SADC countries, and adaptation needs to include communities to be more effective. This study aims to understand how communities are involved in ecosystem-based adaptation (EbA), the main issues in community engagement, and possible solutions. SADC countries generally have robust legal and policy frameworks to address climate change, but community involvement is not always covered. The implementation of policy instruments is deficient for several reasons, including the absence of mechanisms to include communities. Although community-driven adaptation actions have been reported throughout the region, some have produced adverse results. Successful community-driven initiatives that enhanced habitat condition and improved overall community wellbeing have also been reported. Government interventions in climate change adaptation include providing technical capacity and building infrastructure. These initiatives follow different models of community involvement, such as integrating modern legislation with traditional governance systems to facilitate community adherence and enforcement. Women suffer disproportionately from the effects of climate change. Some of the social consequences of climate change are changing the roles women and men play in society, for instance, as men participate more in domestic chores and women venture outside the house to find alternative sources of income. Women empowerment through capacity building and provision of resources and alternatives must be prioritised. Non-governmental organisations are key partners in achieving this and addressing other aspects of climate change adaptation. The key recommendations are for empowering communities and including their views in policy- and law-making, and for feasible community-driven initiatives to be upscaled and implemented widely.

Introduction

Climate change is a current reality that affects all countries in the SADC region. Changes in precipitation patterns, increases in temperature and sea level rise are some of the main elements that indicate that significant changes in the climate are happening in the region.¹ Increased frequency and intensity of extreme weather events like heatwaves,² cyclones and droughts have been recorded in countries like Mozambique and Namibia.³ As a consequence, communities face challenges such as loss of human lives and infrastructure, food insecurity, increase in diseases, ecosystem degradation and loss of biodiversity, loss of livelihood, etc.⁴ Several initiatives are being taken by governments at country and regional

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- 1 David Lesolle, "SADC Policy Paper on Climate Change: Assessing the Policy Options for SADC Member States" (SADC Research and Policy Series 1, SADC Policy Analysis & Dialogue Programme, Gaborone, 2012).
 - 2 UN Office for the Coordination of Humanitarian Affairs, International Federation of Red Cross, Red Crescent Societies, and Red Cross Red Crescent Climate Centre, *Extreme Heat Waves: Preparing for the Heatwaves of the Future* (New York: OCHA, 2022).
 - 3 International Federation of Red Cross and Red Crescent Societies, *Namibia Drought Assessment Report* (Pretoria: IFRC, 2022); Worlddata.info, "Cyclones in Mozambique", <https://www.worlddata.info/africa/mozambique/cyclones.php>; Arlindo Meque et al., "Understanding the Variability of Heatwave Characteristics in Southern Africa", *Weather and Climate Extremes* 38.
 - 4 Lesolle, "SADC Policy Paper".

level to mitigate the impacts of climate change and promote adaptation and increased resilience.⁵ Local communities are very important actors in climate adaptation, as they make the most direct use of the natural resources. Local communities also have situational knowledge on how the ecosystem functions and the services that are provided, and experience the effects of a deficient management model, which may significantly affect the most dependent groups. Unfortunately, the poorest communities are most vulnerable to the consequences of climate change because they are less resilient and have more difficulty in adapting to environmental changes.⁶

Community engagement is a process that aims to involve different groups of people in addressing issues that affect their wellbeing. These groups of people are usually connected by geographic location, interest, or affiliation with a specific issue. Such engagement can be classified as informative participation (one way), preparatory participation (involves stakeholders at implementation) and decision-making participation, which can be conducted at different levels (Figure 1). Community engagement in EbA is important because communities interface with natural resources and ecosystem services directly, and are therefore in a privileged position to understand the changes that occur in the environment and their consequences.⁷ Communities are also in a better position to indicate the best strategies for climate adaptation, taking into account important cultural and social aspects that are crucial for strategies to be adopted by the majority of

Figure 1 Levels of community participation



Source: Compiled by author based on Open Learn Create, "Levels of Community Engagement", <https://www.open.edu/openlearncreate/mod/oucontent/view.php?id=80596§ion=6>

5 SADC Secretariat, *SADC Climate Change Strategy and Action Plan* (Gaborone: SADC); Zina Ziervogel et al., "Climate Change Impacts and Adaptation in South Africa", *WIREs Climate Change* 5, no. 5 (2014).

6 Robin Leichenko and Julie Silva, "Climate Change and Poverty: Vulnerability, Impacts and Alleviation Strategies", *WIREs Climate Change* 5, no. 4 (2014).

7 Shankar Aswani, Anne Lemahieu and Warwick Sauer, "Global Trends of Local Ecological Knowledge and Future Implications", *PLOS ONE* (April 5, 2018).

community members.⁸ In addition, community involvement also ensures ownership and long-term sustainability of behavioural, socio-economic and ecological changes.⁹

Information sharing (level 1) is a two-way process where the government (or other entity) considers the information provided by the community and provides information back to the community. At the consultation level, the organisation or government entity seeks and considers the views of the community (and other stakeholders) directly affected or with significant interest in the project or EbA initiative before a decision is made. When planning together, communities are invited to collaborate on the identification and analysis of issues, while also developing alternatives and feasible solutions. At a higher level, communities are also involved in acting and implementation. Finally, in community-directed initiatives the community assists in identifying issues and solutions, decision-making and implementation, and management. The higher levels have increased community participation and much higher levels of success.¹⁰

The aim of this study is to understand the role of community participation in EbA in the SADC region, with a specific focus on the following aspects:

- To which extent is community participation protected by current legislation and policy frameworks?
- How are communities practically engaged in EbA in the SADC region?
- What is the role of women in EbA?
- How are other important stakeholders such as governments and non-governmental organisations (NGOs) involved in promoting community engagement?

