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The Mogadishu fish market during inclement, seasonal weather: Function and problems constraining benefits to the local community

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Abstract

Somalia's vast coastline in mainland Africa offers rich marine resources, yet unemployment remains high, underscoring the significance of the Xamarweyne fish market in Mogadishu. This market serves the community by providing sustenance and income. To enhance its impact, we examined the market's function and economics, gathering data for 36 days between July and September 2022. Interviews with sellers and fishers revealed limitations in harvesting larger offshore fish due to equipment constraints and risks. Refrigeration scarcity led to daily markets with limited awareness of daily availability. Additionally, shellfish were available but not sold at the market. To address these challenges, we propose improvements in physical infrastructure, government policies, and the formation of a fish-related cooperative. Investment in infrastructure, government support for regulations and equipment, and cooperative organization could elevate the market's contribution to the community while fostering regional economic growth.

Keywords: Somalia fish market, market function, infrastructure and cooperation, fish market community value

1. Introduction

Fish is a distinctive food resource, widely available and valuable for both physical and mental health. For centuries, fish and other aquatic protein have served human needs, contributing to growth and development as well as prevention of ailments that afflict humans. Fish and seafood provide protein, fats, carbohydrates, minerals, and vitamins (Pawde *et al.* 2023) ^[1]. Fishing is one of the oldest occupations pursued by humans. Fish is especially important because it provides cost-effective and easily obtained protein and micronutrients (Farooqi *et al.* 2018) ^[2]. Worldwide, more than 3 billion people (40% of global population) depend on fish to meet at least 20% of their total animal protein intake. In 2020, humans consumed an average of 20.3 kg of fish per capita (FAO 2020, Sajeew *et al.* 2021) ^[3, 4]. Fish represents >50% of protein intake in Africa and Asia; >80% of Kerala, India residents consume fish on a regular basis (Hapke 2001) ^[5]. Fish consumption has grown substantially in the last few decades in North Africa (from 2.8 kg/cap in 1961 to 20.5 in 2018) (FAO 2020) ^[3]. Convenience is a central factor in the retail decision to purchase fish as people seek to reduce their investment in acquisition and consumption of meals (Esilabal *et al.* 2018) ^[6].

However, fish consumption, like everything else, is not uniform around the world. People in developing countries are more dependent on fisheries than those in countries with stronger economies (Lynch *et al.*, 2017) ^[7]. Hunger and malnutrition remain among the most devastating problems facing the world's poor and needy (FAO 2002) ^[8]. Although fish contributes disproportionately to food security in developing countries (Devlin *et al.* 2022) ^[9], millions of people who depend on fish are faced daily with the fear of food shortage. (Nwabunike 2015) ^[10].

The fisheries sector is a powerful income and employment generator, supplying both nutrition for the families of fishers, and contributing significantly to economic well-being (Nazir *et al.* 2018) ^[11]. For example, in Bangladesh, the fisheries sector provides 60% of animal protein and supports the livelihood of more than 20 million people (Ahmed, *et al.*, 1993) ^[12]. Small-scale fisheries (SSF), primarily coastal and near-shore fisheries, are frequently cited as essential for survival of coastal communities

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(Béné 2003, Béné *et al.* 2004, 2010a,b, Islam 2011, Neiland and Béné 2013, Nayak *et al.* 2014)^[13-19]. (O'Neil *et al.* 2018)^[20].

Those fisheries (i.e., SSF) are dependent on markets to get products from fishers to consumers. Fish markets are valuable because they provide jobs and food, which is critical for countries that depend on that market. Fish markets provide a critical resource for communities, providing access to inexpensive, nutritious food, income and employment. Overall, fish markets are valuable because they provide people with cheap and nutritious food, a job, and income that goes back into the economic cycle of the country. Structure of the fish market varies with the culture, and the structure of other prevailing markets (Lubis, 2019)^[21]. A central fish market brings together suppliers and fish of various types and quality, allowing sellers and consumers to match fish to clients (Hassan and Hossien 2023)^[22]. However, fish and seafood are fragile and subject to rapid spoilage. Influences like improper storage, high cost of fishing materials and high cost of transportation all result in loss of marketable product (Ali *et al.*, 2014; Husen, 2019)^[23, 24].

