

Fisheries Value Chains and Marketing: Women's Experiences at Masese Landing Site along Lake Victoria Shores in Uganda

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Abstract

This study explored women's experiences in fisheries value chains and marketing at Masese fish landing site along Lake Victoria Shores in Uganda. Precisely, the study investigated the current fish safety practices, constraints, opportunities and strategies for production of safe fish products, value addition, and access to sustainable markets. This contributes to the theoretical and conceptual discourse on fisheries value chains and women's role and place along fisheries development and economic empowerment. The study was guided by Porter's Value Chain Framework and the five domain frameworks and the theory of change of the United States Agency for International Development (USAID). The qualitative research paradigm was used in carrying out the study. Focus group discussions (FGDs), key informants, physical observations and photographic techniques were used for data collection in 2023. Data collected were content analyzed. The findings showed that women were more engaged in silverfish value addition than men. At the Masese Fish Landing Site, women constituted the only agents engaged in silverfish value addition. We found that women's access to technology, appropriate storage facilities, and sufficient abilities for adding value to fish limited their market. Regarding women's skills, knowledge, and appropriate use of technology in relation to silverfish value addition, there was a glaring gender disparity. Therefore, enhancing women's storage facilities, giving them access to technology, and offering value addition training would strengthen value addition to improve women's livelihoods and increase production. The study therefore contributes to the body of knowledge in the disciplines of gender and fisheries value chains by providing realistic and sustainable strategies for all stakeholders.

Keywords: Fisheries Value Chains, Sustainable Marketing, Women's Experiences, Fish Safety, Lake Victoria

Introduction

Women are estimated to make up roughly half of the global fisheries workforce when trading and processing activities are added to fish catching (Nunan & Cepic, 2020). Local fish processing and trading are the areas where women are most likely to work (FAO, 2016). Women's employment in

the sector has increased, particularly in downstream activities near landing sites, but they are less involved in community-based fisheries management than men are (Siles et al., 2019). Therefore, the current discourse on gender and value chains positions the economic empowerment of women as a central issue. The lack of economic opportunities for women in fish marketing and value addition chains in Africa has been described as a major contributing factor to the vulnerability of the role of women in fisheries (Kruijssen et al., 2020). It has also been observed that there is a need to improve women's access to markets and value addition chains in relation to existing laws, policies, regulations, institutional practices, cultures, and norms (Gopal et al., 2020).

Women play an important role in Uganda's fishing industry, but their participation has been hampered by cultural, social, economic and political factors. Women in Uganda's fisheries sector earn their living as a result of traditional gender roles. Multitasking is a burden for these rural women, who must perform reproductive, productive and community roles. Their roles in the fishing industry differ by region, country, and community due to differences in economic status and social and cultural contexts (Solano et al., 2021). Their involvement is typically concentrated at the handling level, with less involvement in profitable activities such as marketing and value addition (Siles et al., 2019; Kruijssen et al., 2020). They are frequently involved in roles such as cleaning the fish, smoking them using indigenous knowledge, transporting and selling, and so on, while men fish. There are also different species of fish; as a result, women lack sufficient knowledge of how to produce and maintain safe fish food along the fish supply value chains. There is also a lack of understanding about how to increase the value of their fish products and gain access to sustainable markets. They also lack credit to get started in sustainable fish value addition businesses (Ameyaw et al., 2020). Furthermore, increased competition caused by seasonality in the fishing industry leaves many women without alternative sources of income.

Therefore, value addition can be implemented to improve profitability, production of safe fish products, and improving household income among women involved in fishing enterprises (Avadí et al., 2022). Fish chain management and fishery products, especially silverfish, are important for income generation among women who are marginalized in opportunities for economic empowerment and growth (Harper et al., 2020). Some scholars such as Kamaylo (2021) and Bolman et al. (2018) studied various prevailing fish chain management practices in handling processes of fish before the supply chain and acknowledged that value added products attract better market prices that increase household incomes. In Uganda, the chain management of fish faces various challenges, which include poor technology for processing that in turn leads to continuous adulteration and mishandling of silverfish; cultural beliefs; and a less extensive distribution network that disables them from reaching customers in different regions (Kwarazuka et al., 2016). There are also unfair trade practices and exploitative relationships with middlemen, value addition, and access to lucrative markets (Manyungwa et al., 2019). Consequently, the gaps in the fish chain still remain, and results from many studies cannot be generalized to Uganda due to contextual and economic differences.

