SOCIOECONOMICS · FISHERY VALUE CHAINS

Value Chain Analysis of the Omena (Dagaa) Fishery

How transaction pathways, asset profiles and governance structures shape socio-economic collaboration among small-scale actors in the dagaa value chain of Lake Victoria.

REFERENCE	ISSUED	REGION
C82_3(5)	**June 2026**	**Six Lake Victoria landing sites**

SOCIOECONOMICS

52
small-fish value-chain actors interviewed

6
landing sites and markets surveyed across the lake

3.12
collaboration score for harvesters, the lowest of any node

4
key species in the small-fish value chain

Introduction

The dagaa (*Rastrineobola argentea*) value chain is a critical engine of rural income generation and micronutrient security across the Lake Victoria Great Lakes Region. Despite this importance, the artisanal sub-sector remains structurally constrained, with small-scale actors facing weak coordination, limited assets and uneven governance. Understanding how these actors transact and collaborate is essential for targeting investment and reform where they will do the most good.

Objective: to evaluate how horizontal and vertical transaction pathways, individual asset profiles and formal governance structures shape socio-economic collaboration among small-scale fishery actors.

Study Area and Scope

The study covered 52 small-fish value-chain actors across six landing sites and markets on the Kenyan side of Lake Victoria, spanning the Busia, Siaya, Kisumu and Homa Bay shorelines. The small-fish trade centres on four species: omena (*Rastrineobola argentea*), apengo (juvenile *Lates niloticus*), ochonga (*Caridina niloticus*) and fulu (haplochromine cichlids).

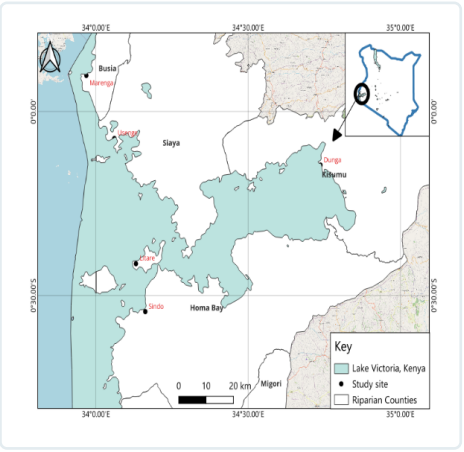


Figure 1. Study area: the six surveyed landing sites along the Kenyan shoreline of Lake Victoria, including Marenga, Usenge, Litare, Sindo and Dunga.



Figure 2. The four species of the small-fish value chain. Clockwise from top left: omena, apengo (juvenile Nile perch), fulu (haplochromines) and ochonga (Caridina).

Methods

Fifty-two actors were interviewed across the six landing sites and markets, and their horizontal and vertical transaction pathways, asset profiles and governance relationships were characterized. Associations and group differences were tested using the chi-square test, the Kruskal-Wallis test and ordinal logistic regression, allowing the study to separate genuine structural patterns from background variation.

Key Findings

Transaction pathways are fluid, not siloed

Direct transaction pathways are fluid rather than strictly segregated into exclusive occupational silos (chi-square = 12.893, df = 9, p = 0.168). Every actor group transacts with several others: consumers buy from both fishers and traders, while fishers, processors and traders all move product across multiple nodes rather than through fixed one-to-one channels.

