

EMPOWERING WOMEN: SMALL-SCALE FISH BUSINESS IN MWANZA, TANZANIA

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Abstract

This study investigates the impact of small-scale fish business (SSFB) on women's empowerment in Mwanza Region, Tanzania, utilizing a cross-sectional research design. Ilemela and Nyamagana Districts were purposively selected; encompassing wards and fish markets, with 309 respondents sampled using the proportion allocation formula. Data analysis employed the Women's Empowerment Index (WEI) and Ordinal regression. Five empowerment indicators were considered: participation in household decision-making, control over permanent assets, women's economic contribution to the household, freedom of movement, and political autonomy. Results indicated a medium level of empowerment among women in small-scale fish business. Notably, higher empowerment levels were observed in participation in household decision-making and freedom of movement, with medium levels in political autonomy and lower levels in asset control. Ordinal regression revealed that type of marriage, contribution to family income, and access to resources significantly predicted women's empowerment ($p < 0.05$). The study concludes that SSFB contributes to moderate empowerment in controlling permanent assets, contributing to household income, and political autonomy. Elevated levels of empowerment are observed in women's participation in household decision-making and freedom of movement. The findings underscore the need for policies challenging gender norms to address gender inequalities comprehensively and promote sustainable women's empowerment across all indicators in the study area.

Keywords: Small-scale fish business, Women's empowerment, Empowerment factors, Mwanza Region, Tanzania.

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1. INTRODUCTION

1.1 General information on fisheries, fishing and women's empowerment

Incidents of gender inequality are rampant in every sphere of human struggle for survival. Thus, gender inequalities are embedded in all sectors involving human at the societal level. For that reason, scholars have acknowledged the existence of gender inequality in both fisheries and in the fishing sub-sector (Abwao and Fonda, 2019; IUCN and USAID, 2018; Szymkowiak, 2020; Mangubhai and Lawless, 2021). The persistence of gender inequality makes the contributions of women to small-scale fish business often invisible, ignored, and unrecognized even though they are the majority of workforce in fisheries and in the fishing sub-sector (Thomas et al., 2021).

Despite the existence of gender inequality in the sector, it is reported to play significant roles in food security, nutrition as well as women's empowerment (USAID, 2018; FAO, 2020; IFAD, 2020). Thus, fisheries and the fishing sub-sector are key drivers of women's empowerment through creation of employment, trading opportunities, and income; they are generally termed quick income generating activities (Ogbu et al., 2020). The importance of women economic, political and social empowerment is well known; hence, different governments, including the Government of Tanzania, have adopted various measures to promote women economic empowerment. One initiative taken is the establishment of Women Development Fund which aims at women entrepreneurs' economic empowerment through micro-credit support (FAO, 2020; USAID, 2021).

Other initiatives taken include promoting understanding of equal access to entrepreneurship and business management skills through mainstreaming such as skills in the curricula of higher learning institutions including universities (Mwantimwa, 2019). To support women's empowerment efforts, the UN (2019), through its Sustainable Development Goal number 5, highlights gender equality and empowerment as important instruments for inclusive economic development in the world. For that reason, gender equality and women's economic empowerment are key priorities in the 2030 Sustainable Development Agenda (Chichester et al., 2017). It is from this ground that Mujahid et al. (2015) pointed out that, over the last three decades, gender equality and empowerment debates are being focused.

For Yount et al. (2017), women's ability to become empowered should start at the individual level, depending on the environment in which they live. This is because, if a woman is living in the community that is disempowered, it is difficult for her to gain access to the resources necessary for developing voice and agency. This view went beyond Kabeer's (1999) dimensions of empowerment such as agency, resources and achievement which are commonly used to measure empowerment. Building on Yount's view, Du Preez (2018) suggested the need to understand local context in order to gain insight into

gendered constituents of development (education, social expectations, community, household roles, access to resources and earning opportunities).