This study was based on a literature review that covered the SADC countries to provide a comprehensive view of the region.

Community involvement in marine and coastal EbA governance in the SADC region: Legal and political instruments

SADC countries have robust legal and institutional strategies and policy frameworks that support EbA governance and emphasise the need for community involvement in these initiatives.

8 Lalaina Rakotoson and Kathryn Tanner, "Community-Based Governance of Coastal Zone and Marine Resources in Madagascar", *Ocean and Coastal Management* 49, no 11 (2006); Baraka P Nyangoko et al., "Community Perceptions of Climate Change and Ecosystem-based Adaptation in the Mangrove Ecosystem of the Rufiji Delta, Tanzania", *Climate and Development* 14, no. 10 (2022).

9 Anoradha Chacowry, "Meeting the Challenges to Climate Change Adaptation: An NGO Community-Based Successful Project in Mauritius", *GeoJournal* (March 2023).

10 International Union for Conservation of Nature, *The IUCN Global Standard for Nature-based Solutions* (Switzerland: IUCN, 2020).

Tanzania

In Tanzania, the National Environmental Policy (1997) stresses that all sectors of the society must be involved in problem identification, solution design, implementation and monitoring, highlighting the role of communities in addressing environmental issues. The policy is based on the premise that part of the solution to the country's environmental issues lies in addressing poverty, demographics and the high dependency of communities on natural resources. These three elements (promoting sustainable use of resources, ensuring community participation and rights, and improving/enhancing sustainable livelihoods to reduce poverty) are replicated in other policies that address climate change and EbA. For instance, community participation in the management of natural resources is further strengthened in the National Forest Policy (1998), which creates the foundation for participatory forest management. This policy also provides opportunities for climate change adaptation and mitigation, through the management of forestry resources. Recognising that a key aspect of sustainable conservation is that biodiversity must provide livelihoods for communities, and that the country has extensive forest resources, the National Beekeeping Policy (1998) aims to enhance the contribution of this subsector to natural resources conservation in Tanzania. It also supports adaptation to and mitigation of climate change. Beekeeping is one of the most promoted alternative livelihood activities for mangrove conservation, as it addresses forest protection and income simultaneously. The National Tourism Policy (1999) aims to contribute to economic development and the livelihood of people by promoting sound social and cultural local practices aligned with environmental sustainability that are also profitable to communities. These objectives are aligned with the Climate Change Strategy. Community involvement is also assured in many legal instruments, such as the Wildlife Conservation Act (No. 5 of 2009), by including communities in the management of wildlife management areas, and the Forest Act (No. 14 of 2002), which designates community forest reserves and mangrove forest reserves. The Wildlife Conservation Act (No. 5 of 2009) covers issues of community participation and benefit sharing. The Land Act (No. 4 of 1999) controls land use and tenure, two crucial aspects in EbA projects. This act is complemented by the Village Land Act (No. 5 of 1999). In addition to empowering local government to manage the land and its resources, the village act provides room for community involvement in land and resource management, ensuring that local concerns are considered in climate change adaptation actions.

Mozambique

In Mozambique, the government has made considerable effort to create instruments that facilitate the implementation of adaptation measures and to involve communities as important stakeholders in the processes. The National Adaptation Plan (2007-2012), the National Strategy for Climate Change Adaptation, the Nationally Determined Contributions

(NDCs), submitted in 2015 for the 2020–2030 period and updated in 2021,¹¹ the Sea Policy and Strategy and the National REDD+ Strategy and Action Plan are examples of such efforts. Other, more recent, instruments include the Mangrove Management Strategy (2020–2024),¹² the Marine Spatial Plan and the National Plan for Territorial Development. Community participation is referred to and encouraged in many of these instruments. There are also some legal tools that ensure community participation, such as the Land Law (Law No. 19/97 of 1 October) and the Law of Forest and Wildlife (Law No. 10/99 of 7 July).¹³ Both of these laws establish that communities are primary stakeholders in the use and management of natural resources and grant them rights of use and access for customary uses, provided the integrity of the ecosystems is not significantly altered.

Democratic Republic of Congo

The climate change and EbA framework in the Democratic Republic of Congo (DRC) still has room for growth, particularly with regard to coastal ecosystems¹⁴ along the 40km coastline. The country presented its first NDC in 2015, which was updated in 2021. The adaptation measures are indicated by sector, and for the coastal area the focus is on erosion control, funding of alternative livelihood sources, improvement of the early warning system and investment in capacity building at all levels. The effects of climate change on coastal-zone matters were covered in the Second National Communication on Climate Change (2009) and in the National Adaptation Plan (2020–2026). The national plan details specific actions and recommendations regarding community involvement.¹⁵ These include the involvement of Indigenous people in the negotiation of development projects to be implemented in their area, for example projects on forestry and mining. It also raises awareness on sound environmental practices and human rights, particularly for women; introduces ‘non-wood forest product’ pilot projects with Indigenous people; recommends rehabilitation and repopulation of habitats with Indigenous species; and introduces sustainable fishing practices and aquaculture and integrated livelihood activities such as agriculture, fishing and livestock farming. The DRC has made considerable progress on rights and access to resources for local communities since the 2002 Forest Code and Decree No. 14/018 (2 August 2014), which allow communities to obtain forest and conservation concessions by which they are entrusted with the use and biodiversity conservation management of forest and wildlife resources. Moreover, a 2018 Ministerial

11 Republic of Mozambique, Ministry of Land and Environment, *Update of the First Nationally Determined Contribution to the United Nations Framework Convention on Climate Change, Mozambique, Period 2020–2025* (Maputo: National Directorate of Climate Change of the Ministry of Land and Environment of Mozambique, 2021).

