



INTERNATIONAL YEAR OF
ARTISANAL FISHERIES
AND AQUACULTURE

2022

POLICY BRIEF

Building Climate Resilience and Adaptive
Capacities in Small-Scale Fisheries and
Aquaculture in Southern Africa



Citation

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About BCC

The Benguela Current Convention (BCC) is a multi-sectoral inter-governmental organisation established by the Republics of Angola, Namibia and South Africa to promote a coordinated approach to long-term conservation, protection and rehabilitation, enhancement and sustainable use of the Benguela Current Large Marine Ecosystem.

Acknowledgments

This work was undertaken as part of building resilience of artisanal fisheries and aquaculture towards climate change risks and variability in Southern Africa. The Benguela Current Convention is implementing two projects, with technical and financial support from Global Environment Facility (GEF), United Nations Development Programme (UNDP) and Food and Agriculture Organization (FAO), to improve ocean governance and build resilience in fisheries-dependent communities, national fisheries and aquaculture in the Benguela Current Large Marine Ecosystem. The work was conducted in partnership with the Southern African Development Community, the German Development Cooperation, MwAPATA Institute, Food and Agriculture Organization of the United Nations, the UNDP, GEF, the Enhanced Coastal Fisheries (EcoFish) Project, and the Women Fish Traders and Processors Network (AWFISHNET).

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A. Purpose

The purpose of this policy brief is:

1. To create awareness and knowledge generation about the social and economic importance of marine and freshwater small-scale fisheries and small-scale aquaculture in the SADC region;
2. To advocate for the application of science and evidence to conduct Climate Change Vulnerability Assessments; and,
3. To develop appropriate Adaptation Strategies and Actions for the small-scale fishing and small-scale aquaculture sectors.

B. Motivation for this Policy Brief

- It is estimated that one hundred million (100 million) people in SADC, or 27% of the total regional population, are dependent on small-scale fisheries and aquaculture for their livelihoods, with more than 3 million directly employed in these sectors of which 33% are women.
- Small-scale fisheries account for 90% of the total catch by SADC Member States, totalling 3.03 million metric tonnes per annum. About 1 million metric tonnes are from freshwater and 1.7 million metric tonnes from marine ecosystems.
- An estimated >25,000 metric tonnes of regional aquaculture production comes from small-scale aquaculture.
- Climate change poses a challenge to these sectors, exacerbated by unconducive policy environments, limited technical skills, sub-optimal post-harvest practices, limited access to financing, degradation of aquatic ecosystems and low government capacity to support these sectors.
- SADC member states are party to regional and international legally binding and voluntary fisheries instruments, commitments and protocols. These promote resource sustainability, food and livelihood security particularly for the vulnerable fish-dependent communities.

C. Context of SSF and aquaculture

The Southern African Development Community (SADC) is home to enormous water resources comprising of large marine ecosystems (Benguela and Agulhas and Somali), inland water (Lakes, Malawi/Nyasa/Niassa, Tanganyika, Victoria, Mweru), major river basins (Zambezi, Congo), man-made lakes (Kariba, Cahora Bassa) and other small waterbodies. These aquatic ecosystems are fundamental for thriving small-scale fisheries and aquaculture that benefit over 100 million people in the 16 member countries of SADC region.

These marine and freshwater ecosystems are critical for food and livelihoods security, economic development through fish and aquaculture value chains, eco-tourism and recreational fishing, export and tax revenue earnings, and non-consumptive uses such as climate change buffering.

The importance of these ecosystems is evidenced by the estimated 3.03 million tonnes of fisheries and 207,831 tonnes annually of aquaculture production, which provides jobs for more than 3 million people of which more than 1 million are women. An estimated 89,829 persons are employed in aquaculture. See the below figures.

