

Sokoine University of Agriculture



PhD Thesis

**Gender Dynamics and Women's
Empowerment: A Case of Small-
Scale Fish Business in Mwanza
Region, Tanzania**

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**GENDER DYNAMICS AND WOMEN'S EMPOWERMENT: A CASE
OF SMALL-SCALE FISH BUSINESS IN MWANZA REGION,
TANZANIA**

*A Thesis Submitted to Sokoine University of Agriculture in
Fulfilment of the Requirements for the Degree of Doctor of
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EXTENDED ABSTRACT

Women play important roles in fisheries, fishing and fish trading. However, they are a disadvantaged group in the fishing sub-sector; as a result, their levels of empowerment and business development have remained low. This is probably due to the fact that the small-scale fish business sub-sector carries the image of men than women, which leads to women working in the sub-sector tending to experience inequality. Therefore, this study was undertaken to: (i) Analyse gender dynamics within the small-scale fish business, (ii) Assess gender related factors influencing small-scale fish business growth, (iii) Determine the contribution of small-scale fish business to women empowerment, and (iv) Examine impact of climate variability on gender dynamics in the study area. The study was conducted in Ilemela and Nyamagana Districts, in Mwanza region Tanzania where a cross-sectional research design was used. Purposive sampling was employed to select Ilemela and Nyamagana Districts, wards and six major fish markets were selected namely Busweru Market, Igoma Market, Pasiansi Market, Sabasaba Market, Mwaloni Market and Kamanga Ferry Market. The sample size was calculated using the proportion allocation formula that was adjusted for an infinite population (Kothari, 2004). A combination of minimum probability sampling, and simple and proportionate stratified sampling was used to select 309 respondents involved in small-scale fish business, including both women and men. Qualitative data were collected through Focus Group Discussions (FGDs) and Key Informants Interviews (KIIs); a questionnaire with both closed and open ended questions was used to collect quantitative data. The analysis of qualitative data was conducted with the aid of ATLAS.ti computer software. Descriptive statistical analysis techniques were employed, including the construction of index scales and the Women Empowerment Index (WEI). Quantitative data analysis involved the use of inferential analysis: linear regression models, independent sample t-tests, chi-square tests, and ordinal logistic regression. The study found that

gender inequalities exist in all aspects of gender roles, access to and control over resources, and gender relations within Small-scale fish business as well as at the household level. These inequalities affect women's participation in the business, women's financial freedom and access to quality fish products increases not only the burden to women but also marital conflicts resulting into marriage breaks. Results from regression analysis revealed that marital status, SSFB experience, daily capital in SSFB, type of customers, storage facilities and SSFB self-help groups were important predictors ($p < 0.05$) influencing small-scale fish business growth in terms of amount of profit obtained per day. Women's capital invested and obtained profit were low as compared to their male counterparts ($p < 0.097$). The findings from Ordinal regression show that type of marriage, contributing to family income and accesses to resources were important predictors for women empowerment ($p < 0.05$). The study found that, men have more comparative advantage and capacity to overcome all risk factors affecting business growth when compared with women. Women's business growth is constrained by factors such as low capital invested, lack of business skills and lack of business networks. Small-scale fish business contributes to medium levels of empowerment whereby women were found to have average power control over permanent assets, able to contribute on household income and have ability to vote and be elected in political sphere while higher levels of empowerment were evident in the aspects of women participation in household decision making and freedom of movement. The study found the disproportionate burden faced by women in small-scale fish businesses in Mwanza due to climate variability. It is concluded that, gender inequalities embedded in all gender dynamics existing within small-scale fish business negatively affect women's active participation in the business as well as their business growth prospects. Men have a greater comparative advantage to enjoy their participation and benefits obtained from small-scale fish business and they have the capacity to overcome all risk factors affecting SSFB growth when compared to women. Increased education on

gender equality among policy makers and stakeholders will improve women participation in the Small-scale fish business in order to achieve holistic women's empowerment. Climate variability has a significant impact on gender dynamics in small-scale fish businesses as it exacerbates adaptive capacity of women in the sector. The study recommends to the government and gender activists to develop a more systematic and rigorous gender responsive strategies to gender equality and equitable participation in all socio-economic activities. The study recommends the policy makers to design programmes such as establishment of small-scale fish business groups that will serve as platform for them to share business experiences to stimulate women's business growth such. To enhance women's empowerment in SSFB policymakers and stakeholders should provide education that address gender norms which perpetuate patriarchy practices, promote women's economic empowerment by supporting access to credit and improving land ownership, and strengthen women's political participation. The study recommends collaboration between government agencies; development organizations and local communities to provide training, support, and market access for women in order to build sustainable practices and climate-resilient technologies in the small-scale fish business.