12 Republic of Mozambique, Council of Ministers, *Estrategia de Gestao de Mangais 2020–2024 [Mangrove Management Strategy]* (Maputo: Council of Ministers, 2020).

13 Republic of Mozambique, Land Law, Law No. 19/97 of October 1st; Republic of Mozambique, Law of Forests and Wildlife, Law No. 10/99 of July 7th.

14 Grantham Research Institute on Climate Change and the Environment, “Climate Change Laws of the World”, https://climate-laws.org/legislation_and_policies?from_geography_page=Democratic+Republic+of+Congo&geography%5B%5D=47&type%5B%5D=legislative.

15 Democratic Republic of Congo, Deputy Prime Minister’s Office, Ministry of the Environment and Sustainable Development, *National Adaptation Plan to Climate Change* (New York: Global Support Programme on National Adaptation Plans, UN Development Programme, 2021).

Order on REDD+ recognised that carbon-emission reduction units are owned by those who invest in REDD+ (communities included), even though forest carbon stocks are the property of the state.¹⁶ The rights of Indigenous people have also been protected by law since 2022.¹⁷

Angola

Recently approved climate change instruments in Angola include the National Strategy for Climate Change Adaptation (2019–2030) and the national Climate Change Adaptation Plan for the Coastal Zone.¹⁸ It is notable that the climate change adaptation plan for coastal zones very specifically mentions EbA measures to control urban floods (creating retention basins). It also recommends reducing the ‘island heat’ effect in urban areas through the establishment of green belts, and the mitigation of climate change effects through mangrove restoration in the Kwanza River Mouth. This document clearly recognises the coastal community as an important stakeholder in the implementation of the adaptation plan. It also calls for the inclusion of all stakeholders in the needs assessments, as well as during project implementation, capacity building and awareness raising.

Comoros, Mauritius and Seychelles

The island states of Comoros, Mauritius and Seychelles are more vulnerable to the effects of climate change due to their greater exposure to climate hazards such as cyclones, erosion and sea-level rise. These countries also have small economies that rely on climate-sensitive activities such as tourism and fisheries. Therefore, the issue of community involvement in climate change management is of great importance. The legal and political instruments in these countries target education and raising community awareness. The Conservation and Climate Adaptation Trust of Seychelles facilitates specific community engagement processes for climate change adaptation and biodiversity conservation.

Implementation of management tools

Although significant progress has been made, in practice the implementation of many of these management instruments is deficient for several reasons.¹⁹ These include lack of clear mechanisms for community involvement and the role of communities in the participatory processes. Communities frequently do not have the technical skills to understand the processes effectively and take informed decisions that will benefit them in

16 Edwin Okoth, “In DRC, Indigenous Peoples and Local Communities’ Inclusion in REDD+ Remains a Work in Progress”, *Forests News*, February 16, 2023.

17 Maurine Gauthier, “New Legislation to Protect the Rights of the Indigenous Pygmy Peoples in the DRC”, IUCN, August 5, 2022.

18 Republic of Angola, Ministry of the Environment, *Plano de Adaptacao as Alteracoes Climaticas da Zona Costeira de Angola [Climate Change Adaptation Plan for the Coastal Zone of Angola]* (Luanda: Ministry of the Environment, November 2019).

19 Romy Chevallier, *Marine and Coastal Ecosystem-based Adaptation for Enhanced Resilience in Southern Africa*, Synthesis Report (Johannesburg: South African Institute of International Affairs, 2019); Ahmed Khan and Vincent Amelie, “Assessing Climate Change Readiness in Seychelles: Implications for Ecosystem-Based Adaptation Mainstreaming and Marine Spatial Planning”, *Regional Environmental Change* 15 (2015): 721–733.

the medium and long term. Community participation is also limited because of inadequate time, capacity and other resources. Distrust caused by past negative experiences with government, NGOs and other entities that work with environmental issues, is another aspect limiting community involvement. Although marginalised groups are increasingly involved in discussions, challenges such as ensuring that their concerns are effectively considered, persist. The lack of financial capacity and empowerment can also be a limiting factor. In the DRC, practical attempts to implement community forest and biodiversity conservation have been impaired by complex procedural costs and the lack of technical capacity. The lack of community involvement in policy and legislative processes leads to top-down governance and management approaches, which are highly inefficient.²⁰

Autonomous community adaptation responses to climate change

While governments try to implement integrated plans for climate change adaptation that consider the broader socio-economic and political consequences, local communities tend to adopt innovative responses to immediate and emerging issues based on their available resources.²¹ In the Rufiji Delta (Tanzania), community perceptions of the effects of climate change on coastal ecosystems and peoples' lives vary, but it is notable that a large part of the community understands that human activity has a great effect on ecosystem health. Furthermore, communities understand that human activity significantly reduces the resilience of ecosystems, which are then less capable of coping with the changes and become unable to provide valuable ecological services vital to community survival.²² However, communities are able to develop their own adaptation strategies.²³ Some of these strategies may respond to immediate concerns, but in the long run they could be harmful to the environment and consequently reduce the community's adaptive capacity. In periods of prolonged drought, the local community in the Rufiji Delta used mangrove forests for rice cultivation.²⁴ Although this solution addressed the immediate threat of famine, in the long term it had the negative effect of stimulating land use change and mangrove degradation.²⁵

20 Franziska Mannke, "Key Themes of Local Adaptation to Climate Change: Results from Mapping Community-Based Initiatives in Africa", in *Experiences of Climate Change Adaptation in Africa*, ed. Walter Leal Filho (Cham: Springer, 2011).