Economic empowerment is a process of building ability to participate equally in the existing markets, and get access to and control over productive resources and decent work (Sirivunnabood and Liao, 2021). Social women empowerment involves the process of increasing their power to control their own time, lives and bodies, increased voice, as well as agency (Mujahid et al., 2015; UN WOMEN, 2018). About half of the 40 million people engaging in small scale fisheries are women (FAO, 2020; Herper, 2020). It is reported that, in all activities, such as post-harvest handling, processing, selling of fresh fish; packaging and marketing are dominated by women (Torrel et al., 2020). That means that women's empowerment expands economic growth and promotes social development among fishing communities (UN, 2019; UN WOMEN, 2021). However, women's social as well as economic empowerment is not an overnight result; achievement of social and economic empowerment among women engaging in fisheries is likely to bring positive changes in their household decision-making (Adam, 2021).

Taking into account that fisheries and the fishing sub-sector enhance economic growth globally and contribute to creating jobs and increasing income for entrepreneurs particularly women involved in the sub-sector (Wang, 2016; Frangoudes and Gerrard, 2018; Benson, 2020), it was imperative to conduct this study by involving both women and men engaging in small-scale fish business in order to understand the extent to which the sub-sector has contributed to economic, social and political empowerment of women in the study area. This is because women are the majority and represent about 70% to 80% of fish workers in fisheries, fishing and fish trading in Mwanza Region (EMEDO, 2017; URT, 2020). Thus, the study on which this paper is based intended to understand the levels of empowerment among women engaging in the small-scale fish business. And it went further by determining the key factors that influence the level of women's empowerment in the study area. By doing so, the study builds a base for policy makers to establish policy mechanisms that will improve the level of empowerment.

Basing on the view of Kabeer (2020) that women's empowerment is not a free lunch but a process of personal and social change through which they gain power, meaningful choices and control over their lives, the study was set to understand to what extent small-scale fish business has contributed to the level of women's empowerment. To understand that attribution, the study attempted to answer the following questions: (i) How does small-scale fish business contribute to low, medium or high level of women's empowerment in Ilemela and Nyamagana Districts? (ii) What are the key factors that influence such level of empowerment?

1.2 Theoretical framework

The study adopted the empowerment framework (EF) developed by Kabeer (1999; 2020) to conceptualize empowerment as a process by which those who have been denied the ability to make strategic life choices acquire such ability. To explore women's empowerment within small-scale fish business, three key elements of empowerment (resources, agency, and achievement) were considered. For Kabeer, resources mean more than material resources because they include both tangible and intangible items such as social networks and human capital. According to Yount et al. (2017), resources include human resources such as school attainment, skill development, and self-efficacy; social resources such as participation in organizations, access to peer-networks, and access to role models outside the family; and economic resources or material assets such as earnings, property, and land.

The concept of agency refers to the ability to pursue goals, exercise choice, and access resources needed to achieve those goals (Issa, 2023). Kabeer (1999) defines achievement as understanding desired outcomes or goals, which is the agency's outcome. The aim of the study was to assess the contribution of SSFB in enhancing women's access to resources, agency and achievement for them to acquire ability to make choices and capability to pursue their goals. The assumption of this study was that if women engaging in SSFB are socially, economically and politically empowered, they will be in a position to challenge the traditional male-dominance in the fisheries sector (UN WOMEN, 2020).

Historically, women have been experiencing denial of participating in outside business due to patriarchal system that limits their freedom of movement. Such gender inequalities have been embedded in communities for a long time. Thus, talking about women's empowerment specifically in fishing communities around Lake Victoria is important. Women are the majority in small-scale fish business, but has that business granted them ability to make choices (power); are they involved in the process of decision making; or do they have resources that enable them to make life choices? The answers to these questions is No.