2. Methods and Materials

2.1 Location of the study

Somalia is a developing country with a growing economy. The most recent economic data report that Somalia's GDP is \$428/person/year, compared to \$20,300/person/year throughout Africa (2022 data). Traditionally, Somali people outside the major cities have been primarily pastoral nomads. The 1974-75 drought caused many people to move to the cities and the coast, thus increasing the importance of fisheries (Carbone and Accordi 2000)^[25].

Somalia is one of the world's poorest and least developed countries. The country has few resources and was devastated by the 1991 civil war. However, since 1993, it has been part of the Common Market for Eastern and Southern Africa (COMESA) (Carbone and Accordi 2000)^[25]. Which has improved its ability to enter global markets. Somalia's population is 17.07 Million people, of which 64% are rural (Carbone and Accordi 2000)^[25]; annual demographic growth rate is approximately 3.1% and average population density is about 28.45 inhabitants km² with most people concentrated near major cities. In fact, >10% of the national population lives in the capital city, Mogadishu.

Mean daily temperature in Somalia is very constant throughout the year, hovering around 27 C. The hottest months (March, April) are only a few degrees warmer than the coolest months (July, August). The climate in Somalia is tropical, arid to semi-arid, with a bi-modal rainfall pattern influenced by monsoon winds, and average annual rainfall of about 250 mm (Carbone and Accordi 2000)^[25]. The annual monsoon creates high winds and waves June through September, impacting opportunities for nearshore fisheries. Somalia has the longest national coastline in Africa (3025 km) with an estimated shelf area (depth 0-200 m) of 32,500 km² (Carbone and Accordi 2000)^[25]. That continental shelf is not adequately monitored or protected, so coastal habitats are being degraded, living marine resources are overexploited, and pollution levels are increasing, all of which affect natural resources and biodiversity (Carbone and Accordi 2000)^[25]. Two issues impact Somalia's ability to effectively define its maritime boundaries: 1) the extent to which it displays peaceful and continuous actual sovereign powers within its territory, and 2) decolonization, an ongoing process since

independence in 1960 (Kadaji *et al.* 2020)^[26].

Marine fisheries in Somalia are an important natural resource which provide employment, nutrition and export quality resources (Parisi *et al.* 1998)^[27]. However, the fishery is threatened by mis-management of coastal areas including mangrove harvesting and pollution. A maritime boundary dispute is a conflict between two states when at least one of the state's claims part of the territory (Kadaji *et al.* 2020)^[26]. Dormant, overlapping maritime boundary claims are becoming actively disputed along Africa's coast as countries' marine natural resource exploitation increases in importance (Khalifaoui and Yiallourides 2019, Okonkwo 2017, Osman 2018, Walker 2015, Edmond *et al.* 2019)^[28-32]. Raising awareness about marine pollution and impacts might increase motivation for behavior change, increasing the degree to which Somali people value and protect coastal ecosystems and their fisheries (Kelly *et al.* 2021, Aurelio *et al.* 2022)^[33, 34].

Economic contributions from the fishery to the community are further constrained by market performance (i.e. the route through which fishery resources reach the consumer). Fish markets in Somalia are usually very busy with many different sellers in one market. Markets can be out in the open near a large body of water (e.g., along the coast) or indoors. People from rural areas travel to buy fresh fish, often traveling >100 km to purchase fresh fish. Two types of people work at large, Somali fish markets: fishers who sell their catch directly to consumers, and sellers who purchase from fishers and in turn sell to consumers. Fishers go to sea, catch fish and other sea animals to be sold at the market, and either sell to retailers or sell directly to consumers. Large purchasers like restaurants or grocery stores usually purchase from fishers. The more common practice in Somalia is that fishers and sellers in the market have a partnership in which retailers sell on consignment. That is, retailers accept fish, market the fish to consumers, pay the fisher (at a discounted amount if they bought in bulk) and retain a profit. This ensures that the retailer has resources to sell, allows fishers to focus on fishing and collecting sea animals to sell, but also moves the economic risk to the fisher.

