

Reducing post-harvest losses for Sustainable Small-Scale Fisheries in Africa

Executive Summary

Small-Scale Fisheries (SSF) are a cornerstone of food and nutrition security in Africa, contributing up to 70% of the continent's total fish catch, particularly through the harvesting of Small Pelagic Species (SPS). SSF also sustain millions of livelihoods in coastal and inland communities. However, their full potential is severely undermined by post-harvest losses—ranging from 30% to 60%, and up to 100% during peak seasons—due to limited infrastructure, preservation challenges, and restricted market access.

SPS are especially vulnerable to spoilage due to their biological characteristics, with losses worsened by inadequate infrastructure, poor handling and hygiene practices, and limited technical knowledge. Traditional methods like sun-drying and smoking are widely used but often result in contaminated or poor-quality products when not properly managed.

This policy brief identifies four root causes of post-harvest losses in African SSF as: Policy and Legal Gaps; Inadequate Infrastructure; Limited Technical and Human Capacity; Financial Constraints

The Recommended Priority Actions include: Strengthen legal and regulatory frameworks to improve hygiene, handling, and processing standards; Invest in modern infrastructure, including cold storage, hygienic drying and smoking units, and SSF-appropriate boats; Promote Public-Private Partnerships (PPPs) for sustainable infrastructure development and service delivery; Build technical capacity through targeted training for fishers, processors, and traders—especially women and youth; Support SSF associations and cooperatives to enhance market access, bargaining power, and financial inclusion; Foster innovation by promoting context-specific technologies and accessible financing models; Increase consumer awareness to drive demand for high-quality, hygienically handled fish products.

Reducing post-harvest losses in SSF is vital to improving food and nutrition security, enhancing livelihoods, and strengthening the economic resilience of Africa's fisheries sector. Achieving this requires coordinated action from governments, private sector actors, development partners, and local communities. Strategic investments in policy reform, infrastructure, innovation, and capacity development will be essential to unlock the full value of SSF and advance Africa's sustainable development goals.

Introduction

According to FAO estimates, fish contributes over 20% of the animal protein intake in the diets of people in sub-Saharan Africa and as much as 50% among the poorest nations and the rural poor. Small Scale



Fisheries (SSF) in Africa contribute between 50% and 70% of the continent's total fish catch, playing a significant role in food and nutrition security as well as in supporting sustainable livelihoods. A large portion of this catch – particularly from both inland and marine fisheries - consists of, small pelagic species (SPS) (typically < 25 cm in length and often under < 10 cm). These species are among the most nutritious, providing highly digestible proteins, micro-nutrients, essential amino-acids and poly-unsaturated fatty acids that are crucial for human growth and overall health. This nutritional contribution is especially critical in Africa where rates of child stunting and malnutrition remain high.

However, for several decades, post-harvest losses in SSF have been recognized as a major challenge. Globally, approximately 35% of the fish harvested are lost annually after capture due to physical damage, spoilage, and market related dynamics. In African SSF these losses are even more pronounced, ranging from 30% to 60% and can reach 100% during periods of abundant harvest when demand drops, prices collapse and infrastructure is lacking. The SPS are particularly vulnerable to spoilage due to their soft flesh, higher surface area-to-volume ratio, and large body cavities. These physical characteristics make them more prone to damage, rapid degradation and spoilage. In many cases, gutting and cleaning are impractical further accelerating deterioration.

Traditional preservation techniques such as sun-drying and smoking are commonly used; however, in the absence of proper knowledge, infrastructure and hygiene, these methods may lead to contamination, insect infestation, rancidity, excessive drying temperatures and product breakage ultimately compromising quality and safety. As a result, spoilt fish are frequently discarded or sold at reduced prices for animal feed or other low-value uses. Such losses present a serious barrier to food and nutrition security, income generation and the sustainability of the SSF. Addressing them requires targeted investment in improved on board and landing site infrastructure, as well as capacity building for fishers and processors in best practices for post-harvest handling and processing.

This policy brief examines the root causes of post-harvest losses in African SSF and proposes practical policy measures to mitigate these losses and promote sustainable and economically viable fisheries.

Root causes of post-harvest losses

Post-harvest losses in small pelagic fisheries are driven by a combination of deep-rooted, systemic challenges. Key among these are policy and legal gaps, inadequate infrastructure, limited technical and human capacity, and financial constraints. These factors collectively weaken the post-harvest value chain, reducing product quality, marketability, and income for fisher communities.

Policy/legal gaps

- Inadequate policies and other regulatory frameworks to promote improved fish handling and processing
- Inadequate infrastructure
- Lack of appropriate fish landing and processing facilities tailored to the needs of SSF. For example,



fishing vessels used in SSF are not designed or equipped to protect the catch from damage

Limited technical human capacity

- Poor fish handling and processing practices. Small scale fishers have limited awareness and understanding of best practices in fish handling, processing and related requirements. Limited knowledge among fishers and traders regarding the causes of fish spoilage and the importance of hygienic, results in reduced nutritional value and marketability of fish.

Financial constraints

- Restricted access to financial services which hinders investment essential solutions to mitigate post-harvest losses.

Policy Recommendations

Addressing the root causes mentioned above is essential to improving fish preservation, reducing waste, and enhancing the overall resilience of the sector. This can be achieved through:

- Development and enforcement of regulatory frameworks that promote improved fish handling with a focus on hygiene, infrastructure, and environmentally sustainable processing methods.
- Development and dissemination of guidelines on best practices in fish handling and processing to improve product quality, reduce spoilage and enhance food safety.
- Establishment of policies to safeguard and standardize fish processing practices ensuring quality control, food safety, and reduction of post-harvest losses.
- Upgrade and expansion of fish handling and processing infrastructure /facilities including cold chains, drying racks, smoking kilns and marketing facilities to support value addition and reduce post-harvest losses.
- Design and production of technologies to reduce losses. For example, standardised insulated boxes (tubs) on fishing craft for storing ice and fish.
- Promotion of Public Private Partnerships (PPPs) in the development, financing and management of fish landing and processing infrastructure ensuring sustainable operations and shared responsibilities.
- Promotion of capacity building initiatives including development of training programmes and exposure visits to equip value chain actors with best practices in fish handling, hygiene and processing to improve product quality, reduce spoilage and enhance food safety.
- Facilitation of inclusion in decision-making platforms and support access to training and capacity-development opportunities for SSF stakeholders with special focus on women and youth.
- Promotion of the formation and strengthening of Fish harvesting, processing and marketing associations and networks at national, regional and continental levels; with a strong emphasis on the inclusion and empowerment of women. These networks will help reduce credit risk and to leverage economies of scale to improve access to financing and markets
- Implementation of consumer awareness campaigns to increase demand for high quality hygienically handled fish products thereby encouraging improvements along the value chain.



Conclusion

Reducing post-harvest losses in Small scale fisheries is vital for improving food security, nutrition and livelihoods across Africa. This requires a comprehensive approach focused on better handling, processing and storage, supported by improved infrastructure and vessel design tailored to local conditions. Pilot projects in diverse settings can provide scalable lessons, while strengthening fish traders' associations and building capacity across the value chain will further enhance impact. Governments and stakeholders must prioritize these actions for sustainable and economically resilient SSF.

References

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