The heart of the Tanzania Fisheries Policy 2015 in its objectives is to provide resources necessary for the people, who are in need, especially women (URT, 2015). Empowering women socially, economically and politically is a critical component in transforming unequal power relations and preventing violence against women and girls (ActionAid, 2012). Empowerment in this study means the achievement made by women's participation in SSFB that has created changes among women economically, socially and politically. However, the achievement made by women through their participation in SSFB may not necessarily guarantee their empowerment due to gendered dynamics that limit their potentials. For that reason, it was obvious to find out other related factors which affect their levels of empowerment within the community they live in. Thus, the Women Empowerment Framework was used to understand how existing gender

inequalities and related factors are likely to influence women's low, medium or high levels of empowerment in fisheries in Mwanza Region particularly in Nyamagana and Ilemela Districts.

1.3 Conceptualization of the study

Women's empowerment in this study is conceptualized based on the Kabeer's (EF) three key elements (resources, agency, and achievements). It tries to understand how social networks and human capital contribute to women's ability to raise their voice when making life choices and capacity to articulate their preferences. The study went further to understand the extent to which the aspect of agency gives women the capacity to make decisions necessary for fulfilling their own aspirations or goals and reach the desired achievements. It is expected that women's participation in SSFB will always empower them. However, this process may be constrained by other factors such as education, skills and training, failure to access market information, self-help groups, asset ownership and the environment in which they live. Therefore, levels of empowerment among women participating in small-scale fish business were measured by low, medium and high categories to explain changes taking place in the study area. It is a fact that where women aspire for further investments in the business they are reported to be constrained by different social and economic aspects. This is because although the woman has capital for business as an important factor, yet she is likely to be constrained by husband restrictions from doing business outside home (norms). The persistence of a patriarchal system in the community which gives male-dominance in decision making perpetuates unequal power relations that continue pressing women into a subordinate position and hence poverty. Therefore, the focus of the study was to measure how small-scale fish business contributes to high women's empowerment or if there are other factors which limit women's empowerment and hence leading to their lower or medium levels of empowerment.

2. METHODOLOGY

2.1 Description of the study area and research design

The study was conducted in Ilemela and Nyamagana Districts in Mwanza Region. A cross-sectional research design was adopted to collect data from 309 women and men respondents participating in small-scale fish business, who were selected through proportionate stratified sampling. The purpose of using this method was to ensure consistency and unbiased estimators (Gupta and Kapoor, 2012) for making inferences on the population from which the sample was selected. The study area was purposively selected due to the fact that the Lake Victoria area employs over 90% of the world's capture fishers and fish workers, with a high representation of women.

2.2 Sampling, data collection and data analysis

A sample of 309 respondents was determined using the proportion allocation formula, adjusted for an infinite population, due to lack of data on the list of participants in small-scale fish business in the study area. The researcher used a minimum probability of selecting participants ($p = 0.28$), a margin of error ($e = 0.05$), and the level of significance ($z = 1.96$) to calculate the sample size. The formula used was $n = \frac{z^2 * pq}{e^2} = \frac{(1.96)^2 * 0.28 * (1 - 0.28)}{0.05^2} = 309$. This sample size was used only for a questionnaire based survey for quantitative data collection, and not for qualitative data collection methods, particularly Focus Group Discussions and Key Informant Interviews. By using a sample size that was determined through a rigorous method and standard statistical formula, the study was able to ensure that the sample was sufficient, consistent, and unbiased for making inferences on the population from which it was selected. The study used a mixed-methods approach to collect data from the 309 respondents, which comprised 199 women and 110 men. The use of the mixed-methods approach was justified by its advantage of neutralizing biases that might arise from using a single method. Additionally, the approach allowed for triangulation and complementation of different data collection techniques to provide a comprehensive understanding of the same variables. This approach is consistent with recommendations by Creswell (2003) and Glazier and Powel (1992). By using both qualitative and quantitative methods, the study aimed to provide a more accurate and complete picture of the small-scale fish business in the study area. A questionnaire containing both closed and open-ended questions was administered through face-to-face interviews. In addition to this, Focus Group Discussions (FGD), Key Informant Interviews (KII), and personal observations were employed in each ward to complement the information gathered through the questionnaire. Key informants were selected based on their experience in the fish business.