2.2 Fishing practices

In the coastal area near Mogadishu, fish are harvested in many ways. Shore-fishers use a line and baited hook to fish from a cliff near the water. Some individuals use a cast net in shallow waters near shore. Neither of these two forms of fish capture routinely result in sufficient quantities to bring to market. A third, and most common method is 3-5 people in a boat, fishing in relatively shallow water (i.e., <50 km from shore), usually out for many hours (e.g., late afternoon until early morning). These boats usually have outboard motors, allowing fishers to battle onshore currents as necessary. Finally, some individuals participate in large, offshore fisheries for highly mobile species (e.g., tunas, billfish).

2.3 Purpose of the study and data collection

Our purpose here is to profile business activities at the Xamarweyne fish market in Mogadishu, focusing on market performance. We focus on the third of those four types of fishers (i.e., individuals who fish within 50 km of shore, using relatively large nets). We ask what aspects of the current market system constrain the flow of benefits to the local community and what changes to the market might reduce those constraints? The Somali fish market in Mogadishu is

almost exclusively a male-domain. This is a striking contrast to what has been reported for Nigeria (Danba 2022) [35], Chhattisgarh, India (Devi *et al.* 2018) [36], Ghana (Quagraine and Chu 2019) [37], Gujarat, India (Sharma *et al.* 2018) [38], and the Kashmir Valley, India (Farooqi *et al.*, 2018) [2]. Here in Mogadishu, women are nearly invisible, similar to what was reported in Finland (Salmi and Sonck-Rautio 2021) [39]. In fact, during our entire market survey, we encountered one

woman who sold fish. That person said that there are three other women that work at the market as well, but for the most part it's a male-dominated workplace. Fish arrives at the market at various times due to fishers going out leaving at all hours after midnight. A small number of fishers use larger boats (Crew up to 10), leave mid-morning and may be gone for 24 hours.



Fig 1: Fisher staging area, near the historic Mogadishu lighthouse, as crews depart for fishing grounds.

2.4 Xamarweyne market infrastructure

The fish market in Mogadishu does not have any centrally-owned equipment except for storage areas (white mini-freezers), many of which are not functional. Fishers and sellers alike work in the market as a way to make money and survive. We asked a fisher a question about how the fish market and catching fish benefits/ affects their life. The reply was that they make more money during different time periods. Holidays (e.g., Ramadan, the month of fasting), are more active than other seasons. The benefit of fish and the market to the community is that it creates jobs and a way for people to make money. Most sellers in the fish market get to be their

own boss, hiring people to fish, fishing themselves or fishers being able to switch around and work for other sellers, or sell directly to consumers and restaurants. Overall, fishing and selling provides job flexibility and a way to survive in a country where there are few available jobs.

There are many opportunities for work to be done in the market (e.g., the infrastructure is worn out and many aspects need repairs and maintenance), but for a range of reasons, receiving compensation is unreliable. People feel that working as fishers/sellers is a more reliable source of income, one over which individual have more control.