IKISIRI KUU

Wanawake wanafanya majukumu muhimu katika uvuvi na biashara ya samaki. Hata hivyo, ni kundi lenye upungufu katika sekta ya uvuvi; hivyo kupelekea viwango vyao vya uwezeshaji na maendeleo ya biashara kubaki chini. Hii labda ni kwa sababu biashara ndogo ndogo ya samaki ina taswira ya wanaume zaidi kuliko wanawake, hivyo wanawake wanaofanya kazi katika sekta hiyo wanakabiliwa na utofauti huo. Kwa hiyo, utafiti huu ulifanyika ili: (i) Kuchambua utofauti wa kijinsia katika biashara ndogo ndogo ya samaki, (ii) Kutathmini mambo yanayohusiana na jinsia yanayoathiri ukuaji wa biashara ndogo ndogo ya samaki, (iii) Kupima mchango wa biashara ndogo ndogo ya samaki kwa uwezeshaji wa wanawake, na (iv) Kuchunguza athari za mabadiliko ya hali ya hewa kwenye utofauti wa kijinsia katika eneo la utafiti. Utafiti ulifanyika katika Wilaya za Ilemela na Nyamagana, Mkoa wa Mwanza, Tanzania, ambapo muundo wa utafiti wa maeneo mbalimbali ulitumika. Sampuli ilichaguliwa kwa makusudi katika Wilaya za Ilemela na Nyamagana, na masoko sita makubwa ya samaki yalichaguliwa, yaani Soko la Busweru, Soko la Igoma, Soko la Pasiansi, Soko la Sabasaba, Soko la Mwaloni, na Soko la Kamanga Ferry. Ukubwa wa sampuli ulihesabiwa kwa kutumia formula ya mgawo wa uwiano iliyorekebishwa kwa idadi isiyokuwa na kikomo (Kothari, 2004). Mchanganyiko wa sampuli ya uwezekano wa chini, na sampuli rahisi na inayolingana iliyofunguliwa ilitumika kuchagua washiriki 309 wanaohusika na biashara ndogo ndogo ya samaki, ikiwa ni pamoja na wanawake na wanaume. Data za kisayansi zilichukuliwa kupitia Mazungumzo na mijadala ya vikundi (FGDs) na Mahojiano ya Wadau (KIIs); Maswali yasiyo wazi na yale ya wazi yalitumika kukusanya data za kiasi. Uchambuzi wa data za kisayansi ulifanywa kwa msaada wa programu ya kompyuta ya ATLAS.ti. Teknolojia za uchambuzi wa takwimu za maelezo zilitumika, ikiwa ni pamoja na ujenzi wa vipimo vya alama na Kiashiria cha Uwezeshaji wa Wanawake (WEI). Uchambuzi wa data ya kiasi ulihusisha matumizi ya uchambuzi wa kulinganisha: Mifano ya regression ya moja kwa

moja, vipimo vya t-test vya sampuli huru, vipimo vya chi-square, na mchanganuo wa regression ya kimsingi. Utafiti uligundua kuwa kutofautiana kwa jinsia kunajitokeza katika vipengele vyote vya majukumu ya jinsia, upatikanaji na udhibiti wa rasilimali, na uhusiano wa kijinsia ndani ya biashara ndogo ndogo ya samaki pamoja na ngazi ya kaya. Kutofautiana huku kunawaathiri wanawake katika ushiriki wao kwenye biashara, uhuru wao wa kifedha na upatikanaji wa bidhaa bora za samaki, na hivyo kuongeza mzigo kwa wanawake na kuchochea migogoro ya ndoa. Matokeo ya uchambuzi wa regression yalionesha kuwa hali ya ndoa, uzoefu wa biashara ndogo ndogo ya samaki, mtaji wa kila siku katika biashara ndogo ndogo ya samaki, aina ya wateja, vifaa vya kuhifadhi, na vikundi vya kusaidiana vya biashara ndogo ndogo ya samaki vilikuwa viashiria muhimu ($p < 0.05$) vinavyoathiri ukuaji wa biashara ndogo ndogo ya samaki kwa kuangalia faida iliyopatikana kwa siku. Mtaji wa wanawake uliowekezwa na faida iliyopatikana ilikuwa chini ikilinganishwa na wenzao wa kiume ($p < 0.097$). Matokeo kutoka kwa uchambuzi wa regression yameonesha kuwa aina ya ndoa, kuchangia katika mapato ya familia na upatikanaji wa rasilimali ni viashiria muhimu kwa uwezesaji wa wanawake ($p < 0.05$). Utafiti uligundua kuwa wanaume wana faida kubwa zaidi na uwezo wa kushinda hatari zote zinazoathiri ukuaji wa biashara wanapolinganishwa na wanawake. Ukuaji wa biashara wa wanawake unakwamishwa na mambo kama vile mtaji mdogo uliowekezwa, ukosefu wa stadi za biashara, na ukosefu wa mitandao ya biashara. Biashara ndogo ya samaki inachangia viwango vya wastani vya uwezesaji ambapo wanawake walionekana kuwa na udhibiti wa wastani wa mali za kudumu, uwezo wa kuchangia kwa mapato ya kaya, na uwezo wa kupiga kura na kuchaguliwa katika uwanja wa kisiasa, wakati viwango vya juu vya uwezesaji vilikuwa dhahiri katika vipengele vya ushiriki wa wanawake katika kufanya maamuzi ndani ya kaya na uhuru wa kutembea. Utafiti uligundua mzigo usiofaa unaokabiliwa na wanawake katika biashara ndogo ya samaki huko Mwanza kutokana na mabadiliko ya hali ya hewa. Hitimisho ni kwamba kutofautiana

kwa jinsia kulivyo ndani ya biashara ndogo ndogo ya samaki kunawaathiri wanawake kushiriki kikamilifu katika biashara pamoja na matarajio yao ya ukuaji wa biashara. Wanaume wana faida kubwa ya kufurahia ushiriki wao na faida wanazopata kutoka kwenye biashara ndogo ndogo ya samaki na wana uwezo wa kushinda hatari zote zinazoathiri ukuaji wa biashara ndogo ndogo ya samaki ikilinganishwa na wanawake. Elimu zaidi kuhusu usawa wa jinsia miongoni mwa wanaohusika na watunga sera itaboresha ushiriki wa wanawake katika biashara ndogo ndogo ya samaki ili kufikia uwezeshaji wa wanawake kwa ujumla. Mabadiliko ya hali ya hewa yana athari kubwa kwa kutofautiana kwa jinsia katika biashara ndogo ndogo ya samaki kwani inaongeza uwezo wa kubadilika wa wanawake katika sekta hiyo. Utafiti unapendekeza serikali na wana harakati wa jinsia kukuza mikakati zaidi yenye mfumo makini ya kujibu kwa jinsia kwa usawa na ushiriki wa haki katika shughuli za kijamii na kiuchumi. Utafiti unapendekeza watunga sera kubuni programu kama vile kuanzishwa kwa vikundi vya biashara ndogo ndogo ya samaki ambavyo vitatumika kama jukwaa lao la kushiriki uzoefu wa biashara ili kuchochea ukuaji wa biashara za wanawake. Ili kuimarisha uwezeshaji wa wanawake katika biashara ndogo ndogo ya samaki, watunga sera na wanaohusika wanapaswa kutoa elimu inayoshughulikia kanuni za jinsia zinazosaidia mazoea ya udhibiti wa baba, kukuza uwezeshaji wa kiuchumi wa wanawake kwa kusaidia upatikanaji wa mikopo na kuboresha umiliki wa ardhi, na kuimarisha ushiriki wa kisiasa wa wanawake. Utafiti unapendekeza ushirikiano kati ya mashirika ya serikali, mashirika ya maendeleo, na jamii za ndani ili kutoa mafunzo, msaada, na upatikanaji wa masoko kwa wanawake ili kujenga mazoea endelevu na teknolojia zinazostahimili mabadiliko ya hali ya hewa katika biashara ndogo ndogo ya samaki.