There is a lack of gender-specific data on women's participation in fisheries, storage, value addition, and access to lucrative markets (Manyungwa et al., 2019). Masese fish landing site has potential for fisheries value chains and this requires different handling, processing, storage and marketing of the fish by women. There is continuous adulteration and mishandling of silverfish, adversely affecting quality, and this causes food losses and waste along the value chain. Nevertheless, no relevant gender frameworks have been used to conduct gender analysis to study the role of women in ensuring safe fish production, favorable transportation, value addition, and access to lucrative fish market value chains. There has been no attempt to empower women so that they can perform the aforementioned activities. As employment in the fisheries sector is seasonal and characterized by months without work, most women along the fishing sites face income insecurity

(UN Women, 2020). During this time, most women are unable to work, resulting in poor living conditions. This study was therefore motivated to examine women's experiences and value chain management with a clear cut on silverfish at Masese landing sites in a bid to explore the chain management gaps. In the ensuing section, we discuss the theoretical frameworks that are used to ground our analyses of the aforementioned issues.

Porter's Value Chain Framework and Gender Analysis Framework

Porter's Value Chain Framework was introduced in 1985 by its originator, Michael Porter. It expanded Wassily Leontief's input-output model by emphasizing the links between primary and support business activities (Zomora, 2016). Porter's postulate is a framework for developing an analytic structure that follows all interdependent activities in the value chain from fish acquisition, handling, processing, and finally into the hands of a customer at the land site (Tarver et al., 2021). Porter's framework was classified into primary and secondary activities for competitive advantage. It showcases that the way to conduct a successful value chain analysis is to identify which processes to run more efficiently and implement fixes in a timely fashion (Eisenreich et al., 2022).

In the context of fisheries, this framework was relevant in guiding the study to identify alliances or linkages among the activities that contribute to silverfish value addition for competitive advantage (Kuperan et al., 2008). The study also used the Gender Analysis Framework (March et al., 1999) in underpinning the study and to capture data related to current practices, barriers, opportunities and strategies for improving women's entry and participation in the production of safe fish and other safe products, value addition, and access to lucrative markets.

Porter's theory together with the gender frameworks guided us in identifying the primary activities that influence the marketing and transportation strategies of women at Masese. Also, by following Porter's primary chain activities, the framework was limited because other fish chain strategies may get lost or muddled when operations are broken down into fine segments (Merchant, 2012). And, this justified the application of the gender frameworks.

Research Methodology and Design

The study was carried out in the District of Jinja located in Eastern Uganda. It adopted a qualitative approach aimed at exploring the lived experiences of women working along fishing sites by emphasizing words as opposed to numerical values. A qualitative approach was the most suited for this study because it seeks to understand the lived experiences of people and how they make sense of it (Musa, 2018). This approach also allows participants to describe incidences of fish safety practices and constraints along fishing sites. The approach is suitable for exploring in-depth issues and producing rich and detailed data from lived experiences (Bryman, 2012), which is necessary for this study. Qualitative data collection methods were used to elicit individual experiences from focus group discussions (FGDs) to bring out group views, and key informant interviews to capture the ideas of knowledgeable stakeholders in the sector, all of which were conducted in 2023. This study also adopted social constructivist ontology to bring out the lived reality of the participants through their experiences, perceptions and actions, and women's engagement in fisheries value chains at Masese fishing site along Lake Victoria shores.