2.3 Data analysis

The analysis of data involved exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). EFA was used to test for internal consistency using the Cronbach's Alpha (α) of each factor. To evaluate the suitability of the assessed items for factor analysis, the Kaiser-Meyer-Olkin measure of sampling adequacy and the Bartlett's Test of Sphericity were used. Factor loadings were extracted using principal component analysis, with items having less than 0.5 loadings being dropped.

CFA was used to confirm the covariance structure of the assessed items for the factors of women's empowerment by building an orthogonal model. The fitness and validity of the model were assessed using various measures, including Tucker Lewis coefficient (TLI), adjusted root mean square (RMSEA), Comparative fit index (CFI), Average variance extracted (AVE), and composite reliability (CR). A good fit

for the model was indicated by TLI and CFI values close to 1, an RMSEA value of about 0.05 or less, and AVE and CR values greater than 0.6.

Once the orthogonal model was built, the index for women's empowerment in SSFB was computed using the average scores formula. The formula involved summarizing the scores for each assessed item and dividing by the total number of items. The resulting index provided an overall measure of women's empowerment within the context of the SSFB. Thus, both EFA and CFA provided a comprehensive assessment of the factors influencing women's empowerment in relation to assessed items. The resulting index for women's empowerment in SSFB was used as a useful tool to understand and promoting women's empowerment in this context. After fitting an orthogonal model, the index for women's empowerment in SSFB was computed using the average score formula specified as:

$$WEI = \frac{\sum_{i=1}^k I_i}{k} \quad (1)$$

Where:

k = Number of items in each factor such as participation in household decision making ($k = 12$), Control or final say over its use or sale of permanent assets ($k = 6$), Freedom of movement ($k = 8$), Political Autonomy ($k = 6$), and Women's economic contribution to household ($k=7$). These gave a total of $k = 39$ items for women' empowerment in SSFB

I =Items of the i^{th} factor

The levels of women's empowerment were assessed using an index to generate descriptive statistics including frequencies and percentages. To identify the factors that influenced levels of women's empowerment in SSFB, an ordinal logistic regression analysis was performed. The analysis utilized the levels of women's empowerment as the dependent variable (Y_i), while several independent variables were considered, including women's failure to contribute to family income, access to resources, norms and customs challenge, illiteracy challenge, access to education and training, access to fish markets and market information, and membership to cooperative societies. The equation was specified to account for the relationships between the variables and to ensure a robust and accurate analysis of the data. The equation was specified as follows:

$$\text{logit}(p) = \ln\left(\frac{p}{1-p}\right) = \frac{e^{\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k}}{1 + e^{\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k}} \dots (2)$$

Where:

$\text{logit}(p)$ = Logit link function

p = Probability of women being empowered in SSFB

β_0 = Intercept

$\beta_1 - \beta_k$ = Slope coefficients for selected independent variables

$X_1 - X_k =$ Independent variables

$\varepsilon_i =$ Residuals

TABLE 1. VARIABLE DESCRIPTION AND MEASUREMENT

Variables	Type and definition	Measurement	Expected sign
Dependent variable: Women empowerment in SSFB	Categorical (0 = Low, 1 = Medium, 2 = High)	Ordinal scale	+
Explanatory variables:			
Type of marriage	Categorical(0 = Not married, 1 = Monogamy 2 = Polygamy)	Nominal scale	-
Training	Categorical (0 = Trained, 1 = Not trained)	Nominal scale	+
Access to market information	Categorical (0 = No access, 1 =Access)	Nominal scale	+
Member of SSFB cooperative	Categorical (0 = Not a member, 1 = Member)	Nominal scale	+
Failure to contribute on family income	Categorical (0 = No, 1 = Yes)	Nominal scale	-
Access to resources	Categorical (0 = No, 1 = Yes)	Nominal scale	-
Illiterate challenges	Categorical (0 = No, 1 = Yes)	Nominal scale	-
Norms and custom challenges	Categorical (0 = No, 1 = Yes)	Nominal scale	-

