



Enhancing Fish Consumption Through Retail Market Policy Interventions in Kenya

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Key Messages

- Promoting fish consumption provides an affordable, nutrient-dense approach to addressing nutrition challenges in Siaya County, Kenya. Policy support for locally available fish can enhance dietary quality, particularly for children, pregnant and lactating women, and low-income households.
- Household fish consumption is shaped by market systems including infrastructure, food safety, and pricing, with rural and peri-urban households facing the greatest access barriers, underscoring the need for targeted market investments.
- Poor market hygiene and limited cold storage undermine consumer trust and compromise food safety. Strengthening market inspections, investing in cold chain infrastructure, and supporting sanitation improvements are critical to protect public health.
- Women are largely excluded from lucrative segments in the fish value chain due to mobility, safety, and cultural constraints. Gender-responsive interventions such as access to credit, leadership support, and market infrastructure can enhance women's participation and strengthen household nutrition outcomes.
- Strengthening food retail systems and targeting interventions to vulnerable populations are essential for improving public health, economic livelihoods, and gender equity. Measures such as social protection, nutrition education, and integrating fish into school and maternal feeding programs can improve access and consumption among nutritionally at-risk groups.

1. Policy Context and Rationale

Fish and aquatic foods are globally recognized as essential components of sustainable and nutritious diets, providing high quality protein, essential fatty acids, and critical micronutrients such as iron, zinc, calcium, and vitamin A that are fundamental for child development, maternal health, and

cognitive outcomes (FAO, 2024; Chen et al., 2022). In Sub-Saharan Africa, fish plays a particularly important role in food and nutrition security, yet per capita consumption remains among the lowest worldwide due to weak market infrastructure, post-harvest losses, and underdeveloped value chains (Maulu et al., 2021; FAO, 2024). Cheserek et

al. (2025) highlighted the need for coordinated and climate-resilient reforms to strengthen fisheries and aquaculture systems and improve their contribution to food security and nutrition.

In Kenya, fish contributes significantly to diets and livelihoods, particularly in counties adjacent to Lake Victoria and major river systems. Despite this natural endowment, household access to safe and affordable fish remains uneven (Cheserek et al., 2021). Moderate child stunting rates of between eleven and twenty percent in Siaya County signal persistent dietary deficiencies that cannot be explained by production constraints alone (Abuya & Ng'ang'a 2021). Instead, these outcomes reflect structural challenges in food environments, including poor market infrastructure, weak regulatory enforcement, and limited integration of

2. Evidence Base and Analytical Approach

This policy brief draws on a cross sectional household survey of 232 households across rural, peri urban, and urban communities in Siaya County (Figure 1).

fisheries into nutrition and health policy frameworks.

Kenya's development and policy frameworks including Vision 2030, the Blue Economy Strategy, the National Food and Nutrition Security Policy, the Kenya Nutrition Action Plan, and County Integrated Development Plans increasingly emphasize dietary quality, value addition, and inclusive growth. However, fisheries policy, food safety regulation, nutrition programming, and gender policy remain weakly coordinated at the level of retail markets where most households acquire food. This policy brief addresses this gap by translating empirical evidence into actionable recommendations for national and county policy makers.