The sampled population comprised of women in the fishing business along Masese fishing site. The research was designed to obtain a rich contextualized understanding of the study's constructs through the collection of intensive views from particularly selected participants, women in the fishing business, women leaders, and district fisheries officers. The Masese fish landing site

was purposively selected; accordingly, purposive sampling was employed to generate the design of the study, and this comprised of ten FGDs. It comprised of a minimum of eight and a maximum of 12 participants for each FGD with a total number of 80 (N = 80) participants. The key informants included women leaders at the fishing sites, opinion leaders, fisheries officers, local leaders and Masese women fishing and development association leaders, fish vendors and marketers (N=12).

Data were collected by utilizing participatory methods along the selected fishing site. Participatory methods involved carrying out FGDs. Key informant interviews (KIIs) were also employed with the aid of a checklist of questions and interview guides. We also used observation and photographic methods while at the fishing site. Qualitative data collected from KIIs and FGDs were organized and analyzed into themes. The themes were reviewed, defined and refined through the utility of thematic maps to answer the research questions. Interviews were recorded verbatim using audio recording and verified to ensure accuracy. Qualitative content analysis was used to have an in-depth understanding of the phenomenon from the perspectives of those involved. Data coding was an ongoing process all through the period of data collection and after. The coding of the data involved different stages ranging from specific to more generalized coding.

In addition, the study involved the complete observation of ethical issues. Information regarding the role of each participant was explained and signing of consent forms was done after a detailed explanation on the study and rights to participate or not to participate. Confidentiality was observed in the whole process of carrying out the study by making sure that no information offered by the participants was published indicating their names.

Results

There were different roles played by men, women and children in the value chain of silverfish. Women waited at the landing site for men so as to remove the fish from the net to the containers and any other process that was to be done. The women would also clean the boats. Nonetheless, on the eve of fishing, women would also organize, arrange and untangle the fishing nets ready to be used by men. It was also a woman's role to display the silverfish for sun dry to avoid spoilage. This was mainly done on rocks for quicker drying. Women believe that drying the fish on a rock is cheaper than the bare ground. Nevertheless, it carries some rock particles that need further sorting that is quite tedious.

Some women also use semi-structured shelters or raised racks made of a wire mesh in drying the fish in a cleaner environment. It was reported that the silverfish dried on a wire mesh comes with a different price due to the clean environment in which it is dried. And also, it was mentioned that the fish is kept intact without being damaged and broken into small particles. Another activity that would be done by women was weighing or measuring the fish using buckets and basins. Before that, there was no weighing scale of fish in this community.

The very few empowered women at this fishing site own boat engines and fishing nets that they rent out to men whose role is to fish so as to earn an income. Nonetheless, a women participant in a FGD reported that these women face a lot of boat and net theft because of inferiority complex of men who do not own some of this equipment. She stated the following: "Men are not interested in silverfish, so most of the value addition is done by women. Their attitude toward silverfish is very negative because it attracts mini profits" (interview with a 50-year-old woman, 2023). The chairperson of the Masese silverfish women's group had this to say about gender roles:

Mukene (silverfish) is considered an inferior fish meant for dogs and cats and it

fetches little pay compared to tilapia and Nile perch. So, any man who swallows his pride to join us is slandered by the community as a useless man. Therefore, even a man who would want to join, culture stops him because of what society brands the silverfish to be. We even get our customers from other communities, but not here (personal interview, 2023).

The men in this community are responsible for fishing, some clean the boats after fishing and others are responsible for selling the clean fish products. The men are also responsible for maintaining the boats at this fishing site and they also own maintenance garages where they sell spare parts of these boats and do the maintenance as well. Also, it is at these garages that the boat engines are serviced. The men are in addition responsible for sowing and ceiling sacks of fish for easy packaging. The treasurer narrated:

The men can be hired to ride the boats, to fish, and to service our boats. Madam, you see, even when carrying silverfish from the boat, the men do not get involved; that is where children and young girls come in to assist. Therefore, men's role is minimal, yet women's role is a lot, but when it comes to money, our husbands like silverfish money but hate the product (personal interview, 2023).