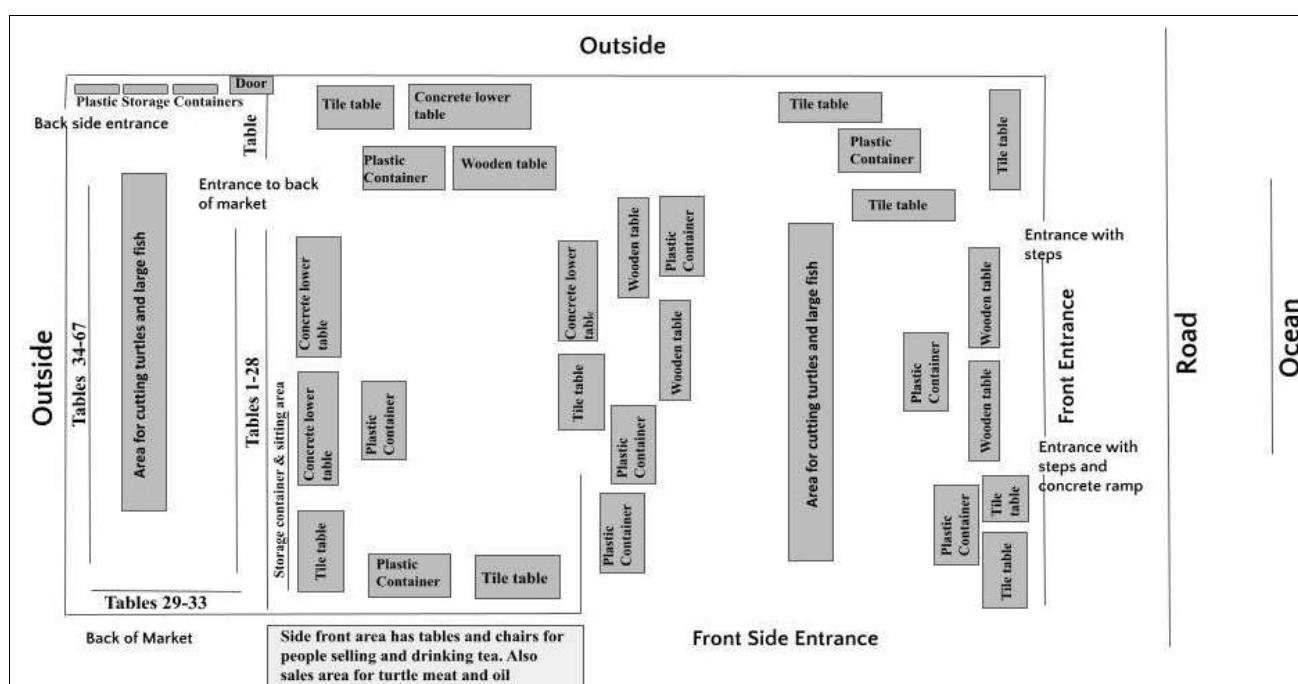


Fig 2: Xamarweyne fish market showing the organization and proximity to the ocean (right side of figure). Market interior has a series of tables, many with mini freezers and or storage containers. We were told that the market structure was remodeled in 2013 with support from BRiCS; we could not confirm that.



Fig 3: Interior of Xamarweyne fish market showcasing the front and back of the market

The Xamarweyne fish market seems to have been renovated in 2013 through the Building Resilient Communities in Somalia project, supported by BRCiS. They apparently installed an ice machine and freezers where sellers can store their fish and other seafood (AMISOM, 2013) ^[40].

Sellers may occupy any open stall they wish; there is no agreed upon layout or ownership by location. Some sellers prefer to return to the same stall repeatedly, providing consumers with reliability. Others move around to what they view as the optimal available location when they arrive. The market has no commonly expected wiping or sanitation practices for workspaces and the floors are covered in dirt and blood. There are peak times during the day when the market is the busiest: generally, 10 AM- 3 PM. But, there are also many days when the market is not busy at all. Many fishers and sellers wait in the market until late in the day, hoping to arouse consumer interest. If that does not occur, they have to put the fish back in the freezer and repeat the process the next day. There is no centralized record keeping as to what individual sellers offer or sell, and no hygienic protocol within the market.



Fig 4: Exterior front entrance of Xamarweyne market, and fish waste dumping area.

3. Results and Discussion

3.1 Data collection and interviews

One of us visited the Xamarweyne fish market 36 times from July to September, 2022. During our visits, we interviewed a total of 37 retailers, and documented the number of species, size and price of fish in the market. During our survey, we recorded species of fish for sale, number of individuals and

average size and price. As well as taking photographs of each fish surveyed. We also discussed marketing practices like reuse of stalls among days, cleanliness and constraints faced by sellers. During the interviews, we documented various facets of the market. The primary focus was on fish species, encompassing details such as the number of species available, their sizes, and associated prices. These aspects provided crucial insights into the market's supply and demand dynamics. Additionally, we delved into the retailers practices and perspectives, encapsulating elements like the reuse of stalls across different days, the maintenance of cleanliness standards, and the challenges faced by the sellers. The interviews were conducted using a set of structured questions with the aim of getting the participants viewpoints of the fish market. These questions were designed to uncover key aspects of the retailer's engagement with the market. Participants provided insights about their fish offerings, which ranged from Yellowfin Tuna to Spanish Mackerel. They detailed their fishing locations, varying from near the shore to deeper sea areas. Fishing schedules were diverse, spanning from early mornings to full-day trips. Equipment used included nets, hooks, and specialized techniques. The origin of the catch was clarified, with some participants fishing themselves while others sourced from elsewhere. Participants also revealed additional market roles, such as transportation and product diversification. Cooperative fishing was common, as individuals often worked in groups. Challenges encompassed weather and economic factors. Work schedules were disclosed, indicating operating days and time-offs with the common day off being Friday.

