

THE PAN-AFRICAN FISHERIES AND AQUACULTURE
POLICY FRAMEWORK AND REFORM STRATEGY:
DISASTER AND RISK MANAGEMENT
IN FISHERIES AND AQUACULTURE

STRENGTHENING RESILIENCE AND REDUCING
VULNERABILITY TO CLIMATE CHANGE
AND DISASTER IMPACT





Executive Summary



African fisheries and aquaculture and the people dependent on the sector – especially those already marginalized – are amongst the most vulnerable to climate change and disaster impacts.



Serious economic, social and environmental costs already occur and more are predicted and will compromise food security and livelihoods unless resilience is strengthened.



Actions required by African policymakers include; and these focus on (i) enhancing information, knowledge and communication systems; (ii) building adaptive capacity at the local level; (iii) improving policy coherence and coordination at the national and regional levels; (iv) strengthening the small-scale fishing and aquaculture sector; and (v) identifying funding opportunities.

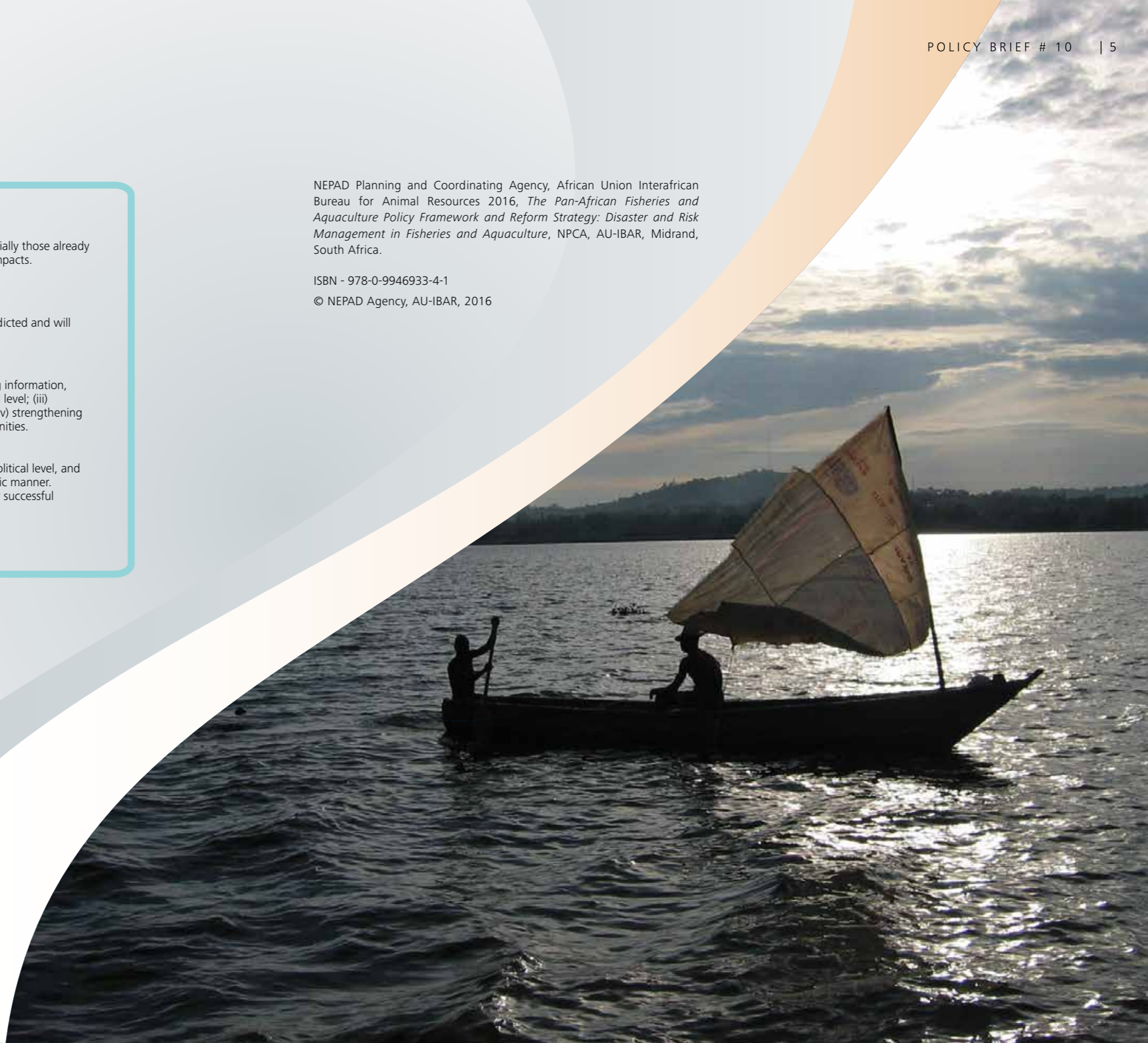


The fisheries and aquaculture sector in Africa has to be given due priority at the political level, and climate change and disaster risks need to be addressed in an integrated and holistic manner. Empowerment, partnerships and collaboration are some of the key ingredients for successful outcomes.