The children, both girls and boys, are responsible for keeping away flies and birds from eating the fish while it is sun-dried. They also help their mothers untangle the fishing nets because it is a tedious process that takes a lot of time. Children, together with their mothers, also participate in measuring the dried fish using buckets and basins. In most cases, the boys follow their fathers' gender roles in the value chain process. As noted by a woman during a FGD, "Our children act as scarecrows when it comes to guarding the silverfish from prey that would want to feed on them. At least our children, especially girls, help in that area. As they are guarding the silverfish, we are also at the stall selling our dry silverfish" (personal interview, 2023).

The most common activity carried out by men in the silverfish chain was packing the fish in sacks ready to be stored or transported, as explained by a 55-year-old woman who has sold silverfish at Masese for over 20 years:

Packing silverfish in sacks is a man's job because we do not have the energy to do it. To ensure that Silverfish is well packed, it requires a strong man to step on it to ensure that the sack is well packed. If they do not step in, the sack will remain hollow, and customers will complain. Women cannot do it because it is believed that once a woman is in menstruation, blood can spill on people's sauce. That work is reserved for only men (personal interview, 2023).

Cleaning and Sorting

At the lake, it was revealed that silverfish go through the process of washing and cleaning to ensure that there is no sand and other dirt. Before it is dried, according to one of the women,

Here at Masese, when we receive fresh silverfish, we have our jerrycans, which we cut so well and put holes in. So, we put our silverfish from the nets in these cut jerrycans and then pour water to ensure that all the sand is drained with water from the silverfish. Otherwise, if we do not do the initial cleaning before it is dried, then it

cannot be good for human consumption. When we are sure that the silverfish is perfectly clean, we embark on displaying it in the sun so that it dries well so that sorting can commence. We cannot sort wet silverfish (personal interview, 2023).

Once it is dry, the silverfish is collected and sorted and then packed well without stones and other dirt from the lake. The women dealing in silverfish narrated how this is a tedious activity because it requires concentration and that one's eye sight must be strong to separate dirt from silverfish. They sometimes would hire an extra hand because they did not have nets to do the sorting as stated by a member of the group as follows: "Before we embark on selling, we make sure it is sorted to remove shells, stones, and other un-edible stuff. Otherwise, when the mukene (silverfish) is not sorted, people who buy it for consumption will get a lot of dirt; and we will definitely lose customers" (personal interview, 2023). Asked who does this activity, the chairperson narrated that "We get some men and women who are looking for quick cash, and then they do the sorting using a very dry basin where silverfish is put and then sorting begins. But it must be done with the utmost caution" (personal interview, 2023).

Observing the activity of sorting clearly indicated that the workers who were doing it were highly experienced. Since it was visibly seen that the small shells and other substances would be successfully separated from the silverfish, they would get a lot of clean silverfish heaped in one place.

Storage of Silverfish

Silverfish is stored in a leaking shelter that was constructed during the regime of President Apollo Milton Obote in 1967. Since then, renovation has never taken place, which results in losses and waste. If the fish is well dried, it can be kept for six months. All moisture should be kept out. If not well dried, the silverfish rots which results into a big loss. Women and children measure the fish with basin and packets without the use of measuring scales and pack the fish into sacks. Men seal the sacks by sowing them. They also carry the sacks on their shoulders and load them unto the tracks and *boda bodas* (motor bikes) or put them in stores. There is no scientific way of measuring the level of moisture. There is no technology for drying and measuring the level of moisture as revealed by one woman in the following way:

Since there is no known scientific way of measuring the level of moisture, we just use our eyes and hands to ensure it has dried. For example, we can easily tell that it is dry when you break it, and it is not emitting a bad smell. So, we see, touch, and smell, and then we know it is dry. After we pack in sacks and the remaining, we put in basins and buckets to sell. The remainder is displayed on the mat as we wait for customers to buy (FGD, 2023).