21 HM Tuihedur Rahman et al., "A Framework for Using Autonomous Adaptation as a Leverage Point in Sustainable Climate Adaptation", *Climate Risk Management* 34 (2021).

22 Qiang He and Brian Silliman, "Climate Change, Human Impacts, and Coastal Ecosystems in the Anthropocene", *Current Biology* 29, no 19 (2019): 1021-1035.

23 Cristina Udelsmann Rodrigues, "Climate Change and DIY Urbanism in Luanda and Maputo: New Urban Strategies?", *International Journal for Human Sustainable Development* 11, no. 3 (2019): 319-331.

24 Nyangoko et al., "Community Perceptions of Climate".

25 Eliane Monga, Mwita Mangora and Joseph Mayunga, "Mangrove Cover Change Detection in the Rufiji Delta in Tanzania", *Western Indian Ocean Journal of Marine Sciences* 17, no. 2 (2018).

Communities can also adopt environmentally sound responses to climate change that contribute to the better management of coastal resources. Monetary contributions in the form of taxes and in-kind contributions such as manpower are two of the most common examples that have been recorded.²⁶ However, there are other options to explore. Community-based organisations such as beach management units in Tanzania, community fishing councils in Mozambique and water point committees in Namibia ²⁷ are good examples of how community mobilisation and engagement can be achieved. They are also crucial for disseminating information and ensuring that community concerns are effectively communicated and responded to by the appropriate authorities.

An example of positive community-driven adaptation is to be found in southern Mozambique, where the community of the Limpopo River estuary started a mangrove restoration programme after massive floods in 2000 destroyed half of the mangrove cover in the area.²⁸ The communities reported dramatic changes in their lives as wood resources and fish became scarce. They demanded action from the local authorities, who supported a mangrove restoration initiative that started as a pilot project in 2010 and had restored more than 120ha by 2021.²⁹ This is one of the most successful mangrove restoration initiatives not only in Mozambique but also in the Western Indian Ocean (WIO) region.³⁰ In addition to the extensive area that was recovered, the programme used innovative restoration techniques (hydrological restoration) and is now working on livelihood alternatives. It is now supported by the Western Indian Ocean Strategic Action Programme (WIOSAP) Project and will contribute to the success of similar initiatives in the WIO region.³¹

Other examples of autonomous adaptation practices were observed in the cities of Luanda and Maputo.³² Communities in both cities have reported perceived climate change impacts through the increased frequency of storms, erosion and higher temperatures. However, there is also speculation that anthropogenic actions such as deforestation and the occupation of wetland areas are worsening the situation by several degrees. In the absence of effective institutional support, the communities of these two

26 DE Lee, SG Hosking and M du Preez, "A Choice Experiment Application to Estimate Willingness to Pay for Controlling Excessive Recreational Fishing Demand at the Sundays River Estuary, South Africa", *Water SA* 40, no. 1 (2014): 39–48.

27 N Kanyange et al., *Performance Assessment of Beach Management Units Along the Coastlines of Kenya and Tanzania* (Ebene: Indian Ocean Commission, 2014); Kennedy Osuka et al., "Applying a Social-Ecological Systems Approach to Understanding Local Marine Management Trajectories in Northern Mozambique", *Sustainability* 12, no. 9 (2020).

28 Salomao Bandeira and Henriques Balidy, "Limpopo Estuary Mangrove Transformation, Rehabilitation and Management" in *Estuaries: A Lifeline of Ecosystem Services in the Western Indian Ocean*, eds. Salif Diop, Peter Shren and John Machiwa (Berlin: Springer, 2016), 227–237.

29 Diane Tipping-Woods, "Mothering Mozambique's Mangroves Back to Life", *Hakai Magazine*, April 21, 2022.

30 Salomao Bandeira et al., "Estudo de lições aprendidas e boas praticas de reabilitação de mangais: Avaliacao do programa de restauração de mangais no Estuario do Limpopo (Gaza), Tzolombane em Matutione (Maputo), Nhangau (Sofala), Inhassunge e Macuze (Zambezia) e Mecufi e Metuge (Cabo Delgado)" [Study of Lessons Learned and Good Practices in Mangrove Rehabilitation: Evaluation of the Mangrove Restoration Programme in the Limpopo Estuary (Gaza), Tzolombane in Matutione (Maputo), Nhangau (Sofala), Inhassunge and Macuze (Maputo), and Mecufi and Metuge (Cabo Delgado)], October 2016.

31 Award, "Building Resilience Through Mangrove Restoration in the Limpopo Estuary", <https://award.org.za/index.php/focus-areas/water/building-resilience-through-mangrove-restoration-in-the-limpopo-estuary/>; UNEP, "Decades After Devastating Cyclone, Mangroves Are on the Rebound in Mozambique", July 23, 2020, <https://www.unep.org/news-and-stories/story/decades-after-devastating-cyclone-mangroves-are-rebound-mozambique>.

32 Rodrigues, "Climate Change and DIY Urbanism".

cities have taken action to adapt to these perceived changes. The measures they adopted are meant to protect goods and infrastructure, prevent disruptions and anticipate the negative effects of climate change (see Table 1). Interestingly, this has also created innovative job opportunities. In the house-building market, the use of sandbags to block the passage of water and control coastal erosion is a common strategy and a business opportunity for those who produce these artisanal flood control devices.³³ In the peri-urban areas of Maputo, it is common to see young people repairing roads using local materials and passing drivers giving some money in appreciation of the work they do. Transporting people across temporarily impassable stretches is another way of generating extra income for some.