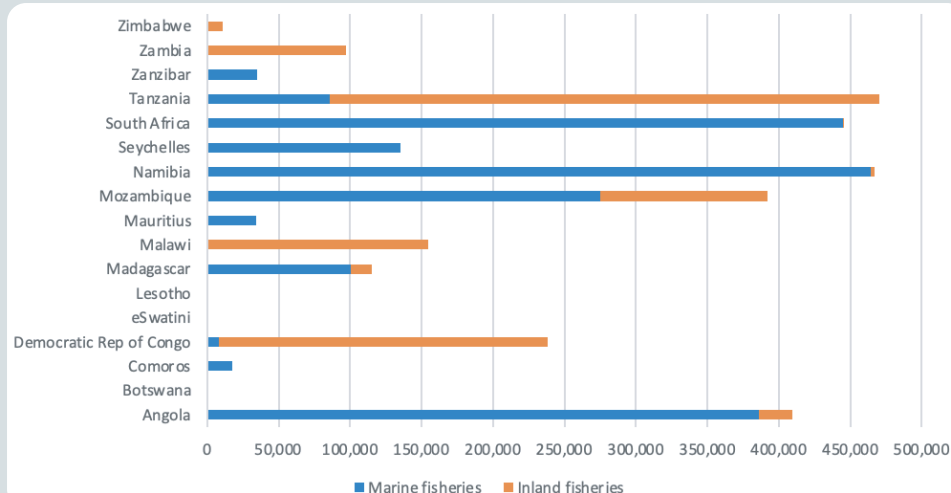


Figure 1: Total annual marine and inland fish catches by SADC Member State. Source: FAOFishStat

The below figure depicts the total aquaculture production in SADC by country and by species.

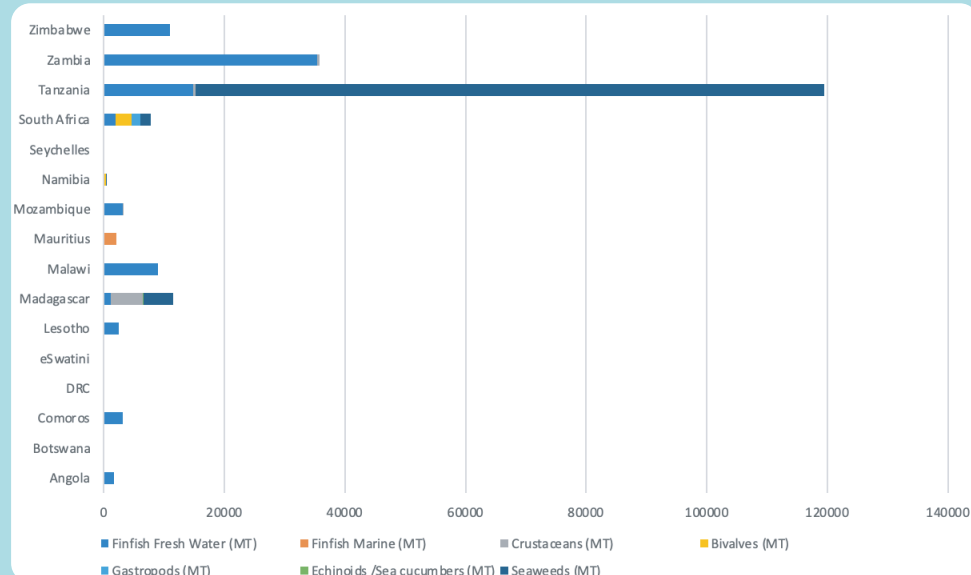


Figure 2: Total annual marine and inland fish catches by SADC Member State. Source: FAO (2022)

