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Assessing and Advancing Gender Equity in Lake Malawi's Small-Scale Fisheries Sector

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Abstract: Women play important, but often invisible, roles in Lake Malawi's small-scale fisheries sector. This paper augments previous research by exploring the productive and reproductive roles that men and women have in fishing communities and how this shapes women's access and control over fisheries resources. Contributing to advancing the understanding of how to strengthen women's roles in the fisheries sector, this paper reports on a qualitative assessment conducted in seven Malawian lakeshore districts. Data collected via focus group discussions, which included gendered resource mapping exercises, revealed belief systems and gender norms that shape men's and women's access to and control over lacustrine resources. While both men and women have access to lake and land resources, their roles differ. Men dominate fishing resources whereas women dominate resources that are tied to household management. While all value chain nodes are open to men, women tend to be concentrated in lower-value processing and trading activities. Social norms and values shape people's access and control over communal resources. It is noteworthy that women who earn an income from the fisheries value chain have more access to savings and credit and have more equal household bargaining power.

Keywords: gender equity; rural livelihoods; empowerment; fisheries; Malawi

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1. Introduction

The fisheries sector, directly and indirectly, provides a livelihood for 260 million people worldwide—78% of whom live in developing countries [1]. Furthermore, studies report that women comprise 47% of the fisheries workforce in the global south [2]. However, women's and men's roles, access, and control within fish ecosystems and value chains are less well understood [3,4]. A growing concern about social equity and justice in fisheries has increased the interest in and commitment to addressing gender inequities in the fisheries sector [5,6]. This requires looking beyond the superficial view that in the fisheries sector men fish while women engage in post-harvest-related activities [7–14]. The dichotomous view of gender roles in fisheries has resulted in men being regarded as the primary stakeholders in fisheries management and policy development [8–10,13]. The exclusion of women in fisheries governance marginalizes women and their interests, adding to existing harmful gender norms and inequalities [15,16].

Lake Malawi is the most species-rich lake on earth with more than 800 fish species, most of which are endemic [17]. In 2017, fisheries from Lake Malawi and three smaller lakes: Malombe, Chilwa, and Chiuta contributed to more than seven percent of the national gross domestic product (GDP) [18]. The lakes also supply over 70% of Malawi's animal protein and 40% of the total protein supply [17,18]. The fisheries sector is a significant source of job creation, directly employing about 60,000 fishers, gear owners, and crew, out

of which approximately 5% are women gear owners [19], and indirectly about 500,000 people engaged in post-harvest activities [18]. While it is known that women play an active role as processors, traders, and in the development of value-added products [18,20,21], the exact number of women involved in the sector is unknown.

Several studies [17,19–21] have explored the roles of men and women in Malawi's small-scale fisheries value chain, focusing primarily on Lake Chilwa and Lake Malawi. The studies highlight how norms and other socio-cultural factors affect women's participation in and benefits from the fisheries value chain [19], barriers to women's participation in the fishing industry [17], and practices that contribute to HIV and AIDS vulnerability in fishing communities [21]. This paper builds on previous research by delving deeper into the causes and effects of inequitable access and control over fish and other resources available to communities along Lake Malawi, which is by far the largest lake in Malawi.

Research from Malawi as well as other countries have shown that factors such as age, health, marital status, religion, and wealth are variables that influence men's and women's access and control over fish and other communal resources [17,19,21–23]. Malawi is one of the poorest countries in the world with 50.7 percent of the population living below the poverty line and 25 percent living in extreme poverty [24]. Most Malawians are vulnerable to social and economic shocks, which exacerbates poverty. However, poverty is a gendered phenomenon as women-headed households are more likely to be poor and are disproportionately represented in the lowest quartile of income distribution [25]. Women-headed households are poorer than their men-headed counterparts [24]. Social relationships are characterized by inequality and a large "power distance", which increases the difficulty of empowering women [26]. Lack of education, early marriages, and childbirth are additional factors that hold women back. The Malawi Demographic Health Survey notes that 47% of women are married by age 18 and the majority will have had their first child by 19 years old [22].

Acknowledging the gender disparities that exist in Malawi, the Malawi Constitution has become increasingly gender-sensitive. The Constitution contains phrases such as "All persons" and "Every person" in Section 13 (a). Section 20 (1) (2) provides for gender equality and Section 24 (1) (2) provides for equality of persons (non-discrimination) and rights of women. In 2013, the Government of Malawi (GoM) put in place a new gender legislation called the Gender Equality Act which aims at "promoting gender equality, equal integration, influence, empowerment, dignity and opportunities for men and women in all functions of society, to prohibit and provide redress for sex discrimination, harmful practices, and sexual harassment, to provide for the public awareness on promotion of gender equality issues" [23]. This law aims to ensure that social services and sectoral interventions equally benefit men, women, boys, and girls; that women and girls are not disadvantaged. The key challenge is to widely disseminate and promote the law. Furthermore, national fisheries laws and policies only reference gender to a limited degree. For instance, an analysis of fisheries law finds a provision for local community participation through Beach Village Committees (BVCs) as part of fisheries co-management arrangements [27] but does not include gender equity. However, the National Fisheries and Aquaculture Policy mentions gender and women in its fourth and fifth priority areas [28].

Reviewing the literature and data available on fisheries and gender dynamics in Malawian fishing communities makes it clear that gender inequity is an important issue that affects women's participation in fisheries governance and the value chain. The research presented in this paper was developed to deepen our understanding of the causes and effects of gender inequity in the fishing sector in Malawi. Building on previous research findings, we postulate that gender norms and power relations within households and communities as well as gendered access and control over Lake Malawi resources are important factors behind gender inequity in the fisheries sector.