TABLE 1 AUTONOMOUS ADAPTATION MEASURES ADOPTED BY URBAN COMMUNITIES IN SADC CITIES		
Climate hazard	Preventive measures	Reactive measures
Flooding	<ul style="list-style-type: none"> • Upgrading houses • Collective action • Modifying houses • Improving neighbourhood common spaces (bridges, drainage channels) • Reinforcing buildings • Preventing people from building on waterways • Moving from flood-prone areas • Indigenous weather-monitoring systems 	<ul style="list-style-type: none"> • Moving to drier and safer areas • Building barriers against water surges • Seeking support from relatives • Storing assets in safer places • Opening channels to accelerate water drainage • Diversifying economies
Erosion	<ul style="list-style-type: none"> • Dune restoration with sandbags, used tires, and other materials • Green infrastructure (for example, vetiver grass) 	<ul style="list-style-type: none"> • Moving to safer areas • Soil replenishment
Storm	<ul style="list-style-type: none"> • Reinforcing rooftops with sandbags, bricks and other materials • Reinforcing windows and doors • Habitat restoration 	<ul style="list-style-type: none"> • Seeking refuge in safer areas

Source: Adapted from Cristina Udelsmann Rodrigues, "Climate Change and DIY Urbanism in Luanda and Maputo: New Urban Strategies?", *International Journal of Urban Sustainable Development* 11, no. 3 (March 2021): 319-331

³³ Rachael Obi et al., "Indigenous Flood Control and Management Knowledge and Flood Disaster Risk Reduction in Nigeria's Coastal Communities: An Empirical Analysis", *International Journal of Disaster Risk Reduction* 55 (2021).



Autonomous climate change adaptation: sandbags to control erosion in Beira, central Mozambique (left), stones placed to control flooding in the coastal area of Beira, Praia Nova, central Mozambique (right) [images by Celia Macamo]

Community involvement and collaboration in government initiatives

A common issue in many SADC countries affecting EbA and climate change adaptation is poor inter-institutional coordination and the lack of financial and human resources to manage essential and scarce resources.³⁴ Despite being a potential cause for conflict, this limitation could be an opportunity for raising awareness and for local-level empowerment. Local authorities in Namibia struggle to manage water infrastructure. To overcome this, the Directorate of Rural Water Supply works with community-based water point associations and committees responsible for the maintenance of water points.³⁵ This model of collaborative management creates a sense of ownership among community members, while raising awareness on the importance of managing natural resources and how climate change can worsen water scarcity. Moreover, it creates an opportunity for women to intervene more actively in the management of an important resource, as they are usually the water fetchers in the household and consequently have added responsibility to maintain the infrastructure.

There are many legal and strategic instruments that regulate, enable and stimulate community involvement in the management of natural resources and climate change adaptation, including nature-based solutions. However, in many cases community involvement is poor because of a lack of community empowerment, among other

34 Cicelin Rakotomahazo et al., "Exploring the Policy and Institutional Context of Payment for Ecosystem Services (PES) Scheme for Mangroves in Southwestern Madagascar", *Marine Policy* 148 (2023); L Celliers et al., "Pathways of Integrated Coastal Management from National Policy to Local Implementation: Enabling Climate Change Adaptation", *Marine Policy* 39 (2013): 72–86.

35 Jane Turpie et al., *Climate Change Vulnerability and Adaptation Assessment for Namibia's Biodiversity and Protected Areas System* (Windhoek: Ministry of Environment and Tourism, Directorate of Parks and Wildlife Management, 2010).

reasons.³⁶ Community involvement can also be limited due to a lack of resources, lack of awareness and poverty, which not only reduces livelihood alternatives but also deprioritises environmental issues for communities.³⁷ These challenges can be addressed by programmes that are specifically designed to empower communities on different fronts. Raising awareness is crucial, but insufficient to drive behavioural change. On the other hand, making financial resources available to a community that does not have the capacity to access or manage such funds can also be fruitless and result in a waste of resources. For these reasons, recent climate change adaptation programmes have included community capacity building, empowerment and livelihood components. Solutions come in different formats. The government of Tanzania launched the Local Climate Finance Initiative. This initiative aims to increase the access of communities and local government to climate finance to build climate-resilient economies.³⁸ In Zanzibar, this initiative included providing support to women's cooperatives for lime (Juhudizetu Cooperative Society), honey (Shaurimoja Cooperative Society) and seaweed production (Shirikani Cooperative Society). This strategy simultaneously targeted two important stakeholder groups: women (vulnerable people) and the private sector, which needs to be involved in climate conversation and actions more often.

Another example is found in the DRC. Although the coastline in this country spans only 40km, climate change is causing dramatic pressure in the small communities of the towns of Muanda, Banana and Nsiamfumu. Along the Banana-Muanda segment the coastline has retreated more than 2 300m, owing to severe erosion. It is expected that crucial infrastructure will be lost between 2050 and 2100, while in Nsiamfumu more than 200m may be lost by that time. To prevent this, the country's Department of Environment, Nature Conservation and Tourism, in partnership with the UN Development Programme (UNDP) and the Global Environment Facility (GEF), implemented an EbA project with interventions on several fronts. These include knowledge and capacity building, policy, soft and hard interventions to control coastal erosion, environmental sustainability and gender equality.³⁹ Additionally, the communities were trained in alternative income-generating activities, which should reduce the pressure on natural resources, particularly mangrove extraction.⁴⁰

Madagascar is a great example of how communities can be included in governance systems and contribute to law enforcement, and how traditional and modern governance can be combined. Local communities often have their own codes of conduct or traditional governance systems, which sometimes clash with the formal legal system, creating

36 Lucy Cockerell and Peter Jones, "Governance Analysis of St Anne Marine National Park, Seychelles", *Marine Policy* 27 (2021).