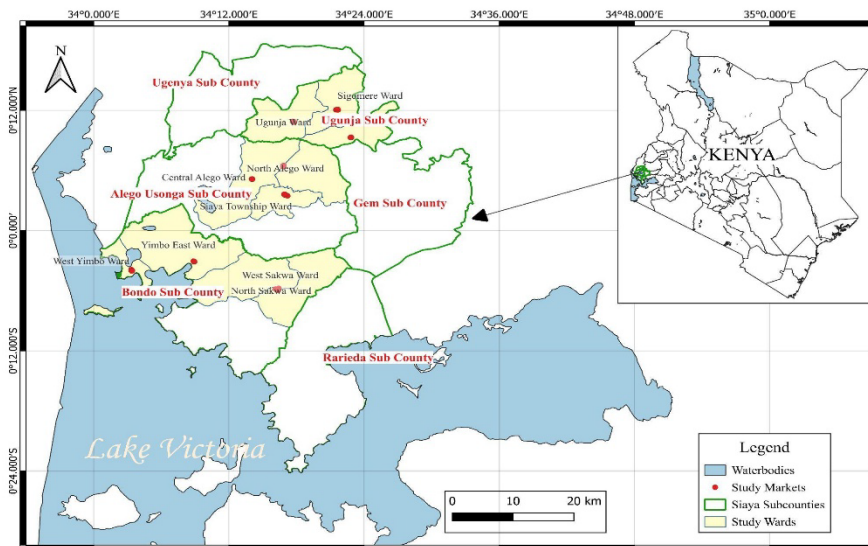


Figure 1: Map of the Study Area

Data were collected through structured face to face interviews with primary household food purchasers and complemented by direct observations of fish retail markets. Quantitative analysis

employed descriptive statistics and an ordered logistic regression model to identify factors associated with fish acquisition and consumption behavior. The analytical framework was guided by the socio ecological model (Figure 2), which conceptualizes food choice as the outcome of interactions across individual, household, market, and policy levels (Bronfenbrenner, 1979; McLeroy et al., 1988; Stadlmayr et al., 2023).

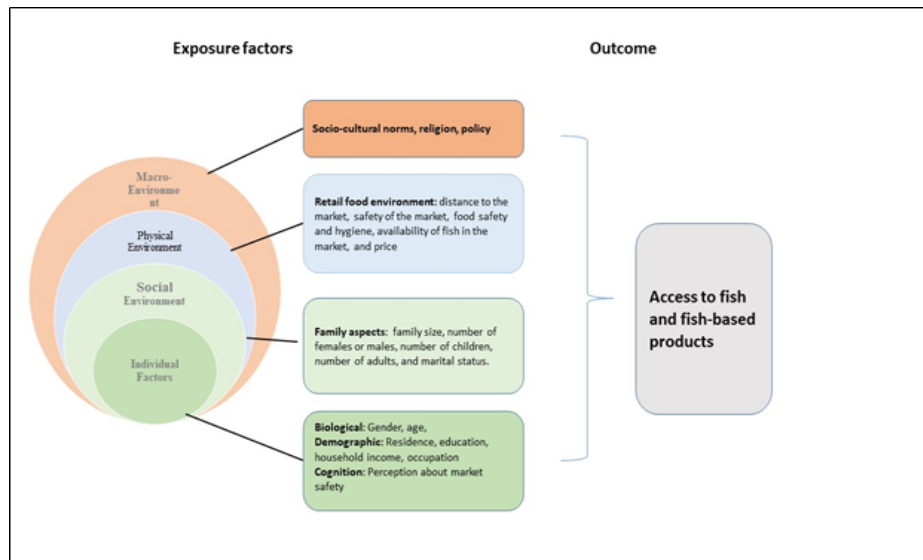


Figure 2: Conceptual Framework adapted from Stadlmayr et al. (2023)

3. Key Findings for Policy Action

3.1 Education and Information as Demand Side Drivers

Households where the household head has attained primary, secondary, or tertiary education were significantly more likely to consume fish frequently than those with no formal education. This finding aligns with broader evidence that education enhances nutritional awareness, dietary diversity, and responsiveness to health messaging (Hirvonen and Hodinott, 2017). It underscores the critical role of human capital in shaping food choices beyond income or demographic factors, highlighting the importance of education and information interventions to boost fish consumption.

3.2 Market Safety and Hygiene as Determinants of Consumer Trust

Perceptions of unsafe or unhygienic market conditions are strongly and negatively associated with fish consumption. Observations of retail environments revealed widespread deficits in clean water, drainage, cold storage, and waste management. These conditions increase contamination risks and undermine consumer confidence, reinforcing evidence that safe and hygienic food environments directly influence dietary behavior and public health outcomes (Asiki et al., 2020; Skeggs and McHugh, 2023). Together, these findings highlight that both household knowledge and market safety are critical drivers of dietary behavior.