2. Materials and Methods

The research presented in this paper is based on qualitative data collected in the field by a team from the Malawi Department of Fisheries (DoF) in 2020. The team visited each of the Malawian districts that border Lake Malawi over the course of 12 days during 9–20 March 2020. In each district, the team conducted two focus group discussions (FGDs), one with women and one with men. A gendered resource mapping exercise (a tool explained in the following section) was also conducted in conjunction with each focus group. A gender in fisheries analytical framework was developed to provide a structure to three interconnected domains of interest: (1) gender norms and power relationships in the fisheries sector and lakeside communities writ large, (2) gendered access and control over lake resources, and (3) the causes and effects of gender equity (Figure 1). The gender in fisheries analytical framework builds upon the Harvard Analytical Framework and Social Relations Approach Framework [29,30] and focuses on men and women living in coastal fisheries communities. We drew on these frameworks because they are designed to explain gender differences in access, control, and use of natural resources (Harvard Analytical Framework) and how the relationships between people influence their relationship to the environment (the Social Relations Approach). A fourth component of the analytical framework—the identification of opportunities to increase women's access and control over fisheries resources—was added to support bringing the research findings into policy and practical implementation.

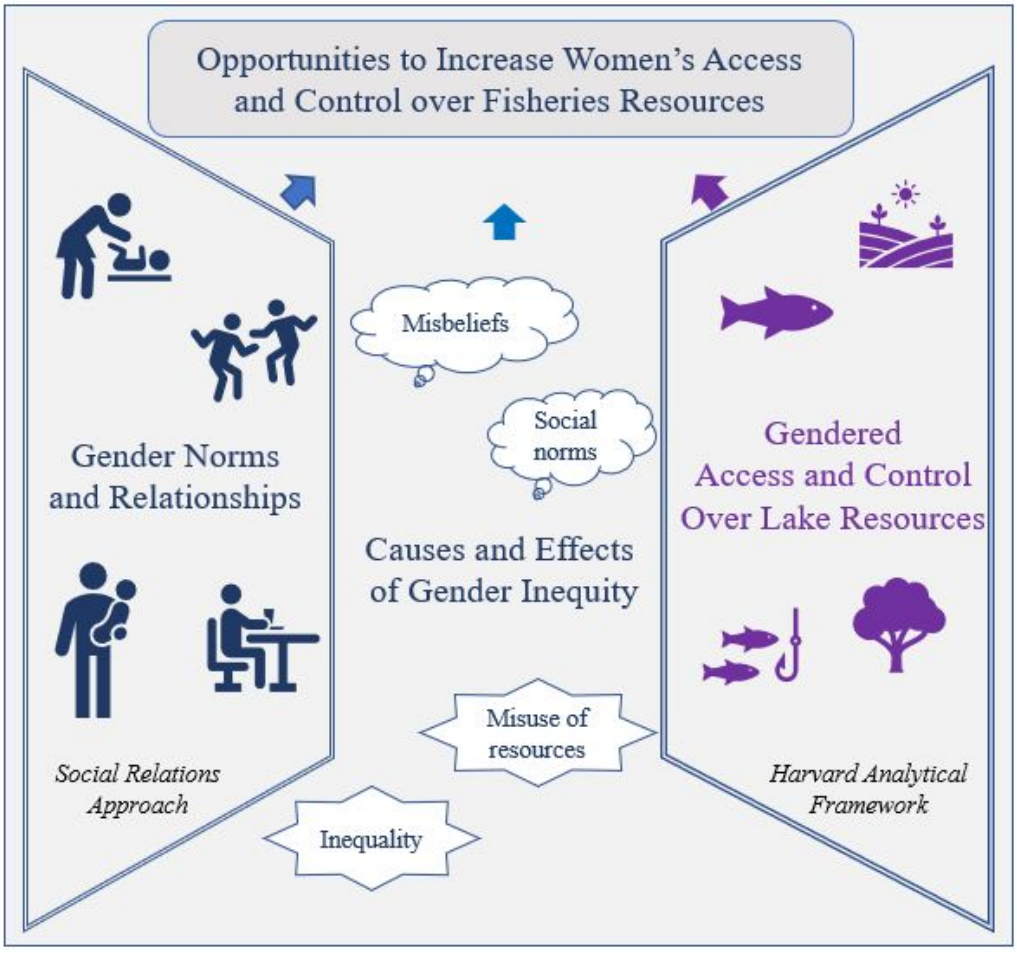

Figure 1. Gender in fisheries analytical framework.

2.1. Focus Group Discussions

In preparation for the fieldwork, the team developed an FGD instrument that was organized according to the gender in fisheries analytical framework and its four domains of interest: (1) identify roles and responsibilities among women and men in the fisheries

value chain, fisheries management, in households, and in the broader community; (2) map how women and men access and control Lake Malawi resources; (3) explore the causes and effects of gender inequity; (4) identify opportunities to increase women's access to and control over fisheries resources.

Prior to the field visits, the team coordinator contacted community leaders to introduce the study. During the FGDs, the participants were first welcomed and thanked for participating in the study. The team ensured that all participants concurred with a record being kept of the meeting. This was followed by informing the participants that the FGD was organized to contribute to a gender analysis to better understand the roles of men and women in the fishing community. The FGD was facilitated by a team leader, while two response trackers took notes about the participants' responses, the consensus, and individual quotes. The FGD data were translated into English and saved in separate Word files (one per FGD) and analyzed in Excel. GPS coordinates were recorded and are plotted in Figure 1. Two FGDs were held in each community, one with only men and one with only women. A total of 184 participants (105 men and 79 women between the age of 20 and 65) were reached through 14 focus groups (Table 1). The FGD participants were recruited by the respective stratum's Fisheries Assistant, who asked for volunteers from the Beach Village Committee (BVC) and individuals involved in the fish value chain. The FGDs ranged from 5 to 20 participants depending on the availability of men and women at the time of the consultation. The advantage of conducting separate FGDs was that it allowed participation and contributions by men and women who might not have shared their views and concerns freely in the presence of members of the other group.

Table 1. Summary of the number of participants involved in FGDs.