Value Addition

The only value addition done by the women at Masses was drying and smoking the silverfish. Nevertheless, the women faced a problem of firewood in terms of allocating it and also purchasing it. This firewood was the only energy used to smoke the fish. There were also lots of silverfish losses due to limited ways of value addition as indicated by one woman as follows:

We have never received any kind of training in terms of value addition and have yet

to know that the women at the Kiyindi fish landing site received funding. This funding enabled them to attain relevant value addition training, obtain storage facilities like refrigerators in frustration for storage and drying their fish, and enjoy many other benefits. We would also wish that the same funders in Kiyindi would do the same for our Masese fish landing site (FGD, 2023).

The secretary of the group also noted this:

We hear that in other landing sites they do a lot of value addition, like packaging, making snacks out of them, making porridge for children, and making powder that treats different ailments and brings appetite among children and the elderly. But here at Masese, we have not reached that level yet. We are still struggling to add on our capital of normal mukene (silverfish) so that we can sell and make money (FGD, 2023).

The women also reported that there was no support from the government in terms of capacity building regarding value addition. One woman put it this way:

The government does not value us; you see, they do not even bother to even support us in our job. They do not even bother to tax us because they know there is no money in silverfish. Government is interested in other types of fish but not mukene. When NGO bring any type of assistance to fishermen, they do not even stop to look at us. We are a forgotten group of people (FGD, 2023).

Another woman stated the following: “At this landing site, we have a fisheries department office from the local government but even our storage facility is leaking whenever during the wet season. The available structure there was in place since Oboe’s regime in 1967. It is worn out and requires immediate attention. The leakages especially during the wet season that cause postharvest losses” (FGD, 2023).

Marketing Strategies at the Landing Site

Women market silverfish through social networks, especially from their home origins. The women along the Masese fishing site mainly originate from the northern region of Uganda, silverfish being the major source of revenue there. They are engaged in this business, and their customers mainly come from this region. Their other market goods are also in some parts of eastern Uganda, where silverfish is also a staple dish with guaranteed consumption.

Transportation

When transactions are carried out between sellers and buyers, silverfish sacks are put on trucks and buses to their final destinations. A 60-year-old woman who hails from the Western region but has since settled in Masese due to the silverfish business noted the following:

Since we have been in this job for a long time, our customers trust us so much. They no longer even come to Masese to get the product. They just send money on mobile money, and once we get it, they tell us which vehicle to use for transportation, and

once we pack it well, the buyer receives it in hours, depending on the distance. The cost of transportation is shared by both the seller and the buyer (FGD, 2023).

When we inquired about the risks of theft and bad weather conditions during transportation, one of the women had this to say:

The trust we have in our business cannot be broken. We have a high level of morality, and each one of us has a specific region they send silverfish to. Even the drivers we use are known to all of us. So, no one dares to steal from us. For weather conditions, we make sure our silverfish is covered well with plastic before departure so as to avoid rain and mist entering our silverfish during transit. This transportation is mostly done by men who are in charge of lorries and buses heading to the regions where we sell our silverfish (FGD, 2023).

Constraints in the Silverfish Value Chain Process

The women described the challenges that they faced, which included limited capacity in the value-addition process. Some women reported insecurity about the fishing engines and nets since they were unable to fish due to cultural norms. There was no technological use in this fishing community regarding silverfish value addition, and the women had limited marketing strategies due to substandard products. The women also lacked access to sustainable markets.

The women also reported the issue of climate change, especially during heavy precipitation. They have no sun to dry their fish, and the fishing site is gets very soggy for drying. There were also a few incidences reported of unfair trade practices, exploitative relationships with middlemen, value addition, and access to lucrative markets.