3.3 Spatial Inequality and Distance to Markets

Distance to markets emerged as a significant barrier, particularly for rural and peri urban households. Longer travel times and higher transport costs reduced access to fresh and value added fish products, confirming earlier evidence that physical access and transaction costs constrain dietary diversification in low income settings (Nandi et al., 2021). Addressing these spatial inequalities is essential to ensure equitable access to nutritious fish and improve dietary outcomes across all communities.

3.4 Price Volatility and Affordability Constraints

Despite local availability of fish, households experience price fluctuations driven by seasonality, trader competition, and the absence of transparent pricing mechanisms. This volatility disproportionately affects low income households, which spend a large share of their income to food, reinforcing inequalities in access to nutritious diets (Cheserek et al., 2022). Ensuring price stability and improving affordability are therefore critical to enable equitable access to fish and strengthen dietary quality for vulnerable populations.

3.5 Misalignment of Nutrition Communication

Access to nutrition advice showed a counterintuitive association with fish consumption, suggesting that existing

4. Policy Gaps

Current policy and regulatory frameworks provide formal standards for food safety, market licensing, and public health certification, however, enforcement at county level remains inconsistent (Asiki et al., 2020). There is no institutionalized mechanism for price transparency or consumer protection in fish retail markets, leaving households exposed to exploitation and unpredictable costs. Fisheries and aquaculture policies are weakly integrated into national and

communication strategies may emphasize alternative protein sources, fail to address

affordability constraints, or lack cultural relevance. Similar concerns have been highlighted in studies stressing the need for context-sensitive and market-aware nutrition education frameworks (Chen et al., 2022). Aligning nutrition messaging with local food preferences, economic realities, and market conditions is essential to effectively promote fish consumption and improve dietary outcomes.

3.6 Gendered Segmentation in Fish Markets

Fish markets in Siaya county display gender-based segmentation, with women concentrated in low-capital retail activities and men dominating higher-value nodes such as wholesaling, boat ownership, and larger-scale processing. This unequal positioning is driven by structural barriers including limited access to credit, mobility constraints, safety concerns at landing sites, and restrictive gender norms. Such segmentation has implications beyond income inequality, as evidence shows that women's earnings are more likely to be spent on food, health, and child welfare, thereby influencing household nutrition outcomes (Bukachi et al., 2022). Addressing these barriers and promoting women's participation in higher-value nodes can enhance both economic empowerment and household nutritional outcomes.

county nutrition strategies, limiting the role of fish in dietary guidelines and social protection programs. Investment in cold chain infrastructure, rural distribution systems, and small scale processing remains insufficient, particularly in peri urban and rural areas. Gender responsive financing and infrastructure support for women traders and processors are limited, reinforcing structural inequalities in market participation. Addressing these gaps is critical to strengthen market systems, enhance fish access, and ensure equitable nutritional and economic outcomes.