District	Community	FGDs	Men's FGD Participants	Women's FGD Participants
		n	*n*	*n*
Mangochi	Masasa	2	20	20
Dedza	Kamwitsa	2	13	10
Salima	Chilambula	2	20	11
Nkhotakota	Ngala	2	13	10
Nkhata Bay	Msondozi	2	20	5
Rumphi	Kambirombiro	2	10	13
Karonga	Nthambo	2	9	10
Total		14	105	79

To document the differences in resource access between men and women, the FGDs included the application of a tool called gendered resource mapping [31]. Gendered resource mapping is conducted to gather information about the occurrence, distribution, access, and control of resources within the economic and cultural domain of a specific community. The objectives for adding the gendered resource exercise to the FGDs were to:

- Identify and locate (on a hand-drawn map) the resources that are present in the community.
- Identify how women and men access and control the resources.
- Discuss potential resource-related opportunities/barriers for women and men.
- Discuss gender issues related to resource use and control.

2.2. Study Area

This study was carried out in all seven lakeshore districts of Lake Malawi: Mangochi, Dedza, Salima, Nkhotakota, Nkhata Bay, Karonga, and Rumphi. The FGDs and associated resource mapping exercises were conducted in one representative community per district. The seven communities, pinpointed in Figure 2, are Masasa, Kamwitsa, Chilambula, Ngala, Msondozi, Nthambo, and Kambirombiro.

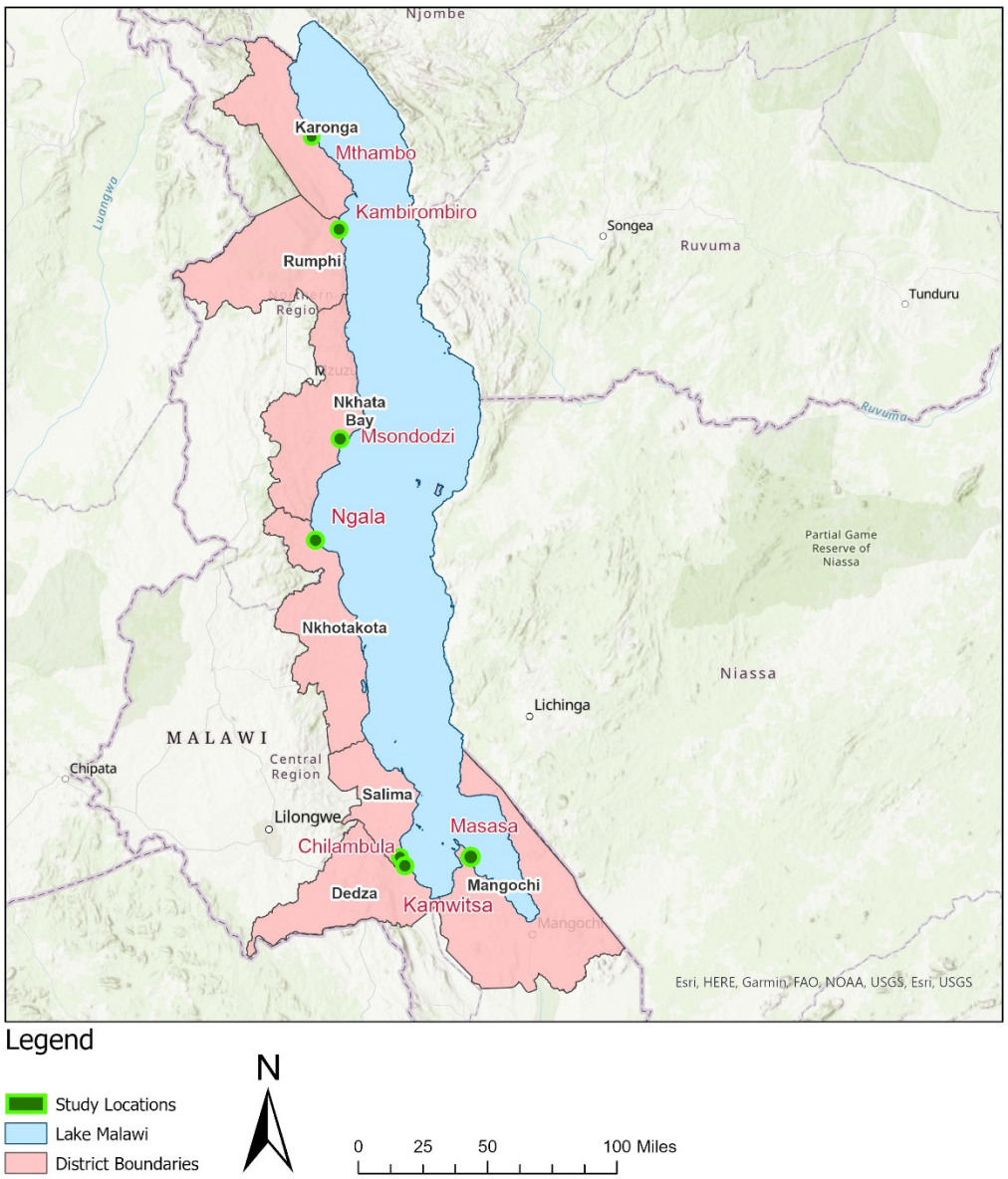

Figure 2. Map of the districts and communities covered in the gender analysis.

Before commencing the FGDs, the DoF team requested that district officers provide one landing site that is active, easily accessible, and has a vibrant BVC. It is worth noting that Lake Malawi is divided into small management units called strata and each stratum comprises several landing sites/beaches. Each stratum is managed by a Fisheries Assistant. Therefore, the sites that were selected by the district officers were within a Fisheries Assistant's jurisdiction.

3. Results

Following the gender analysis framework, the results section will outline the findings related to the first three domains of interest. The fourth domain (to identify opportunities to increase women's access to and control over fisheries resources) will be covered in the discussion and conclusions.