Source: Authors' research

. RESULTS AND DISCUSSION

3.1 Levels of women empowerment in the SSFB

Results from the study showed medium level of women's empowerment in small-scale fish business in the study area. However, the results showed that women had a high level of participation in decision making at the household level (57.9%), which increased their empowerment (Table 3). These results mean that women engaging in an income-generating activity have a high probability of contributing to the household income because they are able to accumulate income from their businesses. Such contribution results in women's ability to influence household decision-making, particularly in areas related to the well-being of the family and children, such as healthcare, education, and household income. However, the level of women's participation in decision-making varies depending on cultural, regional, and socio-economic factors. The study emphasizes on the importance of women's participation in decision-making for their empowerment and status improvement.

3.1.1 Decision making on gender issues

The results in Table 2 show that women's high level of participation in decision making at the household level was evident because the majority of households reported having joint decisions on different gender issues such as the well-being of the family and children, such as healthcare and education, and household

finances. These findings were also evident during a women’s focus group discussion, as they confirmed the reality that all women participating in SSFB in the study area had a high level of involvement in decision-making related to the less valued family aspects within their households; they said:

As women, we have been actively involved in making important decisions related to our children's education and meeting the needs of our family because our husbands have started recognizing the contribution obtained from the fish business. (FGD, Busweru Ward, January, 2022).

TABLE 2. PARTICIPATION IN DECISION MAKING ON VARIOUS GENDER ISSUES (N=309)

Variables	Husband alone (%)	Joint decision (%)	Wife alone (%)
Children’s education in school	13.2	63	23.8
Family planning	10.3	65	24.8
Family day-to-day expenditures	14.9	59	26.5
Purchase of major or permanent items e.g., land, bicycles, inputs farming	21.2	56	22.8
Going outside of home e.g., visiting parents and other relatives	15.6	60	24.8
Medical treatment	11.6	64	24.5
Spending personal income e.g., send money to parents and relatives	13.9	59	26.8
Use of family income e.g., from sale of fish	16.2	58	26.2
Whom to marry your daughter/son	11.3	66	22.5
Purchasing of food for the family	11.9	60	28.5
Purchasing clothes for yourself and children	11.9	60	28.5
Entertaining guests	9.9	62	28.1

Source: Authors’ research

Women were likely to be involved in household decision-making because they were part of the accumulated household resources and had responsibilities of managing the household resources. According to FAO (2020), such a level of empowerment not only improves food security and nutrition security but also promotes gender equality in the community.

TABLE 3. LEVEL OF WOMEN EMPOWERMENT IN SSF (N=309)

Factors	Low		Moderate		High	
	n	%	n	%	n	%
Participation in household decision making	32	10.6	95	31.5	175	57.9
Control or final say over permanent assets	226	74.8	73	24.2	3	1.0
Women’s economic contribution to household	165	54.6	0	0.0	137	45.4
Freedom of movement	31	10.3	99	32.8	172	57.0
Political autonomy	96	31.8	119	39.4	87	28.8
Empowerment	22	7.3	258	85.4	22	7.3

Source: Authors’ research

The level of women empowerment in small-scale fish business (SSFB) was evaluated among 309 respondents based on factors such as participation in household decision making, control over permanent assets, women's economic contribution to the household, freedom of movement, political autonomy, and overall empowerment. To categorize the data, cut-off points were determined using the 25th and 75th

percentiles, dividing the responses into quartiles for a balanced distribution. Responses below the 25th percentile were classified as low, those between the 25th and 75th percentiles as moderate, and those above the 75th percentile as high.