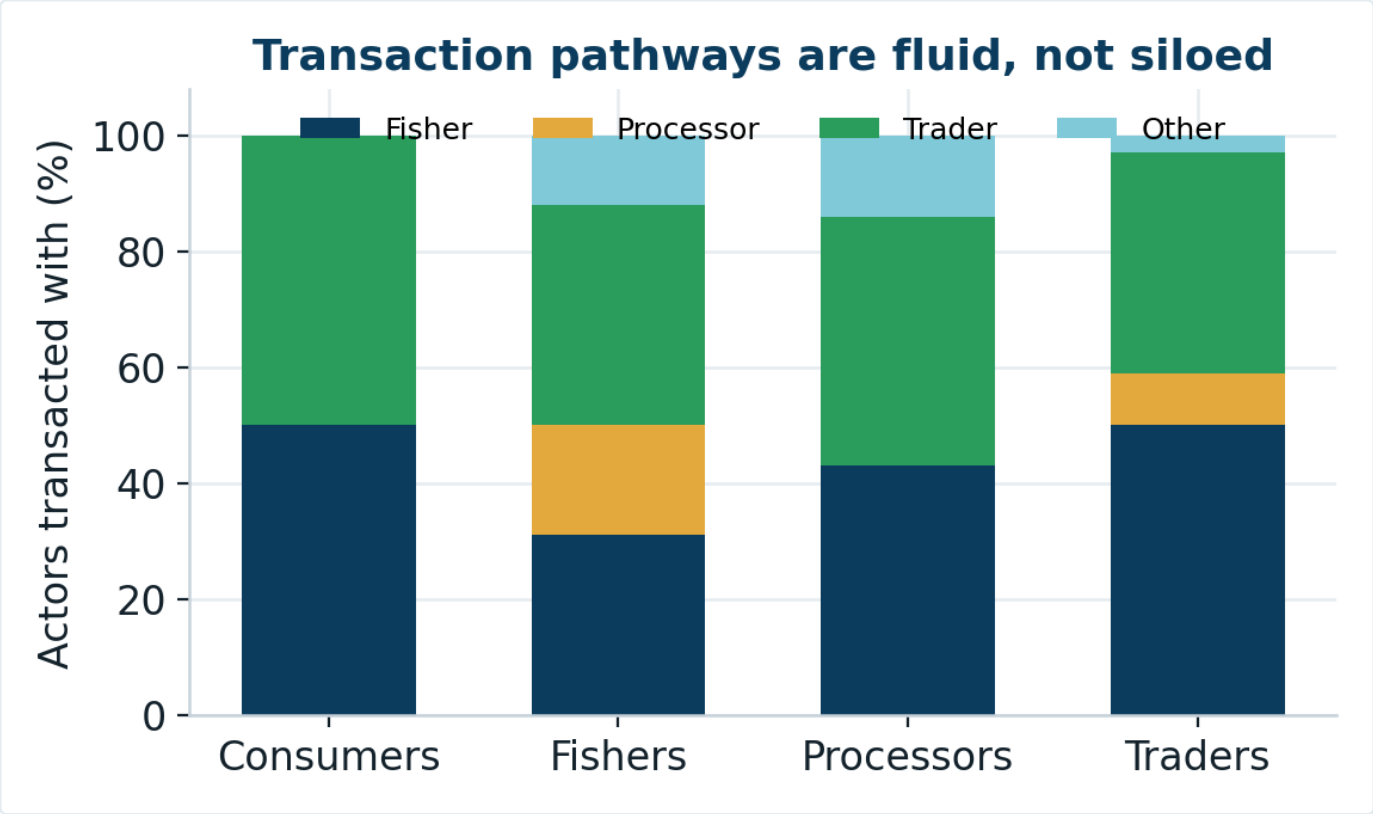


Figure 3. Proportion of actors each group transacts with. The spread across fisher, processor, trader and other categories shows that pathways are mixed rather than confined to single channels.

Collaboration is moderate and broadly similar across nodes

Perceived collaboration did not differ significantly across occupational groups (Kruskal-Wallis H = 3.839, p = 0.279). Mean collaboration scores were moderate to strong for processors (4.00), traders (3.50) and other actors (3.50), but primary harvesters reported the lowest institutional satisfaction at 3.12, pointing to a non-linear relationship between assets and trust along the chain.