Gender differences and dynamics in roles, responsibilities, and social relations in households, the community, and fisheries value chain

The roles of women and men in the fishing communities are shaped by gender norms and relations that determine socially acceptable activities. As part of the FGDs,

the participants were read a list of productive, reproductive, and volunteer roles, and each person was asked to indicate who makes decisions related to that role (men, women, or both) (Table 2). The exercise highlighted that women largely make decisions related to productive roles such as cooking, collecting firewood, and taking care of the family, whereas men are responsible for fishing and to some extent budgeting and paying for food. Decisions related to several roles, including farming, taking care of the family, religious activities, and fish value chain roles involve both men and women.

Table 2. Proportion of FGD participants perceiving that either men, women, or both men and women hold decision-making power related to various productive, reproductive, and community roles.

Roles	Men	Women	Both	FGD Participants
	(%)	(%)	(%)	(*n*) *
Productive Roles	-	-	-	
Farming	12	9	79	136
Fishing	86	1	13	162
Marketing	9	9	82	125
Fish trading	4	9	87	127
Budgeting	0	74	26	180
Reproductive roles	-	-	-	
Firewood collection	21	12	67	150
Paying for food for family	35	5	60	182
Education of children	14	7	80	182
School activities	11	3	86	182
Family planning	9	35	56	181
Ensuring the general family health	2	59	39	182
Taking care of family	4	19	77	182
Preparing food for family	1	80	19	182
Taking care of the sick	2	35	63	182
Community roles	-	-	-	
Religious activities	1	18	81	182
Volunteer opportunities	1	25	74	182
Fisheries management	27	3	70	182

* Note: The *n* in this table corresponds with the number of participants in the FGDs that identified the productive, reproductive, and community roles in question.

Approximately a quarter of the respondents considered volunteer opportunities the domain of women whereas fisheries management was seen as a man's activity. After the participatory exercise, the FGD participants discussed roles and responsibilities related to the different value chain nodes in more depth. Table 3 shows how each FGD, as a collective group, assigned fish value chain roles to men (M) and women (W). If the FGD agreed that both men and women engage in the value chain role, the note taker would mark both men and women. After noting which genders engage in the value chain role, the FGD participants would discuss which gender dominates the activity and why.

Table 3. Fisheries value chain roles and gender roles.

Value Chain Role	Who Engages in Value Chain Role?		Dominant Gender	Summary of General Feedback Provided by FGD Participants as to Why One Gender Dominates or Not *
	M	W		
Boat captain	14	0	Men	Women don't have the strength, technical and leadership skills.
Fisher/crew	12	0	Men	Women don't have the know-how; men have more energy; sometimes men fish while naked.
Boat driver	12	1	Men	Women don't have the skills.
Boat owner	14	11	Both, but mostly men	Anyone with money can own a boat.
Gear owner	14	12	Both, but mostly men	Anyone with money can own gear.
Gear and boat maintenance	14	0	Men	Women do not have the skills.
Fish carrier	9	13	Both, but mostly women	It is an easy job. Women have the skills; men are tired after fishing.
Middleman buying fish from the beach	13	13	Both, but mostly women	Anyone with money can buy and sell fish.
Owner of processing equipment	13	13	Both	Anyone with money can purchase processing equipment.
Fish processor	12	12	Both, but mostly women	It is an easy task that can be done by anyone.
Fish processing helper	12	14	Both, but mostly women	It is an easy task that can be done by anyone.
Vehicle driver	14	2	Men, very few women	Women don't have the skills and fear driving.
Wholesaler	13	13	Mostly men, some women	Men own larger operations. Cultural system does not allow women in wholesales.
Middleman buying from processors	13	11	More men than women	You need money and skills. Some men own marketing places and women are left out.
Retailer	13	14	Both, but more women	Everyone is capable of being a retailer, but there are more women than men because women are business oriented.
Consumer	14	14	Both	Everyone eats fish.

* Notes: The number of responses at each value chain role depends on the number of FGDs that recognized this role. The maximum is 14 as that was the number of FGDs held. The last column summarizes consensus feedback related to why men or women dominate a specific value chain role. More granular detail is provided in the subsequent sections.

All focus groups maintained that being a fishing captain or crew member are roles that are only open to men. Fishing crews are primarily made up of male youth. Participants from seven FGDs (3 W and 4 M groups) reported that men fish because they are stronger and have more energy. It was reported that women cannot go on fishing expeditions because it is not traditionally a job for women (1 W and 1 M group), and it is not appropriate for women to be on boats where men sometimes must strip naked to fish (2 W and 2 M groups). "Most men fish while they are naked. That can't happen if women are there" (Mangochi women FGD). While it is perceived that fishing is a man's occupation, it was reported by the Mangochi women-only FGD that women sometimes paddle boats, especially from Mvunguti, Zambo, and Chizale to Monkey-Bay to access markets, mills, and other services. During a men-only FGD at Masasa, the FGD participants suggested that women can be involved in fishing, but only with certain fishing gears, such as longlines where the longline is left in the water after baiting and where the crew retrieves the gear after some hours. They also indicated that women used to take part in beach seining. However, with dwindling stocks, fish have moved offshore, and it is no longer safe for women to longline because they are more prone to drowning in times of strong winds. It was reported that men dominate fishing operations. Women who own fishing units have challenges controlling

the recruited crew. In terms of boat and gear ownership, participants in 12 out of 14 FGDs stated that anyone with money can buy them, although very few women own boats and gear because they do not have access to the necessary capital. Men and women participants in all FGDs explained that boat maintenance is done by men because men are the ones perceived to have the required technical skills. Four FGDs (2 W and 2 M) also stated that traditional beliefs prevent women from owning gears. "Women are not allowed to go near or touch fishing nets, because it can bring bad luck" (Karonga men FGD).

As shown in Table 3, fish processing is open to both men and women because it is easy (mentioned explicitly by two FGDs) and something that both women and men have the skills to do (mentioned by 11 FGDs). However, participants from all FGDs reported that women dominate fish processing. This is shown by the fact that 100% of the FGDs reported that drying racks are controlled by women (Table 4 below). As post-harvest processors, women work either as individuals, in pairs, or in small groups of two to six individuals. Women fish traders sell processed fish locally as well as in neighboring districts and countries. Sometimes women create informal associations that buy fish as a group, which is then processed and sold individually. Most fish are sold, but a small quantity, which will fluctuate depending on the market price, but on average is equivalent to MWK 500 (~USD 0.6), is kept for home consumption.