Discussion

Women gender roles were featured vitally in the silverfish value chain in the study area. The findings reveal that all of the reproductive, productive and community roles are in play in the study areas. This is in tandem with a study by Amponsah et al. (2019) in Ghana who found that women at fish landing sites were actively involved in value addition activities such as smoking and drying fish. Women and children were involved in several activities, and this resonates with the United Nations Report (2015) which indicates that women in the world fisheries sector earn their living as a result of performing gender or traditional roles. In such a case, multitasking is a burden for these women who must perform reproductive, productive, and community roles. Nevertheless, the roles in the fishing industry differ by region, country, and community due to differences in economic status and social and cultural contexts (Solano et al., 2021). The involvement of women in value addition is mainly typically concentrated at the handling level, with less involvement in profitable activities such as marketing and value addition (Siles et al., 2019; Kruijssen et al., 2020).

Additionally, as much as women are involved in all aspects of the silverfish industry, from harvesting to handling, processing and value addition, and finally marketing and sales (Ssetala et al., 2013), Masese women's contribution to the fisheries industry remains far-flung and less developed, with a lot of issues that need to be addressed. Women at landing site are limited by sociocultural norms whereby women are not supposed to fish, and this is in tandem with findings from Malawi and Peru, where it is clear that there are gender norms, cultural expressions, or symbolic barriers that limit women's involvement in certain types of fishing with a perception of the lake being an unsafe

environment, and thereby an unsuitable place for women to be. This situation is unlike that in Norway where women and men work in teams with well-defined roles in small-scale fisheries. Women and girls of fish farming households often act as professional partners, employees, owners, board members, or managers, and have formal roles as shareholders of the business (Petersen, 2018).

Our study also revealed that women were engaged in the cleaning and sorting of the silverfish right from the lake. Nonetheless, the cleaning mechanisms were not up to standards. Contrastingly, studies done in Nepal by Adhikari et al. (2020) and China by Sun et al. (2018) reveal that in terms of the microbial quality of silverfish sold in markets in the two countries, proper cleaning practices were critical to ensuring the safety of the fish. Our study also found that fish samples not properly cleaned had higher levels of bacterial impurities, including *Salmonella* and *Vibrio* species. Similarly, the study by Sun et al. (2018) on the microbiological quality of silverfish in China found that cleaning practices were important in reducing bacterial contamination. It also found that fish samples that were washed with clean water had lower levels of bacterial infection than samples that were not well handled and washed with the right water and containers. These findings, however, are not sufficient because they did not examine other safety and storage practices that our study sought to determine.

Results from our study further revealed that the most commonly used method of drying and removing moisture from the fish was sun drying, which was mainly done on dry rocks and semi-structured racks. This observation is similar to that of India where drying fish in the sun for four hours was effective in reducing the moisture content of the fish and inhibiting bacterial growth (Jeyasekaran et al., 2015). Also, results from other studies reveal that sun-drying effectively reduces the water activity of dried fish, inhibiting the growth of microorganisms that can cause spoilage. Furthermore, proper drying practices can have a significant impact on the nutritional quality of fish that (Asiedu et al., 2020). Additionally, drying silverfish generated employment opportunities for women and helped to improve their livelihoods. In another study by Ogwang et al. (2021), the effect of drying on the microbial quality and safety of silverfish was investigated. They found that drying of silverfish significantly reduced the microbial load of the fish, making it safer for human consumption. This indicates that that dried silverfish had a longer shelf life than fresh fish.

The results from the study further revealed the poor storage facility of the silverfish that was built in 1970 by the ruling government at the time. It was observed that the facility needed urgent repairs due to the worn out and leaking roof especially during the rainy seasons. This contributes to lots of spoilage and losses that reduce prices. Relevant scholars suggest that silverfish should be stored in a cool, dry place to prevent moisture buildup which can cause bacterial growth and spoilage (Magala et al., 2022). Consequently, storing the fish in clean, dry containers or bags is also important to protect them from insects and other pests that may contaminate them. Our study is also in agreement with what Namwanza (2015) observed and reported that if stored improperly, silverfish can quickly spoil and become unsafe to eat because it is a vulnerable species to so many conditions in terms of temperature.