3.1.2 Control over permanent assets

It was found that women had a low level of control over permanent assets. Based on the field observation and narration from women, these results are evident because, in general, women do not have enough capital to generate high profit that can be used to purchase permanent assets as compared to their male counterparts. This result concurs with that of Adam and Njogu (2023), who reported that since women are concentrated at the nodes of the fish value chain that require fewer resources to operate, they always earn less profit compared with their male counterparts. Furthermore, traditionally, permanent assets; such as land, houses, boats, fish processing and storage facilities, as well as television; are dominated by men due to the fact that they have always been responsible for buying such assets. The limited control that women had over permanent assets in small-scale fish businesses was a significant barrier to their empowerment. This situation not only affected their levels of empowerment, but also limited their access to credit and financing options as well as their levels of economic development. During a men's and women's focus group discussion, participants had this to say:

It is true that, in our society, women still lag behind in terms of ownership of permanent assets. Often, women's ownership of permanent assets is indirect and comes only through their husbands. (FGD, Igoma, January, 2022).

In the same line, a key informant, a fisheries officer at Busweru ward and an experienced fish businessman, shared their experience concerning control over permanent assets and women's empowerment as follows:

"Lack of direct control over assets and resources such as land limits women's economic opportunities, decision-making and their overall empowerment. It is essential to ensure that women have the resources, support, and opportunities to become empowered." (KIs, Busweru ward, January, 2022).

The study revealed that women had strong access to and control over low-value assets such as radios, mattresses, and wooden beds, which they took care of for family uses. However, some participants acknowledged that the ability of women to own these low-value assets was a good sign of progress in the research area as it was not possible previously; they commented as follows:

Our business has made specific and beneficial changes, including buying in higher-quality mattresses and purchasing beds, resulting in an improved reputation in the community and

indicating a positive direction for growth and success (FGD, Pasiansi and Igoma Markets, January 2022).

3.1.3 Women's economic contribution to household

The low level of women's economic contribution to their households, as shown in Table 3 indicates a persistent gender disparity in economic opportunities. Women's limited economic participation can be attributed to various factors, including limited access to resources, such as finance and technology, which are necessary to engage in economic activities. Additionally, women often have lower levels of education and training than men, social norms and cultural practices that reinforce gender roles as well as gender-based discrimination in the workplace and in society. This finding is consistent with findings of previous research on gender and fisheries that has shown limited participation of women in economic activities in the fishing sub-sector (Kuriyan et al., 2018; Johnson et al., 2019). Additionally, a study by Ahmed et al. (2020) in Pakistan found that women's economic contribution to households was limited due to social norms that restricted their mobility and access to resources. Similar results were also reported by one of the key informants in Nyamagana Ward who said:

"Women often face limited access to capital when starting or growing their businesses. This is due to factors such as limited financial resources, lack of collateral or credit history, and discrimination from financial institutions." (KI, Nyamagana Ward, January 2022).

3.1.4 Freedom of movement

The study findings, as shown in Table 3, show that women involved in small-scale fish businesses had a high level of freedom of movement (57.0%), which was likely to positively impact their personal and professional development in the study area. This level of mobility was attributed to the nature of the business, which requires one to move from one place to another one for business achievements. The ability to move freely is essential for people to engage in various activities, such as visiting market places, attending meetings, and attending social functions, both in their work and personal lives. The assumption is that this level of freedom of movement can lead to social, economic, and political empowerment, thereby improving the livelihood of women in these communities. These findings are in line with findings of some previous studies for example by Gash (2021) and Malhotra et al. (2019), which found that when women are allowed to engage in income-generating activities, even those who are outside their households are likely to achieve financial freedom and economic empowerment.

However, based on the field observation and FGDs, it was evident that the majority of women with high freedom of movement were either divorced or single, and that their husbands had great knowledge of

gender equality education. This is because, on the other side, study participants confirmed the existence of cultural norms that restrict women's movements and participation in business outside the home, education, and entrepreneurship training. Such traditional practices tend to perpetuate poverty and dependency among married couples. It is from this ground that women and men FGD participants commented that:

We are experiencing a lot of moral decay and bad behaviour in our children because we have allowed women to work far away from the household; such practices leave children without protection and guidance. This situation should be rejected in our families. (FGD, Igoma Market, January, 2022).