Table 4. Proportion FGDs perceiving that men, women, or both have access to and use of various natural resources and fisheries assets.

Resource	Men	Women	Both	FGDs
	(%)	(%)	(%)	(*n*) *
Lakes and rivers			100	6
Land for agriculture, gardening, and shelter			100	14
Mountains/hills (for farming and firewood)		50	50	6
Forest and trees		67	33	6
Boats	50		50	14
Bait	58		42	12
Nets	60		40	10
Landing site	27		73	11
Fisheries extension training	25		75	8
Fish-drying racks		100		6

* Note: The *n* in Table 4 depends on the number of FGDs that identified the resource as being present in their community during their resource mapping exercise.

It was noted during a woman FGD in the Nthambo community in Karonga that women processors and traders also act as credit providers to the fishers. They said that "We sometimes lend money to male fishers. They use the money for various operations to support fishing activities, such as boat maintenance, engine maintenance and fuel procurement. Once the fisher has caught fish, they give an equivalent amount of fish to the women to pay off their credit".

The FGD participants outlined the roles that men and women play in the fisheries sector, but also acknowledged that roles are subject to change. For example, in the Kambirombiro community in the Rumphi district, it was reported that women are involved in driving loaded pickups that transport fish to the markets, including Lilongwe, which is 300 km away. It was reported that, "In the past we used to only have men drive pickups to transport our fish to the markets, but nowadays we see women taking up the role. However, very few women do it".

Participants in all FGDs stated that roles, such as gear mending and boat repair are done by men who have the required skills. As explained by one FGD participant, "Men are often more skilled and able to take up net mending and boat maintenance than women".

Some men also indicated that roles such as net mending and gear repair depend on the individual's interest and that usually women are less interested because they have low self-esteem. However, the FGD participants were open to change. For example, participants from the all-men FGD in Mangochi explained that the "Roles and responsibilities can be changed. Women can be given the opportunity to perform tasks that society has assigned to men". The women FGD from Mangochi similarly stated that "If women have a chance to learn and train, they can do what men do".

With regards to managing the incomes that accrue from fish sales, both women and men respondents in all communities felt that whoever produces or owns the fish hold more power in the decisions regarding where to sell their products and how to use the incomes that accrue from the sale of the fish.

Gendered productive and reproductive access and control over public and private Lake Malawi resources

The gendered resource map exercise was conducted to explore women's and men's productive and reproductive access and control over natural resources within and around Lake Malawi. While developing the gendered resource maps, the FGD participants identified the natural resources that are present in their community. The resources identified include:

- Natural resources such as lakes, rivers, wetlands (dambo), farmlands, mountains, forests, fish, and wildlife.
- Public service resources including health facilities, schools, roads, markets, water points (boreholes and taps in some communities), railway stations.
- Public business resources such as bottle stores, hair-dressing saloons, and maize mills.
- Open spaces such as spaces for loading fish in trucks, football grounds, gathering areas under trees where men and women share and discuss issues.

The FGDs revealed that natural resources, including fisheries resources and forests resources, are generally common property resources that are open to everyone. Respondents in all the study sites perceived that the responsibility to look after and manage fisheries resources that are communally owned rests with both women and men. Men and women who get married into the community are also able to participate and contribute to making decisions regarding the natural resources available in the area. However, FGD participants in matrilocal communities (where men move to their wife's community after marriage) noted that men felt less responsible because if they get a divorce, then they will no longer belong to the community. The women's focus groups in Salima and Dedza commented, "Women can also contribute to decision-making over resources. There is no taboo to that effect". However, a perceived challenge is that when resource management committees are put in place, women, and youth are often overlooked.

While many natural resources are accessed and controlled by both women and men (Table 4), they are not necessarily accessed and used in the same way. For example, the FGD participants explained that men use the lake for fishing and bathing whereas women use the lake for washing clothes, cleaning dishes, collecting drinking water for their households. Women are also seen in the water when buying fish from fishing boats. Similarly, land for agriculture and shelter is perceived as accessed and controlled by both men and women, but their productive roles differ.

As shown in Table 4 below, mountains, hills, forests, and trees were to a large extent perceived as used and accessed by women who are responsible for collecting firewood for their households. Men also access mountains to collect firewood but, as reported by men from Rumphi, "they primarily fetch firewood to sell, rather than for home use".

The gendered resource mapping exercises showed that there are clear gender differences in access and control over fisheries-related resources. Men were to a large extent identified as controlling boats, bait, and nets. This was attributed to the fact that men are the ones that go fishing. However, seven (50%) of the FGDs recognized that women can also own fishing boats and a minority (42% and 40% respectively) stated that bait and nets can be controlled by both genders. Fish landing sites were largely (73%) perceived as accessed and controlled by both men and women, although the roles differ, where men

land fish and women use the area for post-harvest-related activities. Fish-drying racks were perceived by all FGD participants as accessed and controlled by women only. Men from both Kamwitsa in Dedza and Chilambula in Salima noted that women use the drying racks because men are usually tired from the day's fishing trip and therefore, they spend most of their time recuperating and planning for the next fishing trip.

Focus group discussions indicated that women have access to fish in different ways: as primary users (when they fish by themselves or they finance fishery operations), secondary users (when they access fish through their husbands), and tertiary users (when they use capital to buy fish directly from fishers or traders). The FGDs with woman respondents in Nkhotakota and Nkhata Bay districts revealed that women who are wives of fishers, gear, and boat owners, must buy fish like any other trader. It is not straightforward and obvious that a wife of a boat owner can access fish with ease, as stated by one woman participant, "Fishermen are responsible for selling their catch and some men take advantage of the situation by using the fish to bargain for sex with fish-buyers who are not their wives." (woman FGD participant, Nkhotakota).