The women in the study area used sacks to package the dry silverfish. This kind of package was problematic during the wet season and transportation because the silverfish got moist and this would significantly affect the quality of the fish at a market. This resonates with the finding of Troell et al. (2020) that proper packaging of fish is crucial to prevent contamination during transportation and to ensure that the fish remains fresh and safe for human consumption. Women who trade in fish should ensure that the fish is properly packaged by using clean, dry containers and sealing them properly to prevent moisture and air from entering (Power et al., 2022).

Moreover, our study revealed that woman relied only on social networks to market their

products. There were no proper marketing strategies and linkages for silverfish in the study area. This aligns with a study done on a number of fishing sites in Uganda (Egeru et al., 2016), where it was discovered that the application of word-of-mouth marketing was used, as women relied on personal networks to inform potential customers about their products. Nonetheless, the contributions made by women to Tanzania's Lake Victoria Nile Perch fishery processing and marketing are also examined by Medard et al. (2019). The scholars described how changing regional and international trade connections have helped local Tanzanian women traders and marketers as well as certain foreign women dealers from the Democratic Republic of the Congo (DRC). They demonstrated the interacting and enabling variables required for women to thrive in fish marketing and solidify their domination of the market by contrasting these two distinct groups of women and their marketing techniques. These elements included the capacity to form alliances, the availability of information about market prices and fish availability, and the financial means to buy greater quantities of fish. The results revealed that Tanzanian women struggled to make a living from the fisheries trade while a few DRC women accumulated substantial wealth and became prominent traders in the market which men previously dominated.

A few independent women in the study owned boats and fishing nets. The money they earn is used to improve their incomes and also buy household necessities such as food and paying school fees for their children. This is consistent with research done in Malawi in two fishing communities where women dominate land-based fishing labor, and some of them own boats and fishing gear, and sell fish in international markets (Manyungwa-Pasania & Hara, 2019). Also, women in these communities are able to earn and control money. By transporting goods such food, clothing, and cosmetics from the market to their communities to be sold, the women use this money to improve the wellbeing of their communities. Additionally, they improve their own households' food security. In a nutshell, using the application of Porter's Value Chain Framework and USAID's five-domain gender analysis framework, a number of barriers that prevented successful women from contributing to fish value addition in the study area are delineated. Women did not have access to advanced skills for silverfish value addition, lacked adequate technology, and had limited marketing strategies.

Conclusion, Policy Implication and Future Research

It is clear from the foregoing analysis that women and girls were primarily responsible for value addition and safety procedures pertaining to the silverfish in the site investigated. Value addition was not yet fully appreciated at Masese fish landing site due to limited support from the local government, low levels of expertise among women, as well as a failure to apply the proper technologies for adding value to fish.

The need to uncover, interrogate and integrate women's contributions to fisheries in research and development has never been clearer. There is a need to carry out a study on gender inclusiveness and governance so that reliable and comprehensive sex-disaggregated data and thought on fisheries value chain are captured; this will be connected to developing and using methods that can include the contributions of women, largely unpaid domestic labor, as a key part of fisheries labor.

There is also a need to promote more gender-aware fishery policies by placing emphasis on female fishers so that national parastatals while planning for the fisheries industry in the country can include women and their contributions to the fisheries sector and their communities. This inclusion would generate gender-sensitive laws that could also benefit women to improve their livelihoods.

The study also recommends a theory of change approach with the application of a gender-transformation approach that would guide in reimagining and re-negotiating gender norms through

a mindset change within this community. The approach would also help in negotiating changes to men's negative attitudes toward women working in fishing value chains and reshaping masculinities which once subjugated women but are now successful in other contexts. The theory of change approach is also tenable for vital and sustainable in capacity building for gender to be integrated into future fisheries development projects

The paper concludes that in order to enhance fish value and get access to markets, women should have equal access to training and capacity building opportunities. And, in order to establish sustainable market linkages, women and fish dealers should receive training in marketing, safety and storage techniques.

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