

Assessment of the socioeconomic status of fishermen communities: a case study from Mogadishu Fisheries, Somalia

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Abstract- For the fishing towns that rely on the fishermen of Mogadishu, fishing is a significant source of revenue. The purpose of this study was to gather information on the economic and societal circumstances of these fishing communities in order to identify pressing problems that could be resolved in order to preserve their way of life and secure their participation in the conservation of fish species. Using a questionnaire distributed to the fishermen living along the Mogadishu Coast, information was gathered in a single "snapshot" study. The study illustrates that all of the women employed at the Liido, Urubo, and Abaydhahn landing sites are traders who are smaller than males in business, and it also demonstrates that most fishermen do not own their own land., Bank loans may not be available to fishermen without their own land, and the absence of a strong community-based organization in the fisheries forces poor fishermen to rely on other sources of income, such as wages in other industries like agriculture, construction, etc., or engage in destructive fishing techniques to survive during closed seasons. To finance the purchase of fishing-related supplies, some fishermen borrow money from wealthier fishermen and other local moneylenders. Their ongoing debt to the conventional financial system and a lack of inputs are the key barriers to raising their standard of living.

I. INTRODUCTION

Djibouti, Ethiopia and Kenya border Somalia, which lies in the Horn of Africa at the confluence of the Gulf of Aden and the Indian Ocean. The total area of Somalia is approximately 637,700 km² and its coastline is very long at 3,300 km. (Breuil, Christophe. & Grima, Damien, 2014).

Fishing is a very lucrative business worldwide; the tuna sector alone is worth \$6 billion. In fact, these waters are considered some of the region's greatest fishing grounds. Studies of the Somali waterways show that there are significant fish populations off the coast of Somalia. The Sea Around Us Project, which studies the impact of fishing on marine ecosystems around the world, supports the fact that many lucrative species can be found in the waters off the coast of Somalia. Tropical crawfish, swordfish and various species of tuna are among the more

important fish now caught in Somali waters by both inshore and offshore fisheries.

Other species are also available, and the variants of these species account for 81% of Somalia annually, which is a 61% figure. The development of Somalia's unclaimed Exclusive Economic Zone (EEZ), a 200-mile area that Somalis can claim to fish if they formally claimed ownership, would be of great benefit to Somalia's coastal areas, as these catch totals show. (SHURAAKO, 2013).

Somali fisheries offer great potential for growth to improve coastal livelihood security, improving local food and economic security while providing long-term benefits and positive investment returns (Roberts, Moge, & Hurlburt, 2018).

II. MATERIALS AND METHOD

Study Area

The study area of the research included the coastal area of Mogadishu at 2.0469 north latitude and 45.3182 east longitude. The fishing season in Somali waters is determined by the monsoon winds, which occur between May and September of the calendar year. During this time, high waves and strong winds force small and medium-sized merchant boats not to call at Somali ports.

During this period, the coastal fishing of artisanal fishing is limited, but does not have much impact on industrial fishing, as it is mainly operated on larger fishing vessels. Methods and marketing, economic conditions, participation of men and women in fishing and non-fishing activities, fisherman status and production.



Mogadishu Map

Figure 1 Mogadishu Map

The fishing days of artisanal fisheries vary between 220 and 240 days per year, while offshore fishing vessels have been forced to change their fishing grounds, fishing gear or target species (Sheik Heile, 2017).

Data Collection

A survey of the socioeconomic status of the fishing community was conducted in the year from August 2019 to July 2020. The data was collected using a questionnaire sent to 250

fishermen (160 members from Lido Landing, 70 members from Urubo Landing, and 20 from Abaydhahan Landing, depending on the fisher population in the area.

The detailed socio-economic survey questionnaire was prepared to try to consider all aspects of fishing community information.

This questionnaire provides general information on fishing methods and marketing, as well as fishermen's economic conditions, participation of men and women in fishing and non-fishing activities, fisherman status, and production.