Dambos (wetlands) are areas characterized by grasses, rushes, and sedges. Because of their fertile soils, dambo lands are great natural resource assets in the districts where they exist. For instance, in Nkhata Bay, the dambo land is used for farming cassava. However, during the rainy season, both men and women catch fish from the shallow dambo water. In Karonga, the dambo land is used for growing sesame, a cash crop, in addition to maize and cassava. Both men and women access and use the dambo land for agricultural activities.

3.1. Access to Public and Private Service Resources

The gendered resource maps also identified public service resources as accessed and controlled by both men and women. Community resources such as roads, railway lines, and courts were reported to be equally used and accessed by men and women. Boreholes and other potable water were perceived as controlled by both men and women, because everyone needs water to drink. However, women tend to shoulder the burden of fetching water for the family. Some communities fetch their drinking water from the lake, while some have boreholes. Boreholes are much safer than shallow wells, which expose communities to waterborne diseases. Only the Rumphi district women-only FGD reported using shallow wells. The town of Mangochi has access to tap water.

While conducting fieldwork, the gender analysis team observed that the quality of housing ranges from makeshift huts thatched with grass to houses built from burnt bricks thatched with corrugated iron sheets. Unhygienic conditions prevail in most fishing communities and the sanitary conditions in these districts are no exception, with fish waste often thrown all over the beaches. It was noted that fisherfolk often use waterbodies as latrines and this situation allows for ill health to proliferate. Women respondents at Kambirombiro Beach in Rumphi explained that the sanitary conditions are dire. "The lack of better toilet facilities poses a health hazard to us. For example, we use the lake as a toilet at the same time we wash our kitchen utensils with the same water. This is not healthy at all." (Woman FGD participant, Kambirombiro Beach).

Restaurants that exist within the landing sites are operated by women. They are, however, primarily patronized by the men, who visit soon after landing and selling the day's catch. Women tend to access health facilities more frequently than men because they are responsible for caring for those who are sick (Table 2 above). They also bring their children and infants to "under-five" clinics. The women FGD participants from Masasa, Kambirombiro, and Ngala indicated that women spend most of their time at home with the children and if a child gets sick, "They are the first to notice and rush to the health center". The men also commented that the first two years of a child are spent with the mother and health-related issues are better handled by the women.

3.2. Access to Open Spaces for Recreation and Productive Work

Each village has open spaces (usually under big trees with plenty of shade) where men and women gather for recreation and productive work. In all the sites, respondents reported that the open spaces are jointly accessed by both genders, but their use is dependent on the activity that is being undertaken. For example, community gatherings are attended by all people. At Nthambo in Karonga, men respondents reported that they use an open space for playing a local game called *bawo* and women only have access to this space when they load fish to dispatch the fish to the markets.

Perceived causes and effects of gender inequity and marginalization in fishing communities

The FGD participants were asked to identify who in their community are marginalized. This was followed by a discussion about why these individuals are marginalized. Women were identified by 12 out of the 14 FGDs as marginalized. Other marginalized groups included the poor, less educated, the elderly, and those living with HIV/AIDS or a disability. The FGD participants frequently mentioned several reasons why women are marginalized:

Social norms: Women's positions are in general inferior to men. As explained above, they are considered weaker than men and they have limited access to resources, leadership roles, and livelihood opportunities. Social norms dictate that women should marry young, which is an important reason why many girls discontinue their education. Having many children, starting at a young age, also contributes to women's low status. Participants from an all-women FGD at Masasa beach in Mangochi explained that "Women who have children frequently face gender discrimination in the community".

Lack of education: FGD participants reported that less educated people are more likely to be marginalized in the communities. Lack of education limits women's livelihood options and their ability to obtain credit and savings services—leading to poverty, which is another determinant of marginalization. Lack of education also contributes to the notion that women are less capable than men, which holds them back from attaining leadership positions within BVCs.

Gender-based violence: Gender-based violence was mentioned as being common by all FGDs. Overfishing and declining stocks exacerbate women's vulnerability in the fisheries sector. All FGDs reported that when catches are bad, some men will migrate to other areas where they might find new partners. The wives that are left behind must fend for themselves and their children. Sometimes this means finding another man to support them. Low catches also lead to poverty, hunger, and conflict within households. All FGDs reported that trading sex for fish is common—a practice where fishermen have transactional sex with female fish buyers. This happens more frequently when the supply of fish is low and there is more competition between fish buyers. "When the fish catches are low, women end up prostituting themselves to support their families" (Mangochi all-women FGD). Women's lack of capital is another contributing factor "Some women '*Ndanyowetsa zonse*' meaning they don't have money, but they can offer their body for sex to get fish" (Mangoch all-men FGD).

Gender inequality leads to women's inferior productive roles and responsibilities. This extends to limiting women's opportunities to play a leadership role in fisheries management. Most (70%) of the FGD participants perceived fisheries management to be open to both women and men: "Everyone should be responsible to control fish resources because these resources help the community to generate income that sustain lives." (Dedza all-men FGD). However, as shown in Figure 3, most Beach Village Committees (BVCs) have more men than women.