DECLARATION

I, Advera Mang'are Gibe, hereby declare to the Senate of Sokoine University of Agriculture that this thesis is my original work done within the period of registration and that it has neither been submitted nor is currently being submitted to any other institution.

Advera Mang'are Gibe
(PhD Candidate)

Date

The above declaration is confirmed by:

Prof. John N. Jeckoniah
(Supervisor)

Date

Prof. Fatihiya A. Massawe
(Supervisor)

Date

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DEDICATION

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LIST OF ABBREVIATIONS AND ACRONYMS

CFA	Confirmatory Factor Analysis
CSSH	College of Social Sciences and Humanities
DAS	District Administrative Secretary
EFA	Exploratory Factor Analysis
FAO	Food and Agriculture Organization
FGDs	Focus Group Discussions
IFAD	International Fund for Agricultural Development
IUCN	International Union for Conservation of Nature
KII	Key Informant Interview
MCC	Mwanza City Council
NGOs	Non-governmental Organisations
SDGs	Sustainable Development Goals
SPSS	Statistical Package for Social Sciences
SSFB	Small scale fish business
SUA	Sokoine University of Agriculture
TIC	Treasury International Capital
UN	United Nations
UNICEF	The United Nations Children's Fund
URT	United Republic of Tanzania
USAID	United States Agency for International Development
WEI	Women Empowerment Index
WEOs	Ward Extension Officers

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

Social processes in Africa have continued to be a major factor in determining the rights, responsibilities, and relationships between women and men. Based on this context, evidence by Kalbarczyk *et al.* (2021) shows that gender dynamics play an important role in household decision making for determining who has the right to what or otherwise, basing on one's sex. In the same line, since gender dynamics are informed by socio-cultural ideas about gender and the power relationships that define them (Jayachandran, 2021), it is clear that in every sphere of human activities no one is immune to gender dynamics. For that case, in small-scale fish business, gender dynamics are an important aspect to examine in order to understand whether they act as an enabler or barrier to women's participation in small-scale fish business and their impact on women empowerment (UNDP and UNICEF, 2021).

Globally, half of the 40 million people who are engaging in small-scale fisheries are women (FAO, 2020; Herper, 2020). Women participate in fishing business through post-harvest handling, processing, selling of fresh fish, packaging and marketing (Torrel *et al.*, 2020). The importance of small-scale fisheries and fishing to food security and nutrition as well as women empowerment is well documented. For example, scholars have acknowledged how fisheries and the fishing business enhance economic growth globally and contribute to creating jobs and income to entrepreneurs particularly women involved in the sub-sector (Wang, 2016; Frangoudes and Gerrard, 2018; Sibeyo, 2020).

Different studies have shown that women are perceived to be economically active and play an essential role in fisheries and in the fishing sub-sector (FAO, 2017; Carolino *et al.*, 2021; Solano *et al.*, 2021). However, gender inequalities constrain them from benefiting

much as they are often marginalized and do not have the same opportunities as men. Women often experience unequal access to fish products, technology, finance; and they experience unequal power relations with men and different actors in the small-scale fisheries sub-sector, making them more vulnerable to exploitation (Szymkowiak, 2020). The inequalities in gender relations embedded in fisheries and in the fishing sub-sector affect women's participation in decision-making processes with respect to fisheries planning and management (Mangubhai and Lawless, 2021).

Evidence from literature has confirmed that one of the effects of gender dynamics existing in fishing communities is that women's substantial involvement, contribution, and active participation in fisheries and in the fishing sub-sector has received little attention to the extent that much focus has been placed on high value activities dominated by men (Manyungwa-Pasani *et al.*, 2017; Rohe *et al.*, 2018; Mangubhai and Lawless, 2020; Tilley *et al.*, 2021). According to Cole (2020), gender dynamics existing in fisheries and aquaculture include, but are not limited to, disproportionate division of labour and equal pay, access and control over assets and resources, access to markets and marketing resources, food and nutrition security, education and capacity development, occupational health and safety and violence, tenure rights, and Policy coherence. Same observations are reported by UNDP and UNICEF (2021) who found that women do not have equal access to the spaces where they can acquire the knowledge, skills and connections to pursue economic opportunities, and these dynamics have compounded to limit their equal economic participation, with huge resulting costs to economies and societies.

While the impacts of gender dynamics over women's participation in small-scale fisheries and fishing communities are well acknowledge in the literatures (Tilley *et al.*, 2021; Mangubhai and Lawless, 2021), other calamity, namely climate variability, is reported to have negative effects on fishing communities, and it constrain women's

ability to participate in the business than men (O'Reilly *et al.* (2021). This impedes interventions for gender equality and women empowerment (FAO, 2020). The impacts of climate variability on women's and men's livelihoods differ significantly. Gopal *et al.* (2020) has reported that women face multiple setbacks as they engage in fish business or seaweed farming and the community at large; they always experience inequalities, low yields, lack of appropriate technology, economic inefficiencies, and social and cultural constraints. On this ground, climate change impacts are likely to change livelihoods, gender roles and gender hierarchies resulting in socio-economic changes which affect women and men negatively.