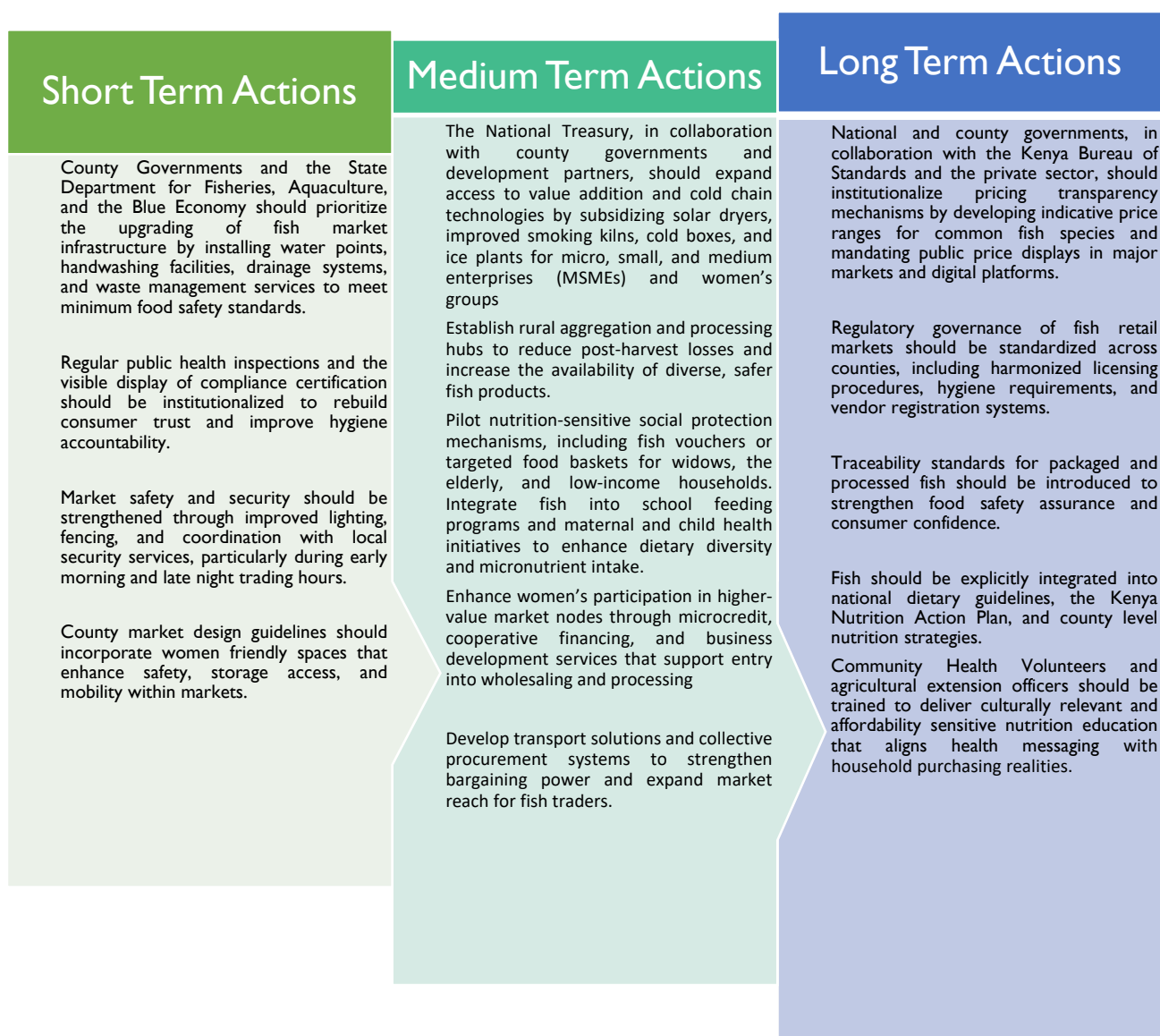
5. Policy Recommendations and Implementation Pathways

The following policy and implementation pathways translate research findings into actionable measures for safer, more inclusive, and nutrition-sensitive fish markets.

5.1 Evidence Informed Policy Actions



5.2 Time-Bound Strategic Actions



6. Policy Alignment

The recommended actions directly support the Kenya Vision 2030 pillars on health, food security, and inclusive economic growth. They operationalize the Blue Economy Strategy by promoting value addition, livelihoods development, and sustainable fisheries management. These measures also enhance dietary quality and ensure adequate intake of key vitamins and minerals, contributing to the Kenya Nutrition Action Plan. At the continental and global levels, the recommendations advance the objectives of the African Union Agenda 2063 and Sustainable Development Goal 2, which aims to end hunger and ensure access to safe, nutritious, and sufficient food for all.

7. Conclusion

Kenya's fisheries and aquaculture sector provides a powerful pathway to improve nutrition, reduce gender inequalities, and strengthen rural and peri-urban livelihoods. Evidence shows that fish consumption is shaped not only by supply but also by market governance, food safety, affordability, and the alignment of policies with household realities. A coordinated national and county response that integrates food safety regulation, market infrastructure investment, price transparency, nutrition policy, and gender-responsive financing can transform fish from a locally available resource into a nationally leveraged solution for food and nutrition security and inclusive development.

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