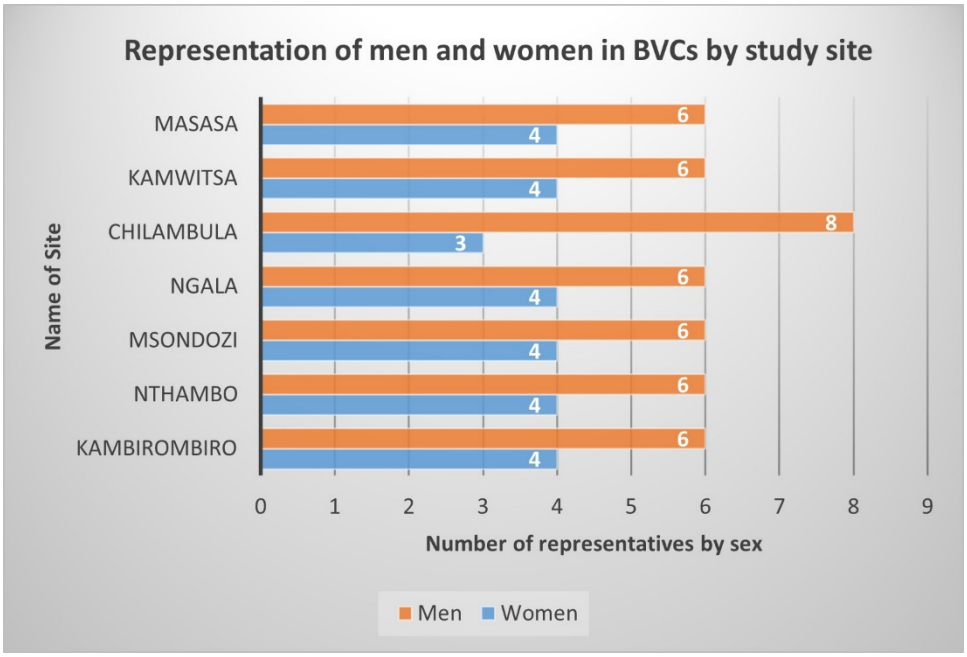

Figure 3. Representation of men and women in BVCs by study site.

Furthermore, although both women and men participate in BVCs, the leadership roles are dominated by men. For instance, it was reported in FGDs that most BVC chairpersons are men. This is an important role because the chairperson links the fish value chain actors with the chiefs. The BVC chair, which is an elected position in all communities where the study was conducted, collaborates with the village chief on all affairs taking place at the beach. For example, the BVC chair reports to the chief on any migrants to the beach and ensures that all migrant fisheries pay *cha pa doko* (beach fees) when they arrive at the beach. Women are generally only given secondary roles. A majority of FGD participants agreed that women usually end up serving as vice secretary (who acts as the secretary when the secretary is absent) or general member (who has no direct responsibility or authority) in BVCs. It was explained that they are assigned these roles because they have less education, are perceived to have less leadership capacity, and limited knowledge about fisheries. In Mangochi FGD participants revealed a stereotypical view over women. One participant there was quoted as saying, "Most positions in the Beach Village Committee (BVC) are suitable to be given to men because men are the ones who do the actual fishing" (Mangochi women FGD participant). However, the characteristics that the FGD members listed for good fisheries managers (ownership, honesty, compassion, respect, good leadership skills) are equally applicable to women and men. Additionally, the participants of all 14 focus groups agreed that it is possible to change the current dynamics and give women more influence in fisheries management.

4. Discussion

Using a qualitative and inductive approach, we explored the causes and effects of gender inequity in the fisheries sector, exploring the influence of social norms and power relationships as well as access and control over lake resources. While the FGDs were conducted only in one community per district, the team triangulated the data with previous gender studies [18,20,32]. In general, the gender analysis supports and augments the findings of these past studies.

Identifying the roles and responsibilities among women and men in the fisheries value chain, fisheries management, in households, and the broader community, we found that women play multiple productive and reproductive roles in fishing communities. They are the primary household caretakers, responsible for cooking, fetching water and firewood,

and caring for children and those who are sick. Men's household responsibilities focus on household management and budgeting, and they are generally not perceived to have a role in helping women with household chores. In general, men have access to a broader range of income-generating activities while women are limited to livelihoods that are perceived as easier and require less training and start-up capital.

Our research showed that there are clear gender roles in the fisheries value chain—corresponding to the findings of Nagoli et al. (2019) and Manyungwa et al. (2019) [17,19]. In line with several other studies [18,33–36], we found that capture fisheries are dominated by men, who are perceived to have the strength and energy needed to fish. A small minority of women own gears and boats but employ men (crew members) to fish for them—a finding corroborated by Nagoli et al. (2019) [17]. Although men generally do the fishing on boats, we found anecdotal evidence that women also fish on rare occasions. This is in line with Manyungwa et al. (2019) [19], which found that 7% of fishers at the Kachulu landing site in Lake Chilwa were women. The role of women as harvesters in Lake Malawi is an area that should be further explored as research from other countries [14,37,38] has shown that aquatic products, such as fish, bivalves, and crustaceans, harvested by women play an important role in household nutrition and income.

While women and men share the roles of processing and marketing, women dominate lower-value processing (e.g., drying a small pelagic species called *Usipa*), trading, and associated service industries (e.g., small restaurants located at fish landing sites). This finding corresponds with Nagoli et al. (2019) [17], who reported that many women are unable to sell their fish products in more remote markets where they can get a higher profit. Men are more likely to own fish smoking equipment and engage in the sale of fresh fish—activities that are more profitable than fish drying. Although women dominate the lower-value processing and trade, their incomes are critical to cover food and household needs that strengthen household food security. This corresponds with the findings of Manyungwa et al. (2019) [19] which reported that women processors and traders perceive that participating in the fisheries value chain contributes to making their households more food secure. That study indicated that women who engage in fisheries value chains also have more access to savings and credit and have more bargaining power within their households. Engaging in the fisheries value chain was shown to improve women's self-esteem as it increased their leverage in household bargaining, ability to save, obtain credit, and invest [19].

The FGD discussions revealed that the gender roles in the fisheries value chain are dynamic and open to change over time. It is notable that FGD participants in Kambirombiro reported that a few women drive pickup trucks to deliver fish to distant markets—a role that was previously completely dominated by men. Furthermore, there are multiple value chain roles (e.g., gear and boat owner and middlemen) where anyone with financial means can engage. Hence, in these cases, the barriers to women's entry are related to access to finance rather than social norms.