Women are reported to face multiple cultural, economic and political limitations while running their businesses; about this, Quaidoo (2018) and Madaha (2020) argue that some challenges to women participating in business are encountered as a result of the changing roles in businesses such as competing views on aligning to emerging trends of gender relations, social expectations as more women participate in fish business. At the community level, gender norms, shaped by cultural and social expectations of women, have meant women's contribution to fishing sub-sector often unpaid, part-time, opportunistic, and viewed as an extension of household duties (Lawless, 2019). These results in women being under-represented in decision-making around every sphere of activities which they engage in due to inequitable access to natural, social and material resources (Bradford and Katikiro, 2019). It is reported in literature that women engaging in small-scale fisheries have continued to suffer from voiceless, illiteracy levels, and low income and gender-based violence which have high correlation with poverty and violation of women's rights (Abwao and Fonda, 2019; IUCN and USAID, 2019).

In Tanzania, the fishing industry grew at the rate of 14.1% in the third quarter of 2020 and 2.6% in 2019. The growth rate was

attributed to increase in fish catch and particularly increase of the small-scale fish business (Brugere and Williams, 2017). The population growth has enhanced notable competition among entrepreneurs in the fisheries and in the fishing industry and is likely to be the same for those involved in the small-scale fish business, women in particular. However, active participation of women in post-harvest activities which are necessary for their socio-economic and business development is reported to be influenced by different factors such as low access to credit facilities, poor transportation network, lack of access to resources and unequal power relations in decision making (Locke *et al.*, 2017; Harper *et al.*, 2020). These factors cannot be generalized; they vary depending on the nature of fisheries, types of activities performed, and fish captures or post-harvest activities. A study by Luomba (2019) found that, in aquaculture, women's participation is constrained by factors such as lack of land ownership rights, access to formal sources of credit, access to extension and training. Women are currently facing difficulties in accessing raw materials, both because of declining local landings caused by climate change which leads to decreasing of fish resources and because fish is being diverted from direct human consumption to animal feeds production, in particular to fishmeal plants (FAO, 2020).

Szymkowiak (2020) views that women's entrance mechanisms into fisheries, fishing and small-scale fish business are influenced by gender stereotypes, taboos, norms, and harassment. Other socio-economic factors such as capital, education and entrepreneurship skills have been overlooked in fisheries, fishing and small-scale fish business. Basing on this evidence, there is a need for more location specific evidence to uncover gender dynamics and factors influencing women's small-scale fish business development, their potential roles and their levels of empowerment among women participating in small-scale fish business.

The importance of small-scale fisheries and fishing to food security and nutrition as well as women empowerment is well documented. Women empowerment is a process that starts as soon as their knowledge and access to, and control over, assets are improved and their contribution to household income increases (Adam, 2021). For Adam, such achievements among women engaging in fisheries bring positive changes in their household decision-making. In this case, scholars have acknowledged how fisheries and fishing business enhance economic growth globally and contribute to creation of jobs and income to entrepreneurs, particularly women involved in the fishing sub-sector (Wang, 2016; Frangoudes and Gerrard, 2018; Sibeyo, 2020). Yet, Idris (2018) highlighted that, among the pressing challenges facing women are income poverty, lack of education, reproductive health pressure, lack of assets and problematic access to financial services.

The persistence of such a situation makes the contributions of women to small-scale fish business often invisible, ignored, and unrecognized even though they are the majority of workforce as it is the case in fisheries and in the fishing sub-sector (Thomas *et al.*, 2021).

To overcome the existing gender inequalities challenges, the Government of Tanzania has adopted various measures to promote women economic empowerment including the establishment of the Women Development Fund (USAID, 2021). This fund aims at women entrepreneurs' economic empowerment through micro-credit support (FAO, 2020). Other initiatives have been taken including 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). However, analysis has revealed that most literature focused on participation of women in fisheries, fishing and aquaculture in a general view (Cliffe and Akinrotimi, 2015; Rohe *et al.*, 2018; Luomba, 2019; FAO, 2020). Specific literature focusing on

identifying existing gender dynamics in small scale fish business factors influencing women's small-scale fish business development and an attempt to establish the level of empowerment among women participating in small-scale fish business is limited and has received little attention. Therefore, this study was set to determine gender dynamics among women participating in small scale fish business and their impact on women empowerment in Mwanza Region.

The National Fisheries Policy is committed to ensure a progressive fisheries sector which is economically, socially and environmentally sustainable (URT, 2015). To achieve that objective, the policy states that creation of more and better employment opportunities in fisheries and aquaculture for both women and men is necessary in poverty reduction in Tanzania. Gopal *et al.* (2020) argue that, despite the recent institutional efforts to mainstream gender inclusion in fisheries development programmes, achievement of gender equality and women's empowerment in this sub-sector remains a challenge. Evidence of presence gender dynamics in the fishing sub-sector poses questions to researchers on the influence of the dynamics on women's empowerment and their small-scale fish business development. Therefore, this study was set to determine gender dynamics within small scale fish business and their impact on women empowerment in Mwanza Region.

Overall, the objective of the study was to generate a greater understanding of existing gender dynamics, and the ways in which women's engagement in small-scale fish business may contribute to their social and economic empowerment. In more specific terms, this study determined gender dynamics in small-scale fish business, and engagement of women and their roles in the business. In particular, it assessed the factors influencing women's small-scale fish business development and their levels of empowerment. It is expected that women's social as well as economic empowerment is realized when they have the ability to participate equitably in existing

markets. Such empowerment is also realized when they have access to and control over productive resources, access to decent work; control over their own time, lives and bodies; and increased voice, agency and meaningful participation in economic decision-making at all levels from the household to international institutions (UN WOMEN, 2018).