Non-Somali presence in fishing areas was acknowledged, involving various African nationals and international players. Furthermore, our data collection extended to a unique interview conducted early September, where we engaged with a lone woman seller at the market. This interaction provided an insightful glimpse into the experiences of a specific demographic within the market, offering a nuanced perspective on the challenges and practices that this seller encountered.

Table 1: Shows in local name average price (USD)

Common Name	Local Name	Average Price (USD)	Average Length (cm)	Total Quantity Surveyed
Yellowfin Tuna	Jeedar	\$3 per kilo or \$15.60 whole	75.7	28
Sea Bream	Tartabo	\$7.30 whole	49.7	76
Mackerel Tuna	Dhiigloow	\$18.00 whole	76.0	3
Spanish Mackerel	Yuumbi	\$10.00 whole	79.6	16
Spotted Mackerel	Seynub	\$10.00 whole	8.0	7
Crevalle Jack	Shiiraan	\$23.00 whole	28.8	21
Rabbit Fish	Safit	\$1.60 whole	26.0	43
Swordfish	Jambari	-	213.6	1
-	Shooley	\$2.00 whole	97.5	17
Pompano	Madax Dhagax	\$10.00 whole	55.0	1
Brown Spotted grouper	Yaaqoori Yiray	\$3.00 whole	30.0	2
King Mackerel	Yuumbi Cadey	\$5.00 per kilo	8.40	14
Catfish	Fuuni	\$20.30 whole	56.0	4
-	Xabkoole	\$0.50 whole	21.0	19
Longface Emperor	Huriwaa	\$4.00 whole	55.0	5
Areolate Grouper	Shooni	\$2.00 whole	76.0	1
Pinjalo Snapper	Caari-Joog	\$6.00 whole	48.0	1
Hammerhead shark	-	\$3.00 per kilo	29.9	2
Spotted Fish	Majabto	-	-	4
-	Qaraad	-	-	1
-	Jambari	-	213.26	1
-	Qooroway	\$3.00 whole	28.0	5
-	Eko	-	-	1
-	Sombani	\$5.00 per kilo	8.128	6
Parrot Fish	Malaqaraad	\$2.00 whole	30.0	9
-	Mambiyo	\$1.30 whole	28.0	11
-	Qoombiyo	\$1.00 whole	29.0	1
-	Eemaayo	\$1.00 whole	53.0	1
-	Sheenine	-	60.0	4
-	Paafid	\$2.00 whole	30.0	1
-	Emiis	\$18.00 whole	70.0	1
-	Kaxna	\$0.50 whole	20.0	2
-	Tuum Salaam	\$10.00 whole	70.0	1
-	Garooday	\$10.00 whole	35.0	15
-	Suumaal	\$5.00 whole	55.0	1
-	Aaro	\$5.00 whole	46.5	2
-	Qaan	\$5.00 whole	60	1
-	Qoombolow	\$3.50 whole	43.0	3
-	Sunaam	-	-	6



Fig 5: Recorded fish names, price, measurement, and quantity.



Fig 6: Photos of fish species found at the Xamarweyne market

3.2 Market performance

Markets are a critical tool in distribution of fish and other marine products from fisher to consumer (Upadhyay *et al.* 2016) [41]. Few studies have evaluated domestic fish and fish products over the whole value chain (Van Der Elst *et al.*, 2004, Hassan and Hossien 2023) [42, 22]. Consumers depend on reliable sources of products from the market, and fish are an especially fragile market product (Islam *et al.* 2015) [43]. Yet, market dynamics in Mogadishu are unpredictable, depriving the consumer of reliable information.