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Introduction and Background

The objective of this policy brief is to inform African policy development on strengthening resilience and reducing vulnerability to climate change and natural disasters of Africa's fisheries and aquaculture sector. The brief takes into account recommendations made to States, Regional Economic Communities (RECs) and Regional Fishery Bodies (RFBs) during the 1st Conference of African Ministers of Fisheries and Aquaculture (CAMFA) in 2010, aimed at mainstreaming climate change and disaster impacts in fisheries policies, as well as programme development and management. It is also aligned with the Durban Declaration on Climate Change and African Fisheries by the New Partnership for Africa's Development (NEPAD) and the Global Partnership on Climate, Fisheries and Aquaculture (PaCFA) at the 17th United Nations Conference of the Parties (COP 17) on Climate Change in 2010. Other strategies include the Programme of Action (2006-2015) for the implementation of the Africa Regional Strategy for Disaster Risk Reduction that was developed in line with the Hyogo Framework for Action (HFA) 2005-2015: 'Building the Resilience of Communities and Nations to Disasters'.

Problem Statement

Climate change and disasters are already having an impact on Africa's aquatic systems and the livelihoods and economies that depend on them. These impacts are expected to increase. A study on climate change vulnerability in fisheries concluded that two thirds of the world's most vulnerable countries are in Africa. Rising sea levels, increasing water temperatures, changes in salinity and currents, and more frequent extreme weather events are among the changes expected. These changes may lead to differences in species distribution which will affect fishing practices, aquaculture at all scales, post harvest activities, markets and consumption. For instance:

- The Intergovernmental Panel on Climate Change (IPCC) estimates that global sea levels will rise by some 4 mm per year during the 21st century. In Africa, 56 million people (2005 estimate) live in low elevation (<10-m) coastal zones and are at direct risk. Economic impacts of climate change are likely to be significantly higher in Africa than in other regions reaching levels equivalent to 1.5 – 3 percent of GDP each year by 2030.
- The water temperature of Lake Tanganyika has increased by 0.9-1.3 degrees Celsius since 1913 and studies have found that primary production has fallen by 15 to 20 or more percent since the 1950s. The lake is critical for food production and supplies an income generation of people.⁵ Other African lakes show similar developments; the drying of Lake Chad caused by a combination of damming, irrigation and climate change, threatens fisheries and other livelihoods in the basin.⁶ This also leads to increased migration and conflicts between different resource users.⁷
- Increased sea temperatures alter fish species distribution and may decrease the catch potential with implications on food security, employment and incomes.⁸ It can also cause coral bleaching. Coral reefs play an important role in coastal ecosystems and are also essential to fishing and tourism in places like the Indian Ocean coastal and island states. Kenyan reefs suffered severe mortality in the 1998 bleaching event and some are still recovering.⁹
- Stronger winds are reinforcing the Agulhas current and changes in its pattern are likely to affect fisheries in southern Africa.¹⁰
- In 2012, there were close to 38 million victims of hydro-meteorological disasters in Africa. A drought in Kenya and floods in Nigeria were among the most serious disasters in the world with regard to the number victims during the year.¹¹

Small-scale fishers, fish farmers and fish workers, who make up the bulk of the men and women employed in fisheries and aquaculture in Africa, are particularly vulnerable to climate change. Political and economic marginalization has prevented fishing communities from exerting pressure on governments to address climate change and disaster risks in ways adequate for their needs. Communities tend to be located in one of the most dynamic and disaster prone environments that exist – where land and water meet. African fisheries and aquaculture are also exposed to numerous other threats, for example high levels of poverty, overfishing, illegal fishing, pollution, ocean acidification, habitat destruction and increased competition for fresh water resources.¹²⁻¹³ There is often a lack of policy coherence and a disconnect between fisheries and aquaculture policies and plans, on the one hand, and initiatives addressing climate change and disaster risks on the other – despite the fact that vulnerabilities and impacts cut across different sectors and many communities have diversified livelihoods. Top-down and fragmented governance, poor communication channels, a lack of understanding how climate change affects different population groups, limited resources and a lack of technical capacity often make it difficult to address these issues, leading to a high aggregated level of vulnerability.

Policy Recommendations

Enhancing information, knowledge and communication systems

Efforts are required to improve knowledge at local, national and regional levels on how fisheries and aquaculture are impacted by climate change to better inform adaptation and mitigation strategies. Effective communication is key to ensuring that direct actions to support disaster response are successful. Governments should:

- Engage research institutions to promote coherent and holistic research agendas that take indigenous, traditional and local knowledge into account.
- Promote knowledge sharing and policy dialogue using appropriate communication channels and mechanisms including national and regional platforms and networks that link to the local level.
- Make use of rapidly developing information and communication technologies (ICTs) to improve communication while ensuring that solutions are locally appropriate. Public Private Partnerships (PPP) may be particularly valuable in this context.