Previous related studies describe women participation, challenges and opportunities in small-scale fisheries and fishing while ignoring other important types of entrepreneurship and job opportunities that include small-scale fish business necessary for women's economic development and empowerment. It is reported that developing countries like Tanzania and sub-Saharan African countries are experiencing high population of women engaging in entrepreneurship activities (Mkuna and Baiyegunhi, 2021); thus, the fact that women are also engaging in small-scale fish business as one among entrepreneurship opportunities available in the coast and lake zone communities (UN, 2018) cannot be overlooked. Findings like that of Gopal *et al.* (2020) show that women are present in all phases of fish production, processing and distribution. However, the question remains whether women have the same opportunities as men in terms of access to markets, access to and control over resources, decent work, control over their own time, lives and bodies, and increased voice, agency and meaningful participation in economic decision-making within small-scale fish business. Such women's opportunities are influenced by different gender dynamics and gendered factors that need to be scrutinized and come up with empirical evidence.

Fishing and fisheries industry are reported to benefit both women and men among communities surrounding Lake Victoria (Wilbard, 2015; Mwanza region Council, 2017; IFAD, 2020). However, gender inequalities are reported everywhere in the sector (Odhon, 2020). Thus, conducting this study was crucial because it bridges the existing gap on how gender dynamics are likely to constrain

women's participation in small-scale fish business and their related factors that influence women's SSFB development in the sense that levels of empowerment among women participating in the business is not realized within fishing communities in Ilemela and Nyamagana Districts. The study shades light on the interplay between gender dynamics, climate variability, and the resilience of small-scale fish businesses in Mwanza.

1.2 Problem Statement

Women constitute the majority of people involved in fisheries, fishing, and fish trading in Mwanza Region. They are critical players in processing, marketing, and trading within the fishing sub-sector, as reported by Wilbard (2015), URT (2015), MCC (2017), and IFAD (2020). However, women remain a disadvantaged group within the fishing industry, with low levels of empowerment and business development (MCC, 2017; Mangubhai and Lawless, 2021). This is likely due to gender inequalities and climate variability that limit their ability to achieve their potential, which also threatens their safety, freedom, and autonomy (Choularton *et al.*, 2022; Msuya, 2017).

Existing literature has predominantly focused on women's roles, challenges, and opportunities in fisheries, fishing, and aquaculture activities, from pre-harvesting to processing, marketing, and trading. For example, studies by EMDO (2017), USAID (2018) and Gopal *et al.* (2020) highlight the persistently poor levels of empowerment and business development among women in the fishing sub-sectors. Despite women being essential players in these sectors, their potential for growth and empowerment remains untapped.

Moreover, studies conducted in various sectors have demonstrated the significant impact of gender dynamics on women's decision-making power, access to resources, and opportunities. Jones *et al.* (2019) found that gendered discourses, structures, and power dynamics shape social work education and practice, reinforcing gender inequalities. Webb (2015) examined the relationship

between gender dynamics and adaptive capacity to climate change, emphasizing on the importance of gender analysis in addressing gender inequality in climate change initiatives. On the other hand, Tagutanazvo *et al.* (2017) identified limitations of women's decision-making power within water governance institutions, despite their representation in high-level positions.

While gender dynamics have been explored in sectors such as social work, climate change, water governance, and health, there is low women empowerment in small-scale fish business while there are interventions to empower women. This gap in literature neglects the unique challenges and opportunities women face in the small-scale fish business, hindering the formulation of effective policies and interventions.

Therefore, this study was aimed to shed light on the existing gender dynamics in the small-scale fish business. The study further intended to examine the impact of climate variability on gender dynamics within SSFB. It went further to understand how factors such as the lack of skills and access to credit facilities influence the growth of women's businesses. By examining the level of empowerment among women engaged in the small-scale fish business, the study sought to identify strategies to enhance empowerment and promote social and economic advancement for women within the Lake Zone communities.

1.3 Justification of the Study

The primary objective of this study was to provide empirical evidence on the gendered dynamics that shape women's participation in the small-scale fish business and their empowerment in Mwanza Region. By identifying the factors that influence women's development in this sector, the study was aimed to inform policymakers and development partners about targeted support strategies that could encourage more women to engage in the business, fostering sustainable development.

The findings of this study hold significant implications for various aspects of women's lives, including their economic status, resource ownership and control, participation in household and community decision-making, and access to fish resources and essential social services. The study's insights will contribute directly to national and international development agenda, aligning with key Sustainable Development Goals (SDGs). Specifically, it will contribute to promote gender equality, reducing inequalities and the study's findings will advance progress towards ending extreme poverty, and focus on achieving zero hunger specifically in Mwanza region.

Furthermore, the study findings will help policy makers and gender activists to come up with gender-sensitive interventions, including providing climate information, training, and financial support to women in small-scale fish businesses. Overall, this study's outcomes will serve as a valuable resource for policymakers and stakeholders seeking to address gender disparities, promote women's empowerment, and achieve sustainable development in the small-scale fish business in Mwanza Region.

1.4 Objectives of the Study

1.4.1 Overall objective

The overall objective of the study was to determine the gender dynamics prevalent in the small-scale fish business, and their influence on women's empowerment in Mwanza Region, Tanzania.

1.4.2 Specific objectives

Specifically, the study sought to:

- (i) Analyse gender dynamics within the small-scale fish business,
- (ii) Assess gender related factors influencing small-scale fish business growth,
- (iii) Determine the contribution of small-scale fish business to women empowerment, and

- (iv) Examine impact of climate variability on gender dynamics.

1.4.3 Research questions

1. What are the common roles for women and men in small-scale fish business (SSFB)?
2. What is the nature of access and control over fish products between women and men in SSFB?
3. What kinds of gender power relationships exist between women and men in the SSFB?
4. What are the key factors that contribute to the growth of SSFB in the study area?
5. How does access to finance and market demands affect growth of SSFB in the study area?
6. How does SSFB contribute to low, medium or high levels of women empowerment in the study area?
7. What are the key factors that influence such level of empowerment?
8. What are the impacts of climate variability over gender dynamics existing within small-scale fish business?

