KENYA MARINE AND FISHERIES RESEARCH INSTITUTE
FRESH WATER SYSTEMS

FACT SHEET

VALUE CHAIN ANALYSIS OF TILAPIA IN LAKE TURKANA TO INFORM MANAGEMENT AND POLICY DECISION

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INTRODUCTION

- Lake Turkana supports one of Kenya's most important inland fisheries, providing food, employment, and income to thousands of households in Turkana County.
- Tilapia is among the most commercially important fish species in the lake due to its high consumer demand, affordability, and nutritional value.
- The fishery supports a diverse value chain involving fishers, traders, processors, retailers, transporters, and service providers.
- Despite its socioeconomic importance, the Tilapia value chain faces significant constraints including post-harvest losses, weak infrastructure, limited market access, and governance challenges.
- Understanding value chain dynamics is essential for designing interventions that improve efficiency, increase incomes, strengthen food security, and support sustainable fisheries management.

KEY FINDINGS

- Fishers accounted for 74% of all value chain actors surveyed, while traders/wholesalers represented 14% and processors/retailers 12%.
- Approximately 71% of respondents were aged between 18 and 35 years, highlighting the importance of fisheries as a major livelihood source for young people in Turkana County.
- Fishing remains predominantly male-dominated, while women account for 83% of processors/retailers and 57% of traders, playing a critical role in fish handling, processing, and marketing.
- Tilapia prices increased from KES 25/kg at landing sites to KES 115/kg at retail markets. Despite assuming production risks, fishers retained only 21.7% of the final retail value.
- Mean losses increased along the value chain from 10.9% among fishers to 25% among processors and retailers, largely due to poor preservation systems, high temperatures, weak transport systems, and inadequate storage facilities.
- Declining fish stocks, weather variability, poor infrastructure, weak market coordination, and limited BMU effectiveness were identified as major constraints affecting value chain efficiency and sustainability.

INVESTMENT GAPS

- Limited cold-chain facilities, ice plants, cold rooms, and modern fish preservation technologies.
- Inadequate fish handling, processing, storage, and landing-site infrastructure.
- Poor transport networks and market connectivity, contributing to high post-harvest losses.
- Weak market linkages, limited value addition, poor packaging, and low product diversification.
- Low bargaining power among fishers and lack of organized market information systems.

- Weak BMU capacity, limited fisheries monitoring and enforcement, and poor coordination among value chain actors.
- Inadequate support for sustainable fisheries management and low stakeholder confidence in governance structures.
- Limited access to productive assets, affordable credit, fish processing technologies, and business development support for women and youth.
- Low participation of women and youth in high-value market segments and enterprise development opportunities.
- Declining fish stocks, increasing fishing pressure, and high vulnerability to climate variability and extreme weather events.
- Continued reliance on traditional preservation methods and low investment in climate-smart fisheries technologies.
- Weak adaptive capacity of fisheries-dependent households to environmental and economic shocks.

RECOMMENDATIONS

- Develop ice plants, solar-powered freezers, cold rooms, insulated storage facilities, and refrigerated transportation systems to reduce post-harvest losses.
- Strengthen fish processing, packaging, branding, and market linkage initiatives to increase incomes and value retention among fisheries actors.
- Enhance BMU capacity, improve enforcement mechanisms, and strengthen stakeholder participation in fisheries management.
- Expand access to finance, productive assets, skills training, and business development services targeting women and youth.
- Upgrade roads, landing sites, and transportation systems to facilitate efficient fish movement and market access.
- Support stock monitoring, responsible fishing practices, climate adaptation measures, and ecosystem-based fisheries management.

CONCLUSION

The Lake Turkana Tilapia value chain remains a critical contributor to food security, employment, and economic development in northern Kenya. However, substantial inefficiencies persist due to inadequate infrastructure, high post-harvest losses, weak governance systems, and unequal value distribution among actors. Investments in cold-chain infrastructure, transport systems, market development, fisheries governance, and targeted support for women and youth are essential for improving value chain efficiency, increasing incomes, reducing losses, and enhancing the long-term sustainability of the fishery. Strengthening these areas will contribute significantly to food security, livelihood resilience, and sustainable Blue Economy development in Turkana County.