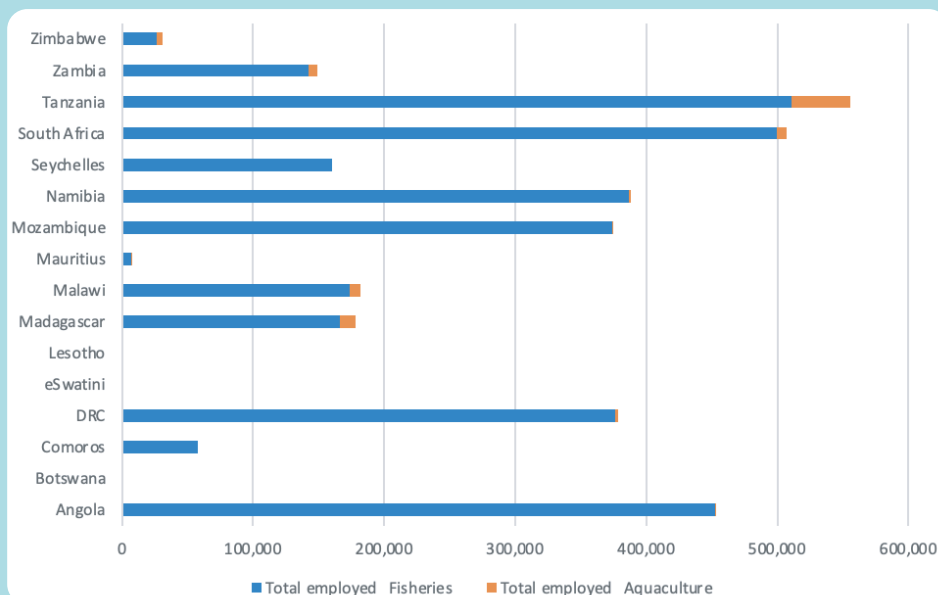


Figure 2 (Continued) : Total annual marine and inland fish catches by SADC Member State. Source: FAO (2022)

Small-scale freshwater fishing contributes an estimated 0.88% to the overall GDP and 1.86% to the agriculture GDP, while small-scale marine fishing is responsible for 2.15% of the overall GDP and 2.66% agriculture GDP.



Plate 1: Value-added products from Tombwa & Bianfer Fishing Cooperatives in Angola.
(i) Sun-dried fish fillet, (ii) Fresh fish bowls, (iii) Milling bowls, and (iv) Packed fish bowls ready for the market.

D. Climate change, small-scale fisheries and aquaculture

All SADC Member States are Parties to the **United Nations Framework Convention on Climate Change (UNFCCC)** and have endorsed the **Paris Climate Agreement (PCA)**. The key objective of the PCA is to keep a global temperature rise this century well below 2 degrees Celsius above pre-industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Based on recent outputs by the Inter-governmental Panel on Climate Change (IPCC), and as confirmed by SADC countries, southern Africa is one of the most vulnerable regions in the world to the effects and impacts of climate change. Member States submit Nationally Determined Contributions (NDCs) to the UNFCCC as country commitments to meeting the objective of the PCA. NDCs may not adequately address the plight of Small-Scale Fisheries and Small-Scale Aquaculture given the limitation of information and data to adequately understand the situation and make informed decisions for building adaptive and resilience capacities.

Climate change impacts water availability, the distribution of aquatic species, water chemistry and ecosystem balance, and the future availability of, and access to wild caught fish. Left unattended this could worsen existing food and livelihood insecurities, lower the positive impacts of fish-dependent local economies and lead to increased unemployment. Youth and women unemployment rates are high in SADC and were exacerbated by the economic downturns caused by COVID-19.

This policy brief strongly advocates for consultative evidenced-based climate change vulnerability assessments for these sectors and to craft viable, sustainable and scalable climate change adaptation options for small-scale fishers and aquaculture practitioners.

The SADC region is enshrined in a number of international and regional conventions, agreements and protocols with the obligation to promote and ensure food nutrition and livelihood security amongst vulnerable communities along the coast, riverine, lakes and dams, and this include amongst others;

The SADC Protocol on Fisheries (SADC 2001) through the Fisheries Programme includes an initiative on SSF with the aim to facilitate participatory processes, and involve small-scale fishers and non-state actors in the control and management of their fishing and related activities. The Protocol does not specifically address climate change given that it was not high on the development agenda during early 2000s. However, Member States have national policies and laws on climate change which complement the Protocol and some of its relevant articles. As presented in Malawi in April 2022, Member States are busy domesticating the Protocol and integrating climate change considerations into their fisheries and aquaculture policies, strategies and actions.

The African Blue Economy Strategy (ABES 2019), fully recognises the prevalence and impacts of climate change on small-scale fishing and aquaculture based on Goal 3 of thematic area 1 "ensuring sustainable social, economic, environmental and **equitable outcomes and human rights** whilst safeguarding natural capital and blue investment. One of the objectives to achieve this goal speaks directly to climate change, to "strengthen resilience and reduce vulnerability to climate change". Thematic area 3, Goal 1 on "**environmentally sustainable and climate resilient economies and empowered communities**", would be achieved through a specific objective "**to develop capacity for climate resilient economies and communities**".