The fishing community (i.e., fisheries, sellers, consumers) is highly vulnerable in terms of livelihood opportunities (Chohudry *et al.* 2018) [44]. Fishers are subject to weather and unpredictable movement of fish populations. Sellers are subject to vagaries of supply from fishers as well as lack of education and information about fish values. Consumers are unable to rely on either stable prices or stable supplies on offer (Crona *et al.* 2010) [45]. A significant constraint facing both fishers and sellers is inadequate access to capital which could stabilize either fishing variance, or fish handling in the market (Danba 2022, Devi *et al.* 2018) [35, 36].

As fish are distributed from fisher to seller, the products are handled several times, piled and unpiled, stocked and unstocked to meet the purchasers' needs. Each individual action is small, but in total, quality of the product is impaired, reducing ultimate value (Danba 2022) [35]. As has been reported in many other fish markets, types, size, and quality of fish on offer greatly affect fish price, as does seasonal variation (Devi *et al.* 2018) [36]. But there are no posted prices, and each dealer is free to charge what that person thinks a consumer will pay. Every day, the demand for fish markets is determined partly by which customers decide to visit the market, as well as by how much they purchase (Angrist *et al.* 2000) [46].

An unknown quantity of fish in Mogadishu is distributed from fisher to seller through distributors (i.e., middlemen, or intermediaries). Intermediaries in other fish markets have reported numerous obstacles that reduce efficiency. For example, in Bangladesh, respondents said that roads and communication facilities, suitable market infrastructure in, proper storage and other physical facilities all posed constraints (Khan and Raha 1999) [47]. The major constraints of the domestic fish markets in Chhattisgarh India were unhygienic handling of fish, inadequate icing and storage facilities, and lack of transportation services (Devi *et al.* 2018) [36]. The major challenges faced by fishers and sellers in Ghana are seasonality, small margins and low returns, including limited added value and post-harvest losses (Quagrainie and Chu 2019) [37]. Fish market participants in Mogadishu, from fishers thorough to consumers, encounter all of those constraints.

An efficient market system offers acceptable, cost effective services to consumers that optimize input and output of marketing. Such a system guides production such that fishers increase harvest efforts if they are sure they will be able to sell at reasonable prices (Sharma *et al.* 2018b, Tusayi *et al.* 2021) [38, 48]. Yet, in the Xamarweyne market, retail spaces are unhygienic and lack basic facilities. Most sellers offer whole fish and there is no value addition from processing. The marketing system is not well arranged, cost storage facilities are inadequate, and the market function receives little attention from public agencies, similar to what has been reported from India (Sheik 2014) [49]. Under such conditions, it is challenging for fish traders to maintain a high standard of

fish quality, a problem which affects their income-generating potential, as well as consumer safety (Overa *et al.* 2022) [50]. We found the Xamarweyne fish market was beset with a large number of problems, including high transportation cost, poor communication, absence of icing facilities, inadequate water supply, poor hygienic and sanitation conditions, similar to what Islam *et al.* (2015) [43] found in Bhairab, Bangladesh. Fish sellers face constraints related to supplies, credit, hygiene, storage, transport, and governance, all of which affect their incomes and may affect the quality and safety of fish (Overa *et al.* 2022) [50]. These issues are commonly faced by inefficient fish marketers. In Bangladesh, 93% of traders lack proper marketing facilities, 90% reported poor communication and high transportation cost as constraints, and 87% reported lack of financial assistance as an issue impeding success (Khan and Raha 1999) [47]. Those constraints are a product of Inadequate governance at both national and local levels, poor management of offshore resources, and insufficient financial investment in infrastructure (Hagos *et al.* 2015) [51].

Yet, solutions are not immediately apparent. For example, Walker (2001) [52] reported on two recent Women in Development (WID) projects that contributed to the breakdown of fishtraders' traditional economic networks and livelihood strategies, in contrast to advancing solutions. Those WID projects were based on western notions of gender and the household, rather than being based on cultural understanding, and they reportedly created disharmony and mistrust among Cape Coast's fish traders rather than promoting their "development" (Walker 2001) [52].