37 Bernardo Castro et al., "Climate Change and Integrated Coastal Management: Risk Perception and Vulnerability in the Luanda Municipality (Angola)", in *Climate Change Impacts and Adaptation Strategies for Coastal Communities*, ed. Walter Leal Filho (Cham: Springer, 2017): 409–426.

38 Florence Crick, "Local Climate Finance Mechanism Helping to Fund Community-Prioritised Adaptation", International Institute for Environment and Development, <https://www.iied.org/local-climate-finance-mechanism-helping-fund-community-prioritised-adaptation>.

39 Urban Nature Atlas, "Building Coastal Resilience for Muanda's Communities", October 2021.

40 GEF, "The Best of Both Worlds: Embracing Environmental Protection in Pursuit of Prosperity in the Democratic Republic of Congo", May 30, 2018.

resistance in understanding and complying with these rules. Traditional systems can be explored to reconcile native and modern governance models.⁴¹ In Madagascar the local traditional social code, also known as *Dina*, is legitimate and has strong authority. It therefore serves as a mechanism through which administrative authorities engage with the community on marine and coastal governance. The circumstances in which *Dina* has been used successfully and improved community-based management of coastal resources include conflict resolution, resource management, planning and law enforcement, but it can also be applied in other contexts.

The role of women: Gender issues in EbA

The climate change impacts affect men and women in different ways, but in general women appear to be the more vulnerable group.⁴² Their greater vulnerability is related to their social role, and to the fact that they are generally engaged in activities that are less profitable but contribute substantially to the household wellbeing. These activities are often climate sensitive. For example, in coastal areas women collect invertebrates in seagrass beds, rocky shores and sandy beaches.⁴³ Although some of these invertebrates have low commercial value, they are an important source of animal protein and provide food security within the household. It is also mostly women who collect firewood in the mangroves. Furthermore, they play an important role in the commercialisation of fish products.⁴⁴ The burden on women extends to other domestic activities such as fetching water (where they must walk long distances) and agriculture. There is also greater concern over family health due to increases in climate-sensitive diseases. The migration of men to cities in search of better employment and living conditions further exacerbates the plight of women.⁴⁵

Women's role as educators and primary caregivers in the household places them in a prominent position on several fronts in climate action, which creates both opportunities and challenges. They are present in many community climate actions, where they assume different roles, ranging from leadership to execution. For example, mostly women are involved in mangrove restoration actions.⁴⁶ Their overwhelming participation in environmental actions could be explained by their close interactions with the environment and their tendency to care for nature.⁴⁷ However, they are still limited in accessing

41 Lalaina Rakotoson And Kathryn Tanne, "Community-Based Governance of Coastal Zone and Marine Resources in Madagascar", *Ocean and Coastal Management* 49, no. 11 (2006): 855-872.

42 Alec Crawford and Anita Terton, "Review of Current and Planned Adaptation Action in Namibia" (Working Paper 12, Collaborative Adaptation Research Initiative in Africa and Asia, Ottawa, 2016).

43 Lina Norlund et al., "Changes in an East African Social-Ecological Seagrass System: Invertebrate Harvesting Affecting Species Composition and Local Livelihood", *Aquatic Living Resources* 23, no. 4 (2010): 399-416.

44 GM Branch et al., "Case Studies on the Socio-Economic Characteristics and Lifestyles of Subsistence and Informal Fishers in South Africa", *South African Journal of Marine Science* 24, no. 1 (2002).

45 Margarida Angula, *Gender and Climate Change: Namibia Case Study* (Cape Town: Heinrich Böll Stiftung Southern Africa, 2010); Agnes Bubugura, *Gender and Climate Change: South Africa Case Study* (Cape Town: Heinrich Böll Stiftung Southern Africa, 2010).

46 Bandeira and Balidy, "Limpopo Mangrove Restoration".

47 Muhammad Nadeem et al., "Are Women Eco-Friendly? Board Gender Diversity and Environmental Innovation", *Business Strategy and the Environment* 29 (2020).

leadership positions and heading community-based groups – due to cultural reasons women are rarely encouraged to take certain positions or, if they do, the community does not give them the recognition they should receive.⁴⁸ These behavioural patterns are gradually changing as opportunities for women increase. Today, women also have more space to exercise their rights, express their concerns and have their voices heard in decision-making processes, because their role in society in general is also increasingly being recognised. As they are family educators and primary caregivers, educating and empowering women on environmental and climate issues is a smart strategy to drive behavioural change in communities. Examples can be found in the communities of Thelaphi (uMzinyathi municipality) and Dube and Mkhwanazi (uMhlathuze municipality) in South Africa.⁴⁹ Here, as in many traditional settings across Africa, women's responsibilities include not only household chores but also subsistence farming, food security and fetching water. Men, on the other hand, engage in activities such as livestock rearing and providing financially for their families. Climate change in many instances has caused men to lose their jobs and the ability to provide for their families, resulting in feelings of helplessness. This increase in unemployment among men leads to an increase in female-headed households, as men migrate to other areas seeking employment opportunities. Men are also reported to have more leisure time, during which they engage in heavy drinking. Women have to deal with greater workloads at home, as well as psychological pressure from the need to find alternative livelihoods. Women are also increasingly looking for employment opportunities outside the traditional norm, which causes additional pressure when they must leave young children in the care of others. This dramatic situation is driving important behavioural changes in communities, with men more inclined to help their wives do domestic chores to relieve their workload and to avoid being called lazy. Young boys are increasingly being educated to share household chores with their sisters.