Data Analysis

Collected data and information obtained from the survey were grouped and then analyzed using Microsoft Excel software. Figure 2 fish in the market

of catching a range of fish species and are considered inexpensive tools. About 29% of longlines are used on the left bank and 3% on hook and line. Fishing vessels support fishing activities. (HASSAN & TAKO, 1999).

Gillnets and longlines are the main fishing tools used by local fishing groups in this region. By transporting crew and fishing gear, fishing vessels can act as platforms for fishing activities. Mechanical vessels are used for small-scale fishing in the study region.

III. RESULT AND DISCUSSION

Fish Catching Methods and Marketing

Fishermen use a variety of fishing gear to catch fish depending on the type of operation they are conducting and the species they are looking for. Gillnets (68%) are a common method

GRP boats are used for inshore fishing and short fishing trips, although Volvo boats with a 14-day fishing capacity are the most popular.

A huge contingent of Lido fishermen gathers at the landing site, some of whom proceed to Urubo, Jazeera. When the fish are auctioned off, retailers buy them back in bulk. Anyone can buy fish directly from the auction, even if they don't run a business.

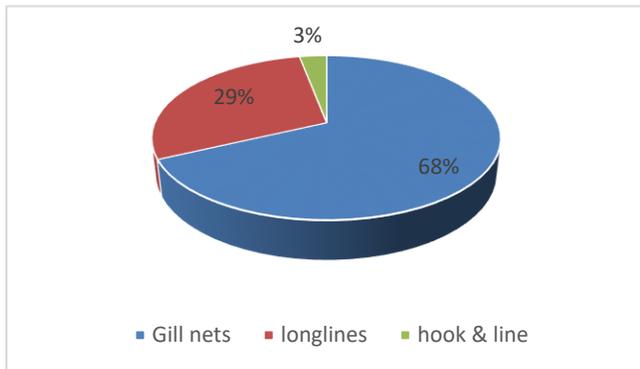
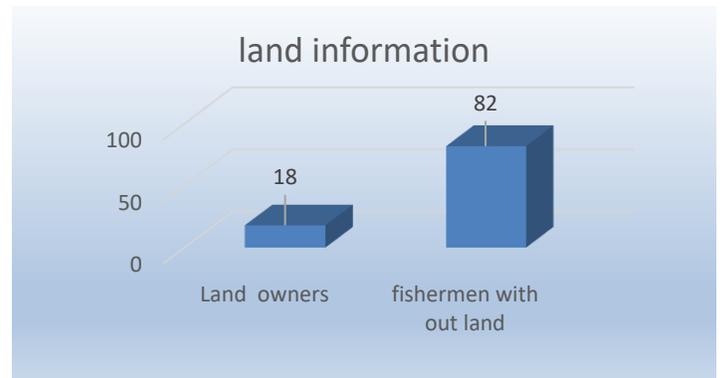


Figure- 3: Percent composition of fishing gear available for fishing in the study area

Economic Condition

For traditional fishermen, fishing is their primary and only source of income, but occasionally they engage in a variety of fishing and non-fishing-related activities that contribute significantly to their annual income. However, these opportunities to increase sales are quite rare. (Ulrich Kleih, et al., January 2003). (82%) of fishermen do not have their own land. Then those who own their own land have no rent problems (18%) and those who do not own their own land have rent pressure on their income in the non-fishing season. Due to a lack of bankable assets, fishermen who do not have their own land might not be able to access bank loans and the lack of a strong community-based organization in the fisheries also forces poor fishermen to get their income from other sources like wages in other sectors like agriculture, construction, etc., or use destructive fishing methods for their survival during closed seasons. Some fishermen borrow money from wealthy fishermen and other local moneylenders to buy inputs for fishing activities. The main obstacles to improving their standard of living are the lack of inputs and the persistent indebtedness to the traditional credit system. (Ruddle, 1994)) He noted that continued indebtedness to the traditional credit system also binds fishermen to their communities and profession, as well as to the fishermen's ethos and associated sense of subcultural identity.