The African Union Inter-African Bureau for Animal Resources (AU-IBAR) and AU Development Agency (AUDA-NEPAD) with support from partners like the European Union (EU) and United Nations Food and Agriculture Organisation (UNFAO), established the Southern African Non-State Actor Platform for Fisheries and Aquaculture (SANSFA). This platform serves to ensure the meaningful involvement and participation of particularly local communities, women and the youth in important discussions and decisions that can affect their livelihoods and local economies.

Fish and aquaculture dependent communities have shared evidence of impacts of climate change, particularly on the wild caught fisheries, and the BCC, other regional and national initiatives are testing the potential viability of marine and freshwater aquaculture as appropriate, sustainable and scalable adaptation options.

The UNFAO Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication ("SSF Guidelines", FAO 2015), complement the BCC, the SADC Protocol on Fisheries, and the African Union Blue Economy Policy and Strategies, by focusing specifically on small-scale fisheries and how to ensure sustainability, and adapt to climate change. The SSF Guidelines address disaster risks and climate change under Part 2, section 9, and articulate the "need for integrated and holistic approaches, including cross-sectoral collaboration, in order to address disaster risks and climate change in small-scale fisheries".

This observation was dealt with during the Regional Dialogue; and complement the recommendations of the Kasane Think Tank, which urged Member States to (i) involve all categories of non-state actors in fisheries and aquaculture in Africa, building on the results of an inventory already conducted by AU-IBAR; (ii) raise awareness among all stakeholders of the process of setting up the coordination mechanism for fisheries reforms to ensure collective ownership by Non-State Actors (NSAs); (iii) regular organisation of meetings that include the participation of NSAs.

While NSAs and small-scale fisheries and aquaculture actors are somewhat involved in relevant policy and decision-making processes, the International Year of Artisanal Fisheries and Aquaculture (IYAFA) Dialogue suggested room for improvement for wider and meaningful involvement. Within these NSAs groups, the important role of women in small-scale fisheries and aquaculture is being recognised, and women, through the Africa Women Fish Processors and Traders Network (AWFISHNET), are represented across the value chain.

E. Identifying the lessons from past development efforts, in order to move towards building resilience and adaptation in artisanal fisheries and aquaculture in the Southern Africa region

In response to the importance of and challenges being faced by SSF and small-scale aquaculture in the SADC region, the BCC, SADC Secretariat and the Department of Fisheries of the Ministry of Natural Resources and Climate Change of the Republic of Malawi organised the Regional Dialogue from 20th to 22nd April 2022, in order to discuss the past and on-going development efforts, analyse the experiences, and focus on common features that have emerged, with a view to providing guidance for the future resilient and adaptable artisanal fisheries and aquaculture. The Additional development partners include the GIZ-funded Aquaculture Value Chain Project (AVCP); the UNDP/GEF, EcoFish-OIC, Mwapata Institute; Food and Agriculture Organization (FAO)

of the United Nations; African Women Fish Traders and Processors Association (AWFISHNET) and others, organised the Regional Dialogue. The Regional Dialogue was attended by a total of 139 participants, of which 68 attended physically, and 71 were virtual participants, majority being women, 51 in total. The participants represented the sectors adequately, and they were drawn from fishers, fish farmers, government institutions, universities, development partners, inter-governmental organisations, development projects from member states in the SADC and Indian Ocean Commission (IOC), as well as those from outside of these regions. This group represented a combined experience in small-scale fisheries and aquaculture development in the SADC and IOC regions and beyond, of very many years and covering a range of scope, from technical through technological to policy arenas. This Policy Brief is based on the output of the Regional Dialogue; and the main lessons are presented in Table 4 (below).