Empowering women presupposes increasing their access to education and healthcare (including sexual and reproductive health, to reduce early pregnancy and school dropouts). Women empowerment also includes improving access to resources, such as agriculture technology and other resources needed to promote sustainable farming and conservation practices to increase yields. Women play a significant role in raising awareness on environmental issues, and, as their representation on different political and society organisations increases, their perspectives on many issues are increasingly being considered. However, women empowerment must consider local cultural, traditional and ethical values and find ways to socialise men to cultural changes that will enable them to recognise the benefits of including women in leadership and decision-making processes. Some SADC countries reinforce these initiatives with concrete women's inclusion policies⁵⁰ and the development of programmes that follow approaches that are gender

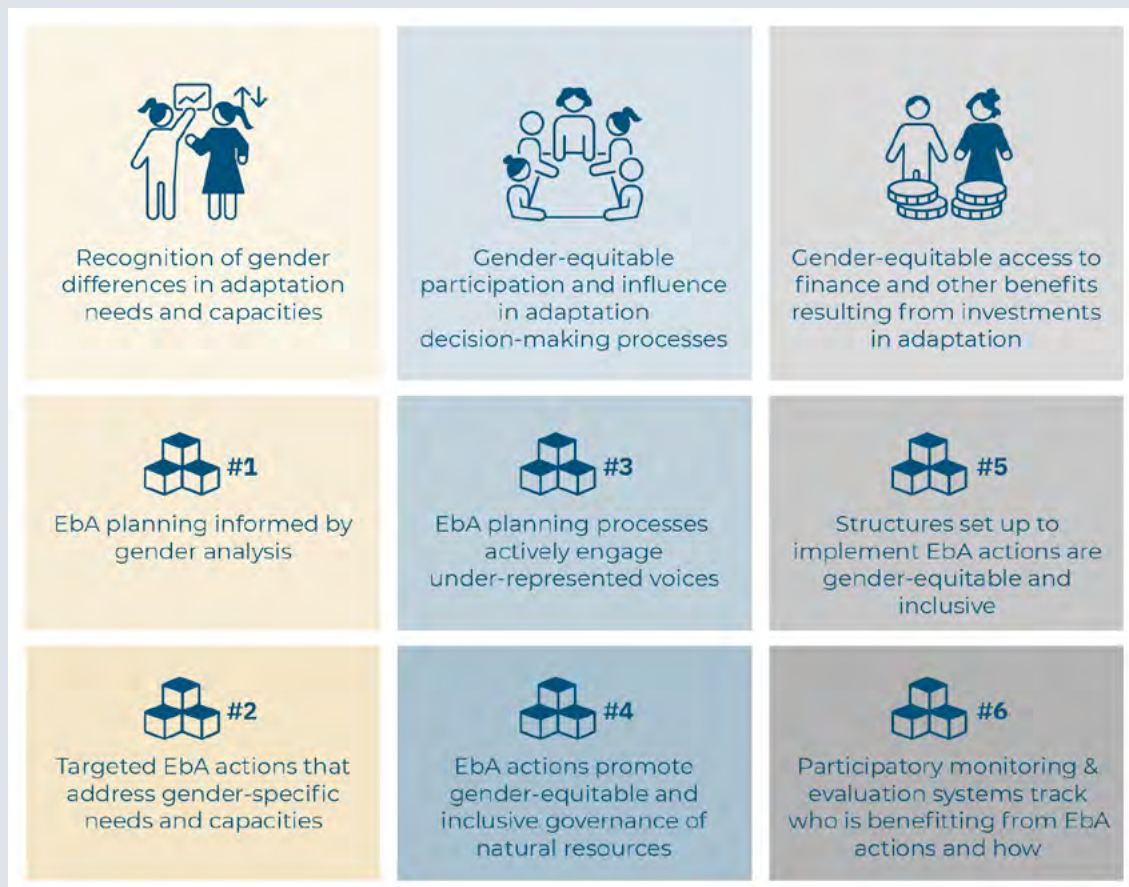
48 Sheona Shackleton et al., "Devolution and Community-Based Natural Resource Management: Creating Space for Local People to Participate and Benefit?", *Natural Resource Perspectives*, 76 (April 2012).

49 Bubugura, *Gender and Climate Change*.

50 IUCN and Government of Tanzania, *Tanzania National Strategy on Gender and Climate Change* (Dar es Salaam: Vice President's Office, 2013); SADC, *Gender-Responsive Disaster Risk Reduction Strategic Plan & Action Plan 2020–2030* (Gaborone: SADC, 2013).

transformative, gender sensitive and gender responsive⁵¹ (Figure 2). Examples of solutions with these approaches are gender-sensitive institutional and legal frameworks, inclusive climate information services, the inclusion of women in decision-making processes, sex-desegregated climate change data, and inclusive financial services and adaptation technology.⁵²

Figure 2 Building blocks for gender-responsive approach in EbA



Source: Compiled by author, based on Deutsche Gesellschaft für Internationale Zusammenarbeit, *Toward Gender-Responsive Ecosystem-Based Adaptation: Why It Is Needed and How to Get There* (Bonn: GIZ, 2021)

- 51 Bernadette P Resurrección et al., "Gender-Transformative Climate Adaptation: Advancing Social Equity", (Background Paper to 2019 Report of the Global Commission on Adaptation, Stockholm Environment Institute, Rotterdam and Washington DC, 2019); Africa Climate Change Fund, "Africa Climate Change Fund Hosts Gender Transformative Climate Change Adaptation Training", Press Release, January 17, 2023.
- 52 Alex Owiti, "Climate Change and Gender in Africa: A Review of Impact and Gender-Responsive Solutions", *Frontiers* 4 (2022).