Mapping how women and men access and control productive and reproductive resources revealed that women and men are perceived as having equal access to most community services (e.g., education, health services, etc.) and many natural resource assets (e.g., lakes and land). However, men's and women's use of the resources differ based on traditional roles and responsibilities. While many resources are generally regarded as open to both genders, some are clearly the domain of either men or women. Forests/trees and mountains/hills were to some extent perceived as women's domains as they are the primary firewood collectors, whereas fish and fisheries-related assets are primarily controlled by men. The only fisheries-related asset that is primarily controlled by women is fish-drying racks. However, the finding that some fisheries assets can be owned by women corresponds with the 2017 Frame Survey published by the DoF, which reported that 5% of gear owners are women [19]. Building on these findings, an entry point for strengthening women's engagement in the fisheries value chain is to provide financial literacy, business development planning, and access to finance—allowing women to grow their businesses

and engage in higher-end value chain activities. Extension training in how to improve the handling, processing, and packaging of dried fish can also increase the product value and household income for women engaged in lower-end processing.

Exploring the causes and effects of gender inequality showed that norms and values shape gender roles. This corresponds with previous research, which found that social constructs, myths, and misconceptions contribute to unequal power relationships between women and men [17,19,36,37]. Men have access to a broader range of livelihoods and leadership opportunities both because of biases against women (e.g., widespread perceptions among both male and female FGD participants that men are stronger and more competent than women) and the fact that they have better access to education. Cultural norms (e.g., women cannot fish because it would expose them to nudity) and taboos (e.g., it will bring bad luck if a woman touches a fishing net) further limit women's opportunities. Our research did not find any major differences in perceptions between the women- and men-only FGDs. For example, both men and women stated that women do not have the leadership skills to be boat captains. It is possible that women perceive their subordinate position as natural—which according to Choo and Williams (2014) [38] is a major constraint to greater gender equity. Addressing gender inequality will require tackling deeply rooted perceptions and behaviors—creating dialogue about how girls and boys are raised, who gets access to education, at what age to get married and bear children, etc. As suggested by Choo and Williams (2014) [38], the effort needs to include working with women to challenge their internalized oppression.

Overfishing is having serious impacts on the livelihoods of fishing communities, and it is weighing heavily on women who need to fulfill domestic needs even if fish resources are scarce. As most women do not engage directly in capture fisheries, they only have secondary or tertiary access to fish, which creates vulnerabilities, including trading sex for fish—a phenomenon that has been well documented in Malawi [17,21,39]. The pressure to trade sex for fish and other gender-based violence gets worse when there is less fish available, and it is something that should be explicitly acknowledged in the development of fisheries management and extension materials.

Numerous Malawian laws and policies outline the government's commitment to achieving greater gender equity and can act as bridges to empowering women in the fisheries sector. However, there is limited consideration of gender in the national fisheries policy and legal framework. At the local level, BVCs include both men and women, but men dominate decision-making and women usually hold supporting positions—a finding substantiated by Nagoli et al. (2019) [17]. Again, factors such as socio-cultural norms and lack of education hamper women's representation.

Without minimizing the inequalities that exist in resource access and control, an encouraging finding from this study is the openness to increase the engagement of women in fisheries resource management. All FGDs reported that productive roles and responsibilities can be changed and that anyone (woman or man) who is committed and passionate about fisheries should be able to participate in fisheries management. This mindset could be an entry point for broadening and strengthening women's control over fisheries resources. However, if women take on a larger leadership role in fisheries management, they are still disproportionally burdened with managing household needs. Hence, if women are to provide more time and leadership in the fisheries sector, it might also require men to help more with reproductive and household tasks. The "men as partners" approach [40] was developed within the field of reproductive health in the mid-1990s to provide men with the information and resources needed to address inequity by decreasing women's burden and promoting more constructive roles for men in reproductive health [41]. This may be a model for the fisheries sector to investigate.

5. Conclusions: Opportunities to Increase Women's Access to and Control over Fisheries Resources

This paper has provided an overview of gender roles in fishing communities around Lake Malawi, discussing the belief systems and gender norms and relations that shape

men's and women's access and control over productive and reproductive resources in and around Lake Malawi. The study showed that while both men and women have access to lake and land resources, their productive roles across the fish value chain differ. Men dominate fishing resources whereas women dominate resources that are tied to household management. While all value chain nodes are open to men, women tend to be relegated to lower-value processing and trading activities. However, it is noteworthy that women who earn an income from the fisheries value chain have more access to savings and credit and have more equal bargaining power within the household. Another positive finding is that roles are dynamic and there are signs that women are entering male-dominated value chain roles. In addition, there is an openness to increasing women's engagement in fisheries management.

Developing a more equitable and sustainable fisheries sector will require involving both women and men, young and old, the powerful, and the disenfranchised. This research identified multiple areas where further action could benefit gender equality. The first area is to revise and broaden the fisheries act to better mainstream gender. Implementing a more gender-inclusive fisheries act should include the collection of gendered, disaggregated information to track how women and men work and interact in the fisheries sector. This study's finding that there is a perception that anyone who is interested should be able to engage in fisheries management shows that it is possible to broaden participation to include those with a limited voice in the fisheries sector, including fish carriers, processors, women financiers, and fish traders. Women value chain actors should be considered allies that can help enforce fisheries rules and regulations. For example, if the processors and traders unite against buying illegally caught fish, they may have a significant influence on sustainable fisheries exploitation.

Another opportunity for future action is to increase the capacity to address gender-based violence (GBV) in the fisheries sector. This could include action planning and providing gender transformative training as well as implementing a "men as partners" approach. This means working with men to build support for women's leadership and livelihood diversification while also acknowledging that men need to be partners in implementing reproductive and household chores. To be successful, this strategy would also require working with women to challenge their internalized oppression, perhaps through leadership training and peer networks.

The research identified two areas where future studies are needed. The first area is to document the gleaning and harvesting of aquatic products, which women do for subsistence and food security, that is not captured in the current fisheries data collection. This research could inform the expansion of fisheries co-management to include women's access and use of the lake resources for food security. The second area is to document positive examples of where and how women have been empowered in the fisheries sector. Identifying and showcasing examples where norms have been challenged and where women are taking on traditionally male-dominated value chain and leadership roles can contribute to a champion's approach that may inspire broadening gender equality in the fisheries sector.

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