1.5 Theoretical Framework

In this study, the empowerment framework (EF) developed by Kabeer (1999) was employed to conceptualize empowerment as a dynamic process aimed at addressing inequities within the small-scale fish business in Mwanza Region. The framework aligns with the significant contribution of fisheries and the fishing sector towards women's empowerment. As described by Kabeer, empowerment involves a transformative process through which women acquire resources that enable them to develop a voice, allowing them to express their preferences, and agency, granting them the ability to make decisions that align with their own aspirations (Yount *et al.*, 2017). By utilizing this framework, the study analysed the mechanisms through which women in the small-scale fish business

attain empowerment, thereby shedding light on the ways in which gender disparities can be addressed and mitigated.

According to Yount *et al.* (2017), empowerment encompasses various resources that contribute to women's transformative process. These resources include human resources, such as educational attainment, skills development, and self-efficacy; social resources, such as participation in organizations, access to peer networks, and exposure to role models beyond the family; and economic resources, such as income, property, and land ownership. Recognizing the significance of providing necessary resources, particularly for women, Tanzania's fisheries policy (URT, 2015) emphasizes on the social, economic, and political empowerment of women. By empowering women in these aspects, unequal power relations can be transformed, and violence against women and girls can be prevented, as highlighted by ActionAid (2012).

In this study, empowerment refers to a gradual process within the small-scale fish business (SSFB) context, enabling women to enhance their capacity for voicing out their opinions and participating in decision-making processes within their community. It is important to note that the resources acquired by women through their participation in SSFB do not guarantee empowerment due to gendered dynamics that restrict women's potential and other influencing factors affecting the development of their small-scale fish businesses. To understand the impact of these dynamics and factors on women's SSFB development and their resulting levels of empowerment, the study employed the Empowerment Framework. This framework sheds light on how existing gender dynamics, as well as related factors, influence women's SSFB development, potentially leading to low, medium, or high levels of empowerment. The study specifically focused on women participating in small-scale fish businesses in Nyamagana and Ilemela Districts of Mwanza Region.

1.6 Conceptual Framework

The conceptual framework presented in Figure 1.1 draws upon the Empowerment Framework and depicts the interplay between gender dynamics and women's participation in small-scale fish businesses. As highlighted by Cislighi and Heise (2020), gender dynamics are shaped by socio-cultural norms and power relationships. The framework recognizes the influence of various factors, including gender roles, gendered factors, and socio-economic elements, on women's engagement in small-scale fish businesses, ultimately affecting their empowerment within fishing communities. The levels of empowerment among women in this study are categorized as low, medium, or high, providing insights into the on-going transformations within the study area.

It is a known fact that women often face various social and economic constraints when they aspire to further invest in business. For instance, prevailing norms may restrict a woman with business capital from operating outside the home due to spousal limitations. In such cases, the persistence of a patriarchal system within the community, which prioritizes male decision-making dominance, perpetuates unequal power dynamics, pushing women into subordinate positions and poverty are behind such restrictions.

This study focuses on examining the impact of climate variability on gender dynamics such as gender roles, gender relations, decision making, access and control over resources. It further extends to understanding the impact of different gender dynamics, including gender roles, relations, decision-making, as well as access and control over resources. Additionally, factors such as asset ownership, market access and information, credit facilities, education and training, business skills, fish transportation, storage facilities, and involvement in self-help groups are considered. These elements play a pivotal role in determining women's business development and empowerment levels. By investigating how these dynamics and factors either enable high empowerment or limit the

development of women's small-scale fish businesses, this research sheds light on the varying levels of empowerment experienced by women, ranging from lower to medium levels.

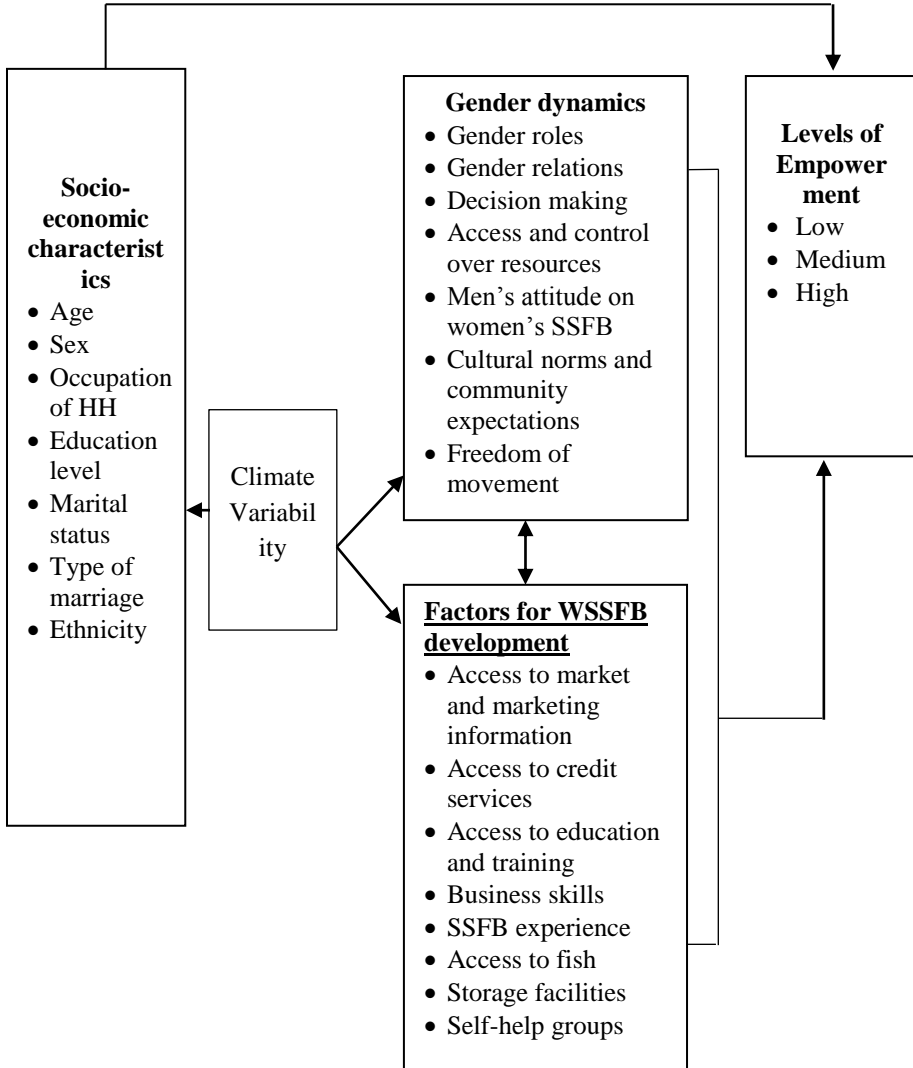


Figure 1.1: Conceptual framework for gender dynamics and women empowerment in the SSFB. (Source: Adapted from Benson, 2020)