Figure- 4 Household information



Involvement of men and women in fishing and non-fishing activities

Fishing is usually done by men in the capital and is considered male work in Somali society. and the data we have collected shows that all the women working at the Liido, Urubo and Abaydhahn landing sites are traders who buy fish from the beach and then sell it to the town. Even the dispatch from the landing sites is manned only by men. in this research there were 250 respondents. Of active fisheries respondents, 186 were male and 64 were female, while for fish trading respondents 146 of the respondents were male providers and 104 were female as shown in the figure below. The FAO estimates that women account for almost 14% of all people directly employed in the fisheries and aquaculture primary sector. The same report shows that the low proportion of women can be explained by differences in the reporting of gender-disaggregated data in many countries and regions. Some of the countries reported only men or did not report women or gender at all. It is therefore difficult to know exactly how many women are involved in fisheries and aquaculture. In Asia, for example, women account for 15% of total capture fisheries employment, while men account for 78%. (FAO., 2018). It means that 7% of fishery-related people are unspecified. With 15%, Asia is the area reporting the highest employment of women in fisheries and aquaculture at the global level. Women continue to bear the main responsibilities for domestic affairs like homemaking, child-rearing, and collection of resources for home consumption, and men often work outside the house to generate income from various sources like fishing and others for their families. During the study, it was found that women are not involved directly in fishing but indirectly support fishing activities by preparing and repairing nets and acting as a supply chain of fish to market. In other words, female involvement in fishing may likely be higher than traditionally understood since much of their activity which is aimed at provisioning for the household is invisible. Involvement of women in post-fishing activities was also reported in other fishing communities [14] [9], Boserup (1970) [15] and Williams and Awoyomi (1998) [16] reported that the women's involvement in the riverine fishing communities is helpful for the rural development process (Vivek Parashar1, Satish Kumar Bara1, Dinesh Damde1, Ankit Kumar1, & Vipin Vyas2, Received 02 September 2016; accepted 15 September 2016).

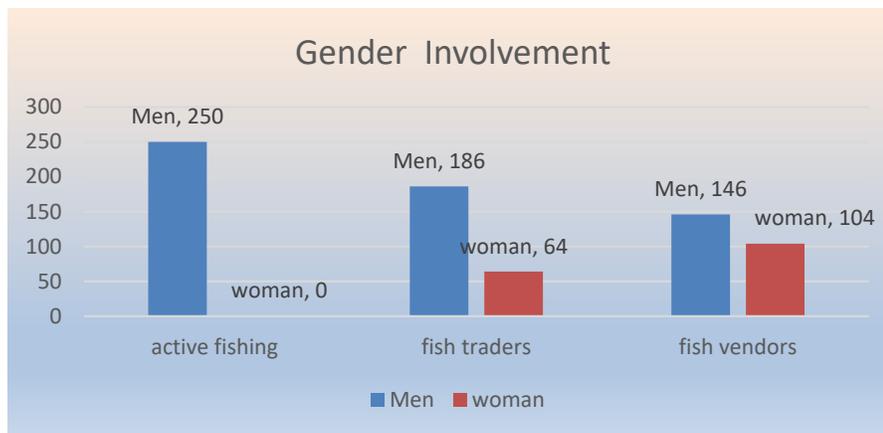


Figure-5 Gender Involvement Computed from field data

Production

There is an active small-scale fisheries community in Somalia, with approximately 50 fishing centers and an estimated 30,000 people from coastal communities. Despite rich biodiversity and an extensive coastline, exports of fisheries products account for only about 3% of total exports and contribute about 2% to GDP. Currently, the annual fishery production is between 25,000 and 30,000 tons/year. Most fishermen practice subsistence fishing using traditional crafts. The catch per day is very small, ranging from 161 kg for small, 510 kg for medium and 3072 kg for large fishermen. Across the various activities in the fisheries value chain, there are a number of constraints that negate potential incentives for employment and investment (filsan, 2019)