Table 4. The main lessons learned from past small-scale fishery and aquaculture development in the SADC and IOC regions

Technical and policy Priorities	Main lessons learnt
Illuminating Hidden Harvests: SSF for food and nutrition security, human well-being and environmental health	<p>IHH studies marine and inland small-scale fisheries in a number of African countries, including those in the SADC, namely the Democratic Republic of the Congo, Madagascar, Malawi, Mozambique, Seychelles, South Africa, Tanzania, and Zambia have revealed the following benefits:</p> <ul style="list-style-type: none"> • Fisheries value-chains are most accessible to both women and men. • Fish caught is always kept for home consumption as food, unlike other cash-crops, but it is also traded extensively. • Fish is an important source of income as it is sold for cash. Fish raises the economic status of households as income increases the purchasing power for other foods and capital assets. • SSF increases access to fish as food, and fish is the most accessible animal-source food (ASF) to vulnerable populations as it is available and affordable for the poor, rural and women. • Living close to SSF also reduced the inequalities in fish consumption between richest and poorest households, as the difference in the quantity of fish consumed between richest and poorest households reduced by one third when households lived close to SSF. • SSF and aquaculture improves dietary diversity, improves nutrient intake and long-term food and nutrition security. • Children in Low and Lower Middle-Income countries (LMIC) who consume more fish are less stunted than children who consume less fish (Headey et al, 2018). • The role of inland fisheries to the diets of children under two is not well-documented. • Fish enhanced safety net as SSF are available during times of shocks.
Political commitment in support of artisanal fisheries and small-scale aquaculture	<ul style="list-style-type: none"> • The importance of SSF and small-scale aquaculture in the region has been underscored by overwhelming regional, continental and global commitment manifested through various protocols and legislative guidelines. • The year 2022, SADC is commemorating the twentieth anniversary of SADC Protocol on Fisheries under the theme "Protecting Our Fisheries – Working Towards a Common Future - 20 Years of the SADC Protocol on Fisheries". • The SADC theme for 2021/22 is "Bolstering Productive Capacities in the Face of COVID-19 Pandemic for Inclusive, Sustainable, Economic and Industrial Transformation". • At the continental level, SADC Member States are committed to the African Union Policy Framework & Reform Strategy for Fisheries & Aquaculture in Africa (PFRS), and the African Blue Economy Strategy. • At the global policy level, SADC Member States are committed to the SSF Guidelines.
SSF Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication	<ul style="list-style-type: none"> • The Guidelines bring together social development and responsible fisheries, grounded in human rights principles. • The Guidelines are compatible with other international, continental (AU Policy Framework and Reform Strategy for Fisheries and Aquaculture in Africa) and regional (SADC Protocol on Fisheries) strategies. • The Guidelines are broad in thematic areas, including governance of tenure and resource management; social development, employment and decent work; value chains, post-harvest and trade; gender equality; and disaster risks and climate change. • International Year of Artisanal Fisheries and Aquaculture 2022 is part of the process to reinforce the implementation of SSF Guidelines by enhancing global awareness, understanding and actions to support the contribution and sustainable development of small-scale artisanal fisheries and aquaculture to food security and nutrition, poverty eradication and use of natural resources.

Table 4 (Continued). The main lessons learned from past small-scale fishery and aquaculture development in the SADC and IOC regions