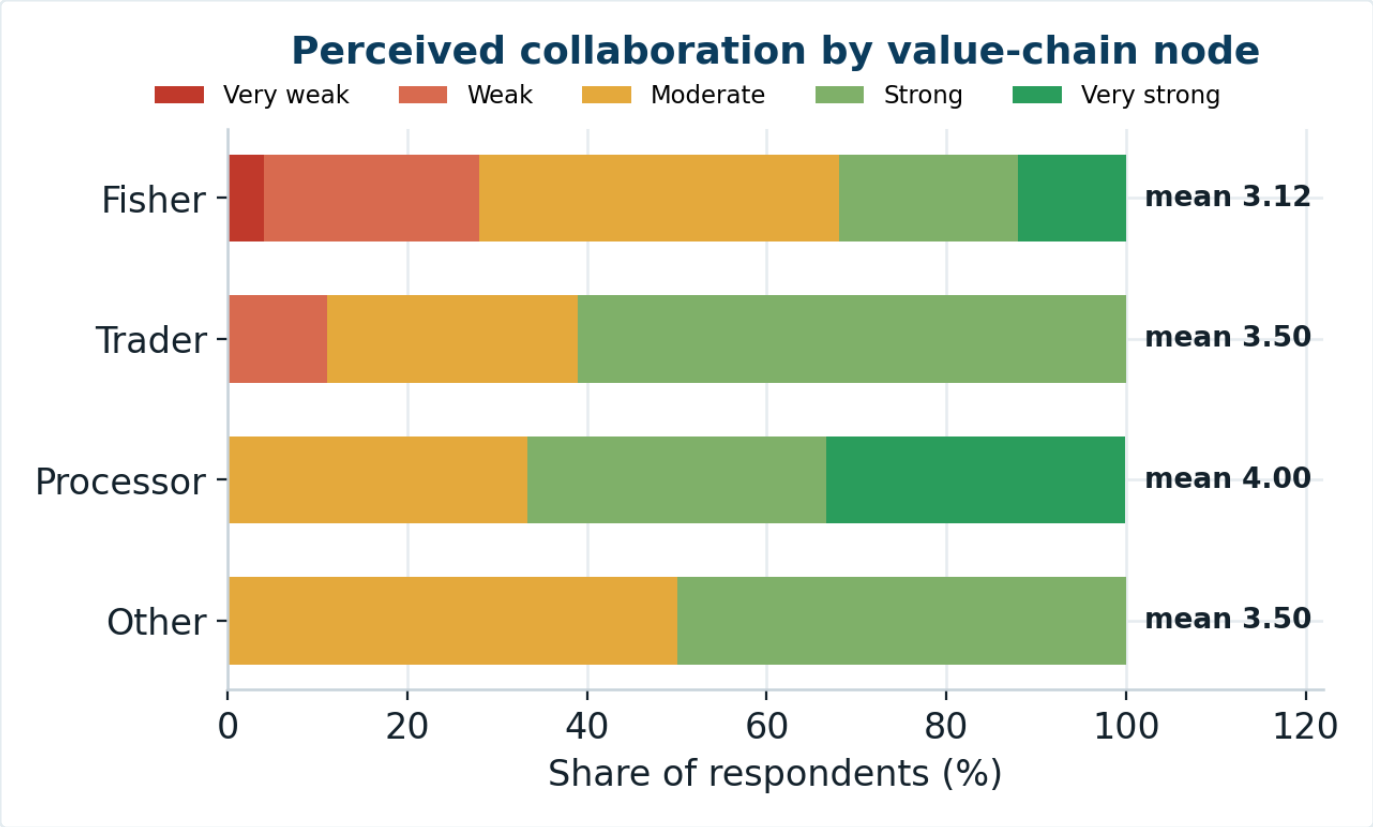


Figure 4. Perceived collaboration by value-chain node. Harvesters (fishers) record the weakest distribution and the lowest mean score (3.12), while processors record the strongest.

Income and value-addition do not predict collaboration

Ordinal logistic regression confirmed that neither household income nor an advanced value-addition format significantly predicted perceived collaboration. This indicates that collaboration is shaped more by governance and relationships than by individual wealth or processing sophistication.

Statistical test	Result	What it means
Transaction pathways (chi-square)	$\chi^2 = 12.89$, df = 9, p = 0.168	Pathways are fluid, not segregated
Collaboration across groups (Kruskal-Wallis)	H = 3.84, p = 0.279	Perceptions are similar across nodes
Household income to collaboration (regression)	β = 0.014, p = 0.961	No significant effect
Value-addition to collaboration (regression)	β = -0.262, p = 0.499	No significant effect



Figure 5. A trader sells dried dagaa at a lakeshore market, one of the value-chain nodes where harvesters, processors and traders meet.



Figure 6. A communal solar dryer. Directing co-management investment toward shared drying infrastructure is a key recommendation.

Conclusions

- Transaction pathways in the dagaa value chain are fluid and overlapping rather than confined to rigid occupational silos.
- Collaboration is broadly similar across nodes, but primary harvesters feel the least supported, with the lowest institutional satisfaction (3.12).
- Neither household income nor value-addition sophistication predicts collaboration, so governance and relationships matter more than individual assets.

Recommendations

1. Establish decentralized producer-trader cooperatives to standardize pricing and strengthen the bargaining position of harvesters.
2. Direct co-management investment toward communal solar-drying infrastructure to cut post-harvest losses and raise product quality.
3. Harmonise transboundary fisheries regulations across the Lake Victoria partner states to support a fair and predictable trading environment.
4. Target institutional support at primary harvesters, the node reporting the weakest collaboration and satisfaction.

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