1.7 General Methodology

This study was conducted in 2022 in Ilemela and Nyamagana Districts of Mwanza Region using a mixed-methods approach to investigate the gender dynamics prevalent in the small-scale fish business and their influence on women's empowerment. The location of the study was selected based on the significance of these districts in the small-scale fish business, given that Lake Victoria, the world's largest tropical lake, is located in the region and supports a majority of the world's capture fishers and fish workers, with a significant representation of women (EMDO, 2017; URT, 2020). The sampling frame comprised all small-scale fish business women and men at six market places namely, Busweru Market, Igoma Market, Pasiansi Market, Sabasaba Market, Mwaloni Market and Kamanga Ferry Market. A cross-sectional research design was used, and participants for Focus Group Discussions (FGDs) and Key Informants (KIs) were selected through purposive sampling. Eight FGDs were conducted, with separate sessions for women and men, as well as mixed-gender sessions. The sample size for quantitative information collection was determined using the proportional allocation formula adjusted for an infinite population (Kothari, 2004), which resulted to choosing a total of 309 respondents, including 199 women and 110 men. The collection of qualitative data involved the use of FGD and KI guides which guided discussions and interviews, while an observation checklist helped to record relevant observations during the research process and an audio recorder captured audio for accurate transcription and analysis. Copies of a questionnaire with closed and open-ended questions were administered through face-to-face interviews by enumerators asking the respondents the questions written in the questionnaire and writing answers in the appropriate spaces.

Data analysis encompassed both quantitative and qualitative techniques. For the quantitative data that were collected using the questionnaire, statistical analyses were done including descriptive statistics, multiple linear regressions, a chi-square test, and an

independent samples t-test were employed to estimate relationships between the growths of small-scale fish businesses and assess factors associated with these businesses by gender. Qualitative data obtained from FGDs and KIs were analysed using content analysis to identify themes relevant to the study objectives. The ATLAS.ti computer software was utilized to aid in the analysis process. Detailed descriptions of the methodology employed in this study have clearly been clarified in relevant chapters.

1.8 Organization of the Thesis in Publishable Manuscript

The thesis is organized into six chapters, consisting of four publishable manuscripts. Chapter one provides an introduction that highlights the background information to the study. Chapter two presents manuscript number one, which covers objective one of the study and focuses on gender dynamics among women participating in the small-scale fish business. Chapter three presents manuscript number two, which covers the factors that influence women's SSFB development. Chapter four covers manuscript three, which examines the level of empowerment among women participating in the small-scale fish business. Chapter five examined the impact of climate variability on gender dynamics in small-scale fish business in Mwanza Region, Tanzania. Lastly, chapter six summarizes the findings, draws conclusions, and provides recommendations based on all the four manuscripts.

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CHAPTER TWO

2.0 GENDER DYNAMICS IN SMALL-SCALE FISH BUSINESS IN MWANZA REGION, TANZANIA

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2.1 Abstract

This study established the typology of gender dynamics within small-scale fish business in Mwanza Region, Tanzania. Data were collected using key informant interviews, focus group discussions (FGDs), personal observations, and documentary reviews. The collected data were analysed using content analysis and ATLAS.ti computer software to transcribe the field notes before analysis. The study found that gender inequalities existed in all aspects of gender roles, gender relations, and access to and control over productive assets in the small-scale fish business. Men dominated high economic valued activities, such as receiving and collecting fish from fishermen, while women had limited decision-making power over income, freedom of movement, access and control over productive assets, and participation in the fish business. The study concludes

that these inequalities negatively affect women's active participation in the business as well as the business growth prospects. The government and non-governmental organizations are urged to establish programmes and policies that create awareness on gender issues for equitable and sustainable development of small-scale fish business in the study area, benefiting both men and women equitably.

Keywords: *Gender, Gender dynamics, Small-scale fish business, Experiences.*

2.2 Introduction

The significant role played by small businesses in terms of job creation, poverty alleviation and local economic growth is well known. Small businesses act as the backbone and a driver of innovation of any advanced economy (Al-Khalifa, 2020). They represent about 90% of businesses and more than 50% in post-harvest activities worldwide (World Bank, 2022) and are often done by family members and friends (Qiu and Freel, 2019). In Tanzania, small-scale businesses became prominent from the 1980s as a result of globalization of the economy (Wilbard, 2015), which led to the country experiencing high emergency of women and men entrepreneurs engaging in small-scale businesses (Mkuna and Baiyegunhi, 2021). Based on the perspectives of the Inequality Theory by UKEssays (2018), gender inequality is a worldwide debate since the rise of modern feminism in the early 1960s. Thus, carrying out a study to understand gender differences is important. This is because social expectations on women's and men's roles differ, and they always put men at a commanding and dominant position. Globally, scholars have acknowledged that, in the social context, women tend to face significant barriers in their business activities (Ngaga and Jeckoniah, 2019; Bastida, 2021). For this argument, this study was set to understand the existing gender dynamics embedded within small-scale fish business.