As the indigenous food fish supply in Kenya declined from almost 180 000 tonnes in the early 1990s to just over 120 000 tonnes at the beginning of the new millennium (early 2000s), the corresponding total fish consumption fell from around 140 000 tonnes to around 83 000 tonnes (Kevin Obiero, Junning Cai, Richard Abila, & Oluwafemi Ajayi, 2019). Kenya's inland fisheries contribute about 83%, aquaculture 12% and artisanal marine fisheries 5%. Lake Victoria, which accounts for up to 90% of inland fish production, has seen a recent decline in catches and the trend suggests the fishery may not be sustainable (James Njiru, Johnston O. Omukoto, Edward N. Kimani, Christopher Mulanda Aura, & Martin Van der Knaap, 12 July 2021).

Fishing played a minor role in Somalia's economy before the civil war. It made up just one percent of gross domestic product (GDP). The estimated annual catch of fish in 2006 was 32,600 tons worth US\$36 million. The potential of Somali fisheries is much higher. The Exclusive Economic Zone (EEZ) with an area of 830,400 km² has a productivity of about 882 mg C per m² per day. For example, despite high productivity, the annual catch is small compared to the US West Coast with similar EEZ area and ocean productivity. In 2006, the US West Coast catch was worth about 18 times and over 11 times that of the Somali catch. This shows that Somalia's fisheries have the potential to grow to 600,000 tons/year worth US\$350,940 million/year. Developing the fisheries to their full potential could significantly improve the national economy in terms of food security, employment, and foreign exchange earnings (Trans-Africa Consultancy Services for African Development Solutions, February 2015).

Fishermen's educational status:

The maximum number of fishermen were found illiterate (48%) followed by the secondary level (20%). Similar results were also mentioned by Kostori (2012) while working with the fishermen of the Chalan Beel. Halder et al. (2011) also reported similar findings, 52.78% of fish retailers had no formal education (Md. Rezaul Islam, Md. Nazmul Hoque, Shams Muhammad Galib, & Md. Anisur Rahman, December 2013). The literacy rate is defined as the percentage of people having minimal exposure to some years of education at the primary level. From the survey it was found that the literacy rate is low, only 58% of household members are literate in the entire reach (Central Inland Capture Fisheries Research Institute (CICFRI), 1991). Currently, formal educational attainment in fishing communities is very low, a situation in common with many other marginalized rural communities in Africa (Bernard, EFA 2000), Although reasonable numbers of children may access education initially, in the early primary school grades, very few continue to complete their primary school education and fewer still successfully transition to secondary school and obtain their uce and uace (Bategeka, et al., 2004), In common with other parts of Africa there are many challenges which parents and guardians face in securing a formal education for their children and there are also challenges which the children face which may prevent them from obtaining an education ((Stambach, 2000).

IV. CONCLUSION

The study unveils important insights into the socio-economic status of fishing communities at a selected site in Mogadishu. Traditional fishing communities are important components of the deep-sea fishing sector. The problem facing traditional fishing communities across Somalia is more or less similar. It is often claimed that regulating fisheries can preserve natural biodiversity while improving fishermen's livelihoods by increasing catch rates. The importance of aquatic resources should be emphasized, and activities for fisheries such as preparing and repairing nets and fish marketing should take place daily to meet the basic needs of contemporary rural communities, since these activities directly or indirectly depend on the common fish resources of the aquatic ecosystem of Mogadishu. In discussions with the local fishing community, it was identified that there is a

need to organize the community in the form of a cooperative, a community-based organization that acts as a medium between the local authority and the fishing communities, providing adequate management policies, financial and technical, social support, Market, and reasonable prices for their fishing. The government's goal for the all-round development of the cooperatives seems to have been partially achieved. In order to fully achieve this goal, the management of fisheries cooperatives needs to be strengthened. The government must take great interest and care LO to ensure the all-round balanced development of the primary fishermen's cooperative. (Kausik Gupta & chameli mandal Pandit, 2007). (Rahman, et al., 2002) also proposed to develop the community-based fisheries management program to validate the participation of poor fishermen in resource management and to recognize the prospects and challenges in achieving sustainable livelihoods for the entire community.

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