4. Conclusion

Strengthening the contributions of the Xamarweyne fish market: physical changes, policies and economics, and a co-op system

Physical changes incorporating thoughts from the literature and our original data, we offer suggestions of changes to the Xamarweyne market that we suggest would improve overall function, and strengthen the contribution to the Mogadishu community. Our suggestions focus at three levels: physical changes to the market, government actions that might affect economics and function, and a cooperative structure among fishers and sellers.

Providing access to efficient transportation (e.g., refrigerated trucks) would increase shelf life of products and improve quality consistency to consumers (Aditi and Varsha 2020, Nwabunike 2015) [53, 10]. Cold storage should be constructed. Allowing traders to maintain fish at consistent quality. Further, the market infrastructure should be provided with amenities like water, electricity and proper drainage systems (Devi *et al.* 2018, Islam *et al.* 2015) [36, 43]. Government might be a logical source of support for such cold rooms which would enable fish marketers to get fish to the sales point more easily, and provide processing places/spaces to enable those who want to engage in fish processing (Nwabunike 2015) [10]. Processing specifically is an avenue of opportunity. As Esilabal *et al.* (2018) [6] have suggested, there is a need to introduce fish labeling as well as enhance convenience traits like fileting in order to increase fish consumption. As consumers develop more market power, convenience will increasingly affect purchase decisions.

Following Belton *et al.* (2022) ^[54], Simmance *et al.* (2021) ^[55] and Overa *et al.* (2022) ^[50], we suggest that attention be redirected from an almost one-sided focus on fish resources, to a stronger focus on post-harvest activities and a holistic view of the value of fish resources. As has been reported from Bangladesh (Paul *et al.* 2016) ^[56], there are many International Non-Government Organization (INGO) and Non-Government Organization (NGO) that seek to increase fish production but neither the government nor the development partners have programs intended to improve the fish marketing system. It seems apparent that fishers and sellers need economic leverage such as access to financial resources that would incentivize them to exercise greater influence over marketing (Quagraine and Chu 2019) ^[37]. Resources such as low interest loans and market information systems would allow fishers and sellers more influence over prices for their catch (Quagraine and Chu 2019) ^[37]. An organized institutional arrangement and better financial assistance, perhaps mediated through intervention of the state government could improve the domestic fish market system (Devi *et al.* 2018) ^[36].

Policies and economics: As have been proposed for the Fulton fish market, NYC (Hassan and Hossien 2023) ^[22], market function could be greatly improved with a more formal and structured institutional framework for purchasing and selling as well as more attentive law enforcement. For example, policies might target publication of fish landing prices, set up a process for determining fishery pricing, and establish an effective fishery regulatory agency. Through such an agency, the government might consider a subsidy on the price of fish to increase availability to the needier consumers in the Mogadishu community (Nwabunike 2015) ^[10].

Development of human capital would strengthen market performance and its contributions. Policies grounded in knowledge about fish traders' activities, skills, and working conditions, professional and personal needs, with associated government investment opportunities could advance traders' ability to supply affordable, safe, and high-quality fish to the community (Overa *et al.* 2022) ^[50]. Among fishers (original citation said *women*) mobility is limited; capacity building and workshops would enhance their skill and provide additional income to the family (Farooqi *et al.* 2018) ^[2]. Following such logic, the government might initiate a licensing system for fishers and sellers, inviting NGOs to offer training (Chohudry *et al.* 2018) ^[44].

A cooperative structure: Other fish markets in the developing world have been encouraged to form a cooperative, which would enable them to obtain loans from financial institutions and thus, expand marketing activities (Nwabunike 2015, Tusayi *et al.* 2021) ^[10, 48]. Should such an alternative be considered, it would be wise to consider lessons learned by the Contact Group on Piracy off the Coast of Somalia (CGPCS). Although the scale of CGPCS was multinational, the organization was inclusive, *ad hoc*, informal, creative and pragmatic, willing to experiment with new ideas and strategies (Biegus and Buerger 2017) ^[57]. Our experience with the fishers and sellers of the Xamarweyne market suggests that those same guiding ideas would support an effective cooperative system, increasing and sustaining the market's contribution to the Mogadishu community.

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