3.1.5 Political autonomy

The results presented in Table 3 indicate that women in small-scale fish businesses had a moderate level of empowerment. This result implies that, in the study area, women's participation in the political sphere was still limited by other factors. For example, it was revealed that women were limited to voting for themselves in their own decisions; they also had limited opportunities in participating in different public village meetings. This level of participation was reported to be influenced by factors such as cultural and societal beliefs, as well as personal experiences. However, during a personal interview with one KI, the participant revealed that women had more opportunities to participate in political issues organized by local government leaders in their localities. The Ward Executive Officer narrated that:

"Women, especially those in marriage, must engage in discussions with their husbands about whom to vote for in various leadership positions. While marginalized communities may have limited voting and participation opportunities in village meetings, my experience shows that women can actively participate in political issues organized by local government leaders in their area." (KI, Nyamagana, Jan. 2022).

Political autonomy means having the power to make decisions and affect political and social situations. Although women's political participation was only moderate, it was a good start. Women can use NGOs as a platform to voice out their opinions and bring positive changes to their communities and businesses. Generally, looking at these results, there is a promising positive trend, although some areas need improvement. Women's participation in household decision-making and freedom of movement are positive indicators of empowerment, demonstrating a degree of autonomy and agency within the family unit. However, the low levels of control over permanent assets and political autonomy suggest that women's empowerment is still limited.

3.2 Factors influencing level of women empowerment in SSFB

The results from ordinal logistic regression analysis showed that three factors; type of marriage, contribution to family income, and access to resources; had significant impact on women's empowerment in small-scale fish businesses in Ilemela and Nyamagana Districts ($p < 0.05$) (Table 4). In particular, the study found that women in monogamous marriage tended to have higher levels of empowerment compared to those in other types of marriages. This could be attributed to the support they received from their husbands, which helped them achieve higher levels of socio-economic, financial, and political status. In monogamous relationships, it was reported that marriage partners were committed to each other and worked together to achieve common goals, resulting in improved communication and decision-making power for women. This scenario led to equitable distribution of household resources and improved confidence and independence for women, allowing them to pursue their own interests and ambitions.

TABLE 4. ORDINAL LOGISTIC REGRESSION RESULTS ON FACTORS INFLUENCING THE LEVEL OF WOMEN EMPOWERMENT IN SMALL-SCALE FISH BUSINESS

Coefficients	Variables	Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold (intercept)	[Empowerment = Low]	-0.633	0.588	1.161	1	0.281	-1.785	0.519
	[Empowerment = Moderate]	0.159	0.579	0.075	1	0.784	-0.976	1.294
Location (slopes)	Age	0.001	0.004	0.041	1	0.840	-0.007	0.009
	[Type of marriage=Not married]	0.728	0.579	1.583	1	0.208	-0.406	1.862
	[Type of marriage=Monogamy]	1.185	0.542	4.785	1	0.029**	0.123	2.246
	[Type of marriage=polygamy]	0 ^a			0			
	[Training=Not trained]	0.318	0.667	0.227	1	0.634	-0.989	1.624
	[Training=Trained]	0 ^a			0			
	[Access marketing information=Not]	0.224	0.382	0.344	1	0.557	-0.525	0.973
	[Access marketing information =Access]	0 ^a			0			
	[Member of any SSFB cooperative=Not]	0.141	0.364	0.150	1	0.699	-0.572	0.854
	[Member of any SSFB cooperative =Member]	0 ^a			0			
	[Failure to contribute on family income=No]	0.883	0.359	6.052	1	0.014**	0.180	1.587
	[Failure to contribute on family income=Yes]	0 ^a			0			
	[Access to resources=Access]	0.966	0.482	4.016	1	0.045**	0.021	1.911
	[Access to resource=Not]	0 ^a			0			
	[Illiterates challenge=No]	0.553	0.396	1.952	1	0.162	-0.223	1.329
	[Illiterates challenge=Yes]	0 ^a			0			
[Norms and custom challenge=No]	-0.343	0.476	0.519	1	0.471	-1.277	0.591	
[Norms and custom challenge=Yes]	0 ^a			0				