Technical and policy Priorities	Main lessons learnt
SSF Guidelines implementation	<ul style="list-style-type: none"> • Support to develop and implement National Plans of Action (NPOA-SSF) has proved effective in domestication of SSF Guidelines into national SSF strategies. • In the SADC, Namibia, Madagascar, Tanzania and Malawi are on course to accomplish this. • Concrete studies and projects, including those aimed at empowering women actors in the small-scale fisheries post-harvest sector, improving safety at sea, are emerging as being effective in building confidence at community levels. <p>Country-specific interventions have revealed that:</p> <ul style="list-style-type: none"> • While National Fisheries Acts may recognise subsistence and artisanal fisheries, most of these do not make reference to Small-Scale Fisheries. This calls for a need to review legal instruments in order to align them with the SSF Guidelines. • Despite being aimed at promoting participation, in practice implementation of SSF Guidelines excludes many communities in decision-making processes. • While the Guidelines are compatible with other instruments, there is still a need for alignment with other policies and across other livelihoods (e.g. agriculture, livestock etc).
Access and participation of SSF and Small-Scale Fish Farmers (SSFF)	<ul style="list-style-type: none"> • Fisheries management measures such as MPA, Blue Economy Strategies etc. may tend to exclude fishers and criminalise their livelihoods (through fines, gear confiscations etc, i.e. Blue injustice through conservation). • Therefore, informed and prior consent in making management decisions should be granted to SSF communities. • All development efforts targeted at SSF should ensure effective connection between fishers, fishing communities and the ocean or lakes. • SSF need to be organised, sustainable, viable and economically developed, in order for them to take full advantage of the opportunities available to them.
COVID-19	<ul style="list-style-type: none"> • COVID-19 imposed a double burden of harsh economic circumstances and additional family responsibilities, that resulted in reimage, rethink, and disruption of financial flows to small-scale fisheries. • Pre-existing patterns of inequalities in fish food systems, including inequitable gendered divisions of labour and gender inequalities in financial and physical assets, have been amplified by COVID-19 containment measures and food system disruptions. This has hit women fish processors and traders more, resulting in declined individual well-being and access to basin household needs. <p>Effective and equitable COVID-19 recovery requires that decision-makers and development agencies understand and respond to the needs of women fish processors and traders by:</p> <ul style="list-style-type: none"> • Securing women's assets and financing to enable recovery. • Transforming decision-making processes to ensure equal voice of women in governance of fisheries, food systems and COVID-19 recovery. • Invest in women fish processors' and traders' technical, human, digital and collective capacities.
Planning and management tools to improve access and participation of SSF and Small Scale Fish Farmers	<p>A number of challenges hamper SSF and aquaculture from contributing fully to the social well-being of fish-dependent communities due to:</p> <ul style="list-style-type: none"> • Lack of fish feed and weak fish farmer institutions. • Uncontrolled black market sales prices impacting the formal line fishery industry's fish pricing. • Catching under-sizes and breeding stock. <p>The very purpose of cooperatives, fisheries organisations and associations such as Hanganeni Artisanal Fisheries Association (HAFAs) existence is compromised if the illegal fishing is not controlled.</p> <p>Moving forward, there is a need for the following:</p> <ul style="list-style-type: none"> • To mainstream access to aquaculture technology, and innovation particularly among youth and entrepreneurs in the private sector. • To establish an Aquaculture Financing Ecosystem supported by multi-stakeholders, coordinated investments, and diversified funding instruments. • To strengthen biosecurity, environmental sustainability, climate change adaptation strategies and resilience mechanisms for the sector. • Skills needs identification. • Institutional capacity building (training and mentoring underway). • Put in place feasible tools such as the Alternative Sustainable Coastal Livelihoods (ASCL) Strategy.

Table 4 (Continued). The main lessons learned from past small-scale fishery and aquaculture development in the SADC and IOC regions

Technical and policy Priorities	Main lessons learnt
Climate Change Vulnerability Assessment and Adaptation: Fisheries –Climate Nexus for Small-Scale Fisheries	<ul style="list-style-type: none"> • Changes in the ocean and cryosphere results in ocean warming, acidification, extreme storm events and deoxygenation. • The impact of climate change is exacerbated by human activities that result in pollution, sedimentation of the ocean, smoothing and burial of coral polyps, overfishing and coastal development. • The consequences of all these are loss of habitat, reduced fish yields, loss of coastal protection and higher operational costs. • Therefore, Member States need to enhance their capacity to undertake vulnerability assessments and put in place adaptation measures. This entails identification of indicators, levels of exposure, sensitivity and additional capacity needed for adaptation. • However, experience in the SADC and IOC regions show paucity of data across all sectors (environmental, ecology, socio-economic, trade and biological for trend analysis). • Therefore, there is a need to create regional observatory network in order to enhance data access and management, capacity utilisation and development and leverage to Multilateral agencies for support. • There is a need for integrated, coordinated, and harmonised approach with sanction from RECs, in order to address common and overlapping climate change issues.
Enhance the economic opportunities and benefits from fisheries for SSF and aquaculture	<ul style="list-style-type: none"> • Much of trade domestic and cross-border fish trade is informal and remains largely invisible to policy-makers and hence, receives limited policy attention and investments from governments. • Trade policies that do not adversely affect nutritional needs of fish-dependent communities are needed, with development of local sustainable alternative feeds for aquaculture, as well as harmonisation of food safety policies for provision of safe fish products. • Reducing fish waste and loss across value chains, through the proven intermittent pond harvesting methods, improved processing, handling and storage technology (e.g. energy-efficient solar cooling) and facilities, as well as fish-based products, can also enhance the supply and distribution of fish to those most vulnerable. • Evidence shows that fish-based products of small fish can be leveraged and scaled in nutrition interventions to address malnutrition and increase economic benefits from existing fisheries. Furthermore, fish parts, such as bladder, can be processed into highly marketable pet food.