The contribution of non-governmental organisations to climate change adaptation in the SADC region

One of the biggest challenges for climate adaptation in SADC countries is the lack of financial resources to support adaptation actions. In this context, NGOs working on several fronts play a leading role. These include:

- supporting the development of policies and strategies to create more appropriate legal, institutional and strategic conditions, both for the preparation of guiding and regulatory instruments and for enforcement;⁵³
- increasing capacity building and environmental education at both government and community levels;
- funding the design and implementation of community EbA projects,⁵⁴ in many cases establishing local offices within the community where the projects are being implemented. This way, many NGOs have been able to build strong relationships with the communities where they are based, thus playing significant roles in climate change adaptation actions;
- gathering and disseminating information and providing platforms to discuss climate-related issues;
- promoting community rights and strengthening the inclusion of communities and marginalised groups;
- facilitating communication and relationships between stakeholders;
- strengthening local organisations' effectiveness and flexibility;
- raising awareness and linking climate change issues to socio-economic development; and⁵⁵
- promoting partnerships and building local adaptive capacity.

Civil society organisations (CSOs) have a particularly important role in environmental advocacy and holding governments accountable. They contribute to bringing ground-level vulnerabilities to the discussion table and provide technical and research support. CSOs also translate scientific language to be more accessible to the public, represent vulnerable

53 UNDP Climate Change Adaptation, "Resilience of Muanda's Communities From Coastal Erosion, Democratic Republic of the Congo", https://www.undpopenplanet.org/projects/Resilience_of_Muandas_communities_from_coastal_erosion_Democratic_Republic_of_Congo/.

54 GEF, "The Best of Both Worlds".

55 Marie-Ange Baudoin and Zina Zievelgel, "What Role for Local Organizations in Climate-Change Adaptation? Insights from South Africa", *Regional Environmental Change* 17 (October 2016).

and marginalised groups, and follow up on national commitments, compliance and implementation of climate change agreements and NDCs.⁵⁶

However, NGOs and CSOs face several challenges, such as lack of opportunities to engage in frameworks and legal policies, and not being part of decision-making processes. Internal coordination and communication among and between them and government institutions may also represent a challenge in some instances. Promoting their inclusion and creating communication platforms may help to address some of these issues.

RECOMMENDATIONS

- Revise and reinforce the policy and legal framework to create the necessary mechanisms that will ensure effective community engagement.
- Create mechanisms that ensure the inclusion of community views when policies, strategies and laws are created.
- Build community capacity to ensure active participation in EbA processes (including governance) that will address community concerns successfully.
- Reinforce the inclusion of marginalised groups and explore possibilities to turn weaknesses into opportunities.
- Explore options to reconcile traditional practices and the formal/legal governance systems.
- Consider community-driven adaptation strategies for upscaling, when feasible, and provide communities with technical assistance when such strategies are inadequate.
- Design adequate strategies to empower women within the socio-cultural context of each community, and take advantage of the social role they play to educate the society and create behavioural changes.

Conclusion

Community engagement is a process by which different groups of people connected through geographic location, interest or affiliation are brought together to discuss and address issues that affect their wellbeing. Communities' participation can be informative, preparatory, participatory or decision-making, and can happen at different levels, from

⁵⁶ Slycan Trust, "Civil Society Engagement in the NDV Review Process" (Policy Brief, Slycan Trust, Colombo, November 2020); Farayi Madziwa and Carola Betzold, "20 Years of African CSO Involvement in Climate Change Negotiations: Priorities, Strategies and Actions" (Heinrich Boll Stiftung Southern Africa, Cape Town, 2014).

information sharing to community-driven engagement. In the SADC region, community participation is secured by a robust policy and regulatory framework, which nonetheless does not fully provide communities with all the means they need to participate actively in EbA processes at all levels. Lack of technical capacity and financial means can prevent communities from exercising their rights.

Community adaptation to climate change can be both government and community driven. Autonomous adaptation measures include finding alternative land to enhance food production, restoring habitats and building protective infrastructure using locally available materials. Such autonomous adaptation measures should be encouraged because they relieve economically pressured governments, allowing them to allocate resources to other priority actions. However, communities may still need assistance when adopting these measures, as some may generate negative outcomes in the long term. In Tanzania, for instance, rice cultivation in mangroves ended up posing a threat to the future sustainability of these forests.

Collaborations between government institutions and local communities also proved positive. For instance, governments can provide technical (and some financial) capacity, whereas communities contribute traditional knowledge, manpower and interest in the benefits that come from implementing climate adaptation programmes. Women tend to be more involved in these projects and are therefore more intimately affected by negative climate change effects. Here, gender roles and local practices must be considered. While women are usually seen as one of the most vulnerable groups, their role as caregivers and their domestic duties can also be empowering tools. Their sensibility to and understanding of transversal issues may also explain women's dominant involvement in EbA initiatives, although they still only rarely take leading positions in these processes. This trend can be changed by empowering women and raising awareness of their social role, adding to the fact that climate change-related pressures are already changing gender-societal roles.

NGOs are very important partners in EbA in the SADC region. They work closely with communities and have a deep knowledge of social dynamics and the main issues that affect such communities. They also finance several EbA projects throughout the region. Furthermore, NGOs contribute to the development of the policy and regulatory frameworks in many countries, as well as to the development of instruments for the EbA project concept and monitoring, and are key partners in raising awareness about climate change issues.

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