Model fitting information: (intercept only model: $-2 \log \text{likelihood} = 300.313$, final model $-2 \log \text{likelihood} = 281.286$), chi-square 19.027, $df = 10$ and p-value 0.040

Goodness of fit: (Pearson chi-square = 525.661, $df = 542$ and p-value = 0.685) while (Deviance chi-square = 275.741, $df = 542$ and p-value = 1.000)

Pseudo R-square: Cox and Snell = 0.062, Nagelkerke = 0.096 and McFadden = 0.062

The study found that access to resources had positive influence on the levels of women empowerment whereby women with ability to access fish resources were highly empowered as compared to those who did not have such access. Such a scenario was reported more in families with less rigid patriarchal households which tended to provide women's greater access to education, employment opportunities, political representation, and decision-making power within their households and communities. However, women who were found to live in more rigid patriarchal households were reported to face significant barriers, denial to access fish resources and gender-based violence, limited autonomy, and unequal treatment within small-scale fish business. Thus, it is evident that within the small-scale fishing industry, patriarchal norms and beliefs can limit women's access to education and resources, participation in the business, and decision-making positions, creating a hostile and unequal environment hindering their success.

Women's contribution to family income is a crucial indicator of their empowerment, as it reflects their ability to generate income and control over financial resources. This result implies that when a woman is allowed to engage in an income generating activity like that of SSFB it increases their level of autonomy at the household level. This increased agency leads to better outcomes for both the woman and her family, including better decision-making, asset ownership, and freedom of movement. However, promoting women's empowerment requires a comprehensive approach that addresses a range of factors, such as education, access to resources, social norms, and legal and policy frameworks.

It is important to recognize that the contribution of women to family income is just one factor in promoting women's empowerment, and efforts to promote women's empowerment on a holistic approach; including strategies and policies, such as those that address gender-based violence, promote women's education and training, and enhance their access to resources and services; should be implemented. This argument is supported by results of a study which was conducted by Issa (2023) in Mwanza and suggested that the best way to promote women's empowerment is through education. Ultimately, promoting women's empowerment is essential for achieving gender equality and stability within families and communities.

4. CONCLUSIONS AND RECOMMENDATIONS

In conclusion, the findings imply the importance of promoting gender equality and women's empowerment in small-scale fish business in Mwanza Region. Although women's participating in this sector had a medium level of empowerment, there are still significant challenges that need to be addressed to achieve holistic women's empowerment. The study recommends that policymakers, stakeholders, men and women working in small-scale fish businesses and in development organizations should work together to break down traditional gender norms and provide education and training to women to increase their access to resources, economic opportunities, and political participation. By doing so, the small-scale fish business can contribute more to poverty reduction, economic growth, and sustainable development in the fishing industry. It is essential to prioritize efforts towards achieving gender equality and women's empowerment to improve the livelihoods of women and their communities in the small-scale fish business in Mwanza Region.

The study has identified several factors that significantly influence the levels of women's empowerment on the small-scale fish business in Mwanza Region. These factors include marital status, income contribution, and access to resources. Therefore, policymakers and stakeholders should prioritize interventions that address these factors to enhance women's empowerment in the sector. This can be achieved by promoting women's economic empowerment through increased access to resources, education, and training, as well as addressing gender norms and curbing stereotypes that perpetuate gender inequality. Furthermore, promoting women's political participation through affirmative action policies and programmes can ensure that they have equal opportunities to participate in decision-making processes that affect their livelihoods. By adopting a comprehensive approach that addresses these factors, policymakers and stakeholders can contribute to poverty reduction, economic growth, and sustainable development in the small-scale fish business sector.

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