F. Priority actions and Recommendations for BCC, SADC, IOC Member States, fish stakeholders and partners

1. Member States should incorporate small-scale fisheries and aquaculture in the national development plans and programmes (financing, food, nutrition, health and resilience policies and strategies, etc.), and to ensure alignment of SSF and aquaculture with other cross- and multi-sector policies.
2. Member States with the support of SADC, should domesticate the SADC Protocol on Fisheries and other relevant and appropriate regional and global fisheries governance instruments, especially SSF Guidelines, and to enhance regional collaboration, and seek development and private partner support for regional and global priorities.
3. Member States with support of development partners and private sector should allocate budgets towards the development of SSF and aquaculture, within the CAADP guidelines and enable access to credit at affordable interest rates to encourage and accelerate the transformation of the sectors.

F. Priority actions and Recommendations for BCC, SADC, IOC Member States, fish stakeholders and partners (continued)

4. SADC, IOC, inter-governmental organisations, BCC and Member States should enhance the management of SSF, and productivity of aquaculture, within the Ecosystems Approach to Fisheries and Aquaculture framework, in order to ensure secured access and supply of fish, and ecosystem and biodiversity protection. This is inclusive of research institutions, NSAs and private sector enhancing the economic opportunities for, and nutritional benefits from small-scale fisheries and aquaculture, especially for the most vulnerable people, such as women, disabled persons and the youth.
5. Member States with support of BCC, development partners, and inter-governmental organisations in partnership with the private sector and NGOs should put in place strategies to improve value chains and equity through digitalisation to raise quality and reduce losses and wastage, ensure food safety, enhance access to viable and sustainable markets. It is important to take into consideration local challenges pertaining to digitalisation.
6. SADC, BCC, inter-governmental organisations and OIC should draw and consolidate existing lessons and practices from the region to accelerate the inclusive formulation and implementation of SSF Guidelines and aquaculture development. Taking into consideration (i) translation into local languages for meaningful involvement of fish-dependent communities, (ii) alignment with local and national development priorities, (iii) consideration of other livelihood measures such as crop cultivation and animal husbandry, and local culture and ecosystem health, and (iv) traditional products (smoked, dried, fermented etc), and local knowledge-based adaptation strategies and actions.
7. Member States, inter-governmental organisations, BCC and other development partners in partnership with the private sectors should develop viable, sustainable and scalable alternative livelihoods aimed at building climate adaptation and general resilience capacities of fish-dependent communities.
8. NSA to ensure "Blue Justice", particularly inclusivity and meaningful participation, to include local socio-economic outcomes and to avoid displacement and marginalisation of SSF and aquaculture dependent communities. Where displacement is inevitable, compensation for lost livelihoods should be mandatory and based on acceptable Involuntary Resettlement principles and standards.
9. BCC, inter-governmental organisations and other development partners should ensure adequate capacity for climate change vulnerability assessments and for adaptation planning, including capacity to access climate finance, for strategic partnerships and to buffer shocks emanating from droughts and floods.
10. Distant fishing nations and private fishing companies to account for, and take appropriate actions to address external negative impacts such as harmful subsidies for large-scale commercial activities, and from unexpected negative impacts such as COVID-19 induced economic downturns, and the use of fish for non-human consumption.
11. Member States should recognise the role of women and the youth across value chains, and to improve the conditions, participation and benefits from SSF and aquaculture to women, particularly fish workers, processors and traders to enable them to build back better. Aligning public procurement to include local sourcing of fish and fish products from SSF and small-scale fish farmers for school feeding programmes, prisons, hospitals, army basis and others should be encouraged.

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