In Uganda, a project by the UK's Met Office, the Ugandan Department of Meteorology, and the telecommunications company Ericsson introduced a mobile phone messaging warning systems for fishers on Lake Victoria. The project saved lives within weeks of its introduction.¹⁴

Building adaptive capacity at the local level

Actions supporting adaptive capacity building have to be grounded in local needs and experiences. Vulnerability assessments should, therefore, be participatory and inclusive. A good understanding of local vulnerabilities, historic and customary adaptation strategies, and current existing institutions and processes should be used as building blocks for strengthening resilience. Governments should:

- Where not already done, undertake participatory vulnerability assessments. These assessments should be designed in consultation with fishing communities to ensure they take the local and regional specificities of fisheries and aquaculture into account, covering the whole value chain from harvesting to consumption, but also consider underlying drivers of poverty. The assessments should allow communities to identify potential threats, strengths, opportunities and existing coping mechanisms. Gender roles and needs of the most vulnerable groups, for instance, female or child-headed households, the elderly and youth, should be given special attention.

Actions that address climate change and disaster risks need to span the whole range from specific interventions – such as construction of coastal embankments, planting of mangroves or establishing early warning systems – to empowerment, and strengthened institutional structures and processes. Strengthened social protection, development of risk financing mechanisms and livelihood diversification support may be appropriate measures. The close link between climate change impacts and disaster risks should be recognized and climate change adaptation and disaster risk management addressed in a holistic manner.

The Livelihoods Project for Restoration of Mangroves in Senegal is restoring ecosystems, reducing atmospheric carbon and creating jobs. It has been approved by the UN Framework Convention on Climate Change (UNFCCC) for the issuance of carbon credits as a carbon storage measure.¹⁵

Improving policy coherence and coordination at the national and regional levels

To successfully address climate change and disaster risks, coherent policy frameworks and inter-sectoral and interdisciplinary links are required. The contributions of fisheries and aquaculture to food security and poverty alleviation need to be recognized. Governments should:

- Integrate fisheries and aquaculture considerations and needs in national climate change adaptation and disaster risk management plans and actions.
- Ensure that fisheries and aquaculture management plans and development programmes include adequate climate adaptation and mitigation measures.
- Promote holistic development approaches that decrease the overall vulnerability of fishing and fish farming communities, and are consistent with an ecosystem approach, ensure sustainable livelihoods and protect the human rights of all those affected.

Existing regional and sub-regional institutional structures should be used to address the issues of shared aquatic resources and migration - a common livelihood strategy of many fishing communities - and to ensure collaboration and policy coherence.

Strengthening the small-scale fishing and aquaculture sectors

Many policies currently favour the usually more carbon-intensive industrial fishing segment while there would be many advantages in giving higher priority to small-scale fisheries in view of their vulnerability, role in food security and poverty reduction, and generally less climate impacting fishing methods. Governments should:

- Promote the development of domestic and regional markets to support local food security and to minimize the carbon footprint of the fisheries and aquaculture sector.
- Prioritise the climate-friendly methods of harvesting fishery resources used by the small-scale fisheries sector.
- Support the development of community-based aquaculture where filter feeders are produced and thereby limit the use of carbon-intensive industrial animal feed.

Identifying funding opportunities

Climate change adaptation and disaster risk management for fisheries and aquaculture require substantial funding, both long and short-term. However, not addressing these risks will carry a far higher cost in the future as ecosystems, livelihoods and food security are disrupted and lives are lost. States should include provisions in national budgets for the necessary actions, seek partnerships to secure additional funding and ensure that available climate change adaptation funds are also channeled to the fisheries and aquaculture sector. Addressing climate change and disaster risks in fisheries and aquaculture should be prioritized in relevant policies, strategies and plans, for instance, in National Adaptation Programmes for Action (NAPAs) and Poverty Reduction Strategy Papers (PRSPs) in order to attract funding. Moreover, it is important to incorporate climate change adaptation and disaster risk management in all development programmes to ensure effective use of available funding.

Conclusions

The future consequences and the extent of climate change impacts are not certain but we do know that these changes will have a negative impact on African fisheries and aquaculture. Policy and decision makers have to take strong actions addressing climate change impacts and disaster risks, putting measures in place to ensure that the contribution of fisheries and aquaculture to poverty alleviation and sustainable development is protected as far as possible. Failure to do so will have unprecedented negative consequences for millions of people in terms of livelihoods and food security. Political will, financial and human resources, information and knowledge, and concerted efforts by all, including the effective participation of those directly concerned, will be required to safeguard our future.

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