Fish trading and marketing are among rapidly growing small-scale businesses in which the majority of women and men are self-employed URT (2017), Sambuo *et al.* (2018), TIC (2019), and are important economic activities for the world population (Sibeyo, 2020). Small-scale fish business provides jobs to both men and women as a major source of their livelihood as it requires affordable capital outlay and provides quick income for Coastal and Lake Zone communities (Ilemela Municipal Council, 2017; Agbontale *et al.*, 2020; Thomas *et al.*, 2021). About 100 million people are estimated to be involved in small-scale post-harvest activities which include fish trading and marketing (FAO, 2020). However, despite the importance of this sub-sector, gender differences are generally reported in fishing and fisheries (Deb *et al.*, 2014; Kwok, 2017; Cole, 2020).

Studies by Tagutanazvo *et al.* (2017) and Cole (2020) showed that although women are the majority in small-scale business and carry out different roles, their actual decision making power is limited. In the same vein, Kwok (2017) observed that women's contributions in small-scale fisheries of Tonle Sap Lake were often overlooked due to socio-cultural expectations of roles and responsibilities. In the views of Quaidoo (2018) and Madaha (2020), women face multiple cultural, economic and political limitations while running their small-scale businesses. Such gender dynamics limit women's involvement, contribution, and active participation in fisheries as they receive little attention when compared to high valued activities dominated by men (Manyungwa-Pasani *et al.*, 2017; Rohe *et al.*, 2018; Tilley *et al.*, 2021; Mangubhai and Lawless, 2021). As a result, such inequalities affect women's participation in decision-making processes with respect to fisheries planning and management (Mangubhai *et al.*, 2021).

In the view of Webb (2015), generalization of gender dynamics and gender stereotype is wrong; hence there is a need to carry out improved gender analysis to understand gender inequality in

relation to any sector or activity that involves both women and men. For this case, understanding women's and men's roles, aspirations, access and control over resources was important as it has influence on decision making and plays important roles in determining social power relations, usually to the detriment of women's life.

Gender dynamics in this study refers to socio-cultural ideas about gender and the power relationships that define them. It is important to note that these gender dynamics tend to change over time as women and men have different roles in their lives, including being spouses, siblings, co-workers, and parents. Depending on their own concerns, women and men may act together or separately for each role. Jones *et al.* (2019) documented that women constitute the majority of social work educators and practitioners, while men disproportionately dominate positions of power and prestige in society. In a study on gender dynamics in a polio eradication programme, Kalbarczyk *et al.* (2021) found that male polio workers were not allowed to enter many households in conservative communities, creating a demand for female vaccinators. Furthermore, Ngaga and Jeckoniah (2019) examined gender dynamics in family businesses and found that men dominated gender roles such as ownership, decision-making, and control of businesses, while women were found to dominate selling and record-keeping.

Kwok (2017) studied perceptions of gender dynamics in small-scale fisheries and conservation areas in Cambodia and found that men more frequently acknowledged unequal power dynamics, access to, and control over fishing resources than women. Cole (2020) studied gender dynamics in small-scale fisheries and aquaculture and found that cultural constructed roles prohibited women from access to market and marketing, access and control over assets and resources, and these dynamics restricted them from taking place in some fisheries activities.

The general objective of this study was to determine gender dynamics existing within small-scale fish business. The results of this study inform government, researchers and other stakeholders on typologies of gender dynamics existing in small-scale fish businesses. By understanding these dynamics, it will be easy to take into account how they are likely to cause greater differential and complex gender relations and power imbalances. This will help to avoid creation of gender inequalities or conflicts between women and men within fishing communities in Nyamagana and Ilemela Districts, Mwanza Region, and probably elsewhere in Tanzania.

Specifically, the study answered the following research questions: (i).What are the common roles for women and men in small-scale fish business (SSFB)? (ii) What is the nature of access and control over fish products between women and men in SSFB? (iii) What kinds of gender power relationships exist between women and men in the SSFB? The study was guided by the inequality theory that was founded by Milner (1987) that views the origin of gender inequality between men and women as one of the most intellectual debates after the rise of modern feminism. This is because feminists consider the ideological implication of female subordination over centuries to have caused high superior prevalence of male status across time, space and social circumstances that are beyond denial especially in sub-Saharan Africa (UKEssays, 2018).

The origin of the inequality theory is built on three key assumptions; First, the biological difference between men and women is inescapable amongst races, classes, cultures and traditions irrespective of being developed or underdeveloped. Second, tracing back from history to date, most of the hardest and most commanding jobs are carried out by men. Therefore, inequality is bound to exist between sexes. Third, biological differences that are sufficient and necessary to persist are likely to cause inequality between sexes and puts men at a commanding and dominant position. According to anthropologists, the most common biological differences that have received much attention by the inequality view

include reproduction by females, physical capacity and predisposition to violence.

The general agreement is that women have rarely occupied positions of higher status or political power than men in any society, anywhere, and at any time (Butler *et al.*, 2006; Magnusson *et al.*, 2008). Although the theory has faced many critiques, it is argued that inequalities persist in many societies, regardless of the changing times. In the context of this study, the inequality theory was used to understand the gender dynamics that perpetuate inequalities in the small-scale fish business in Mwanza Region, particularly in Nyamagana and Ilemela Districts. This involved examining women's and men's roles, gender power relationships, and the nature of access and control over fish products between women and men.

2.3 Methodology

2.3.1 The study areas and scope

The study was conducted in Ilemela and Nyamagana Districts of Mwanza Region. The region was purposively selected due to its significant relevance to the small-scale fish business. This region is home to Lake Victoria, the world's largest tropical lake with over 500 fish species, supporting more than 90% of the world's capture fishers and fish workers, with approximately half being women (EMDO, 2017). Furthermore, the study aimed to understand the gender dynamics of small-scale fish businesses, and the region was known to have a high concentration of such businesses. The fishing sector plays an essential role in the study area, and women make up a significant proportion of the workforce, representing 70% to 80% in fish post-harvest and related activities (URT, 2020). Therefore, Mwanza Region was a relevant and suitable study area for understanding gender dynamics in small-scale fish business.

2.3.2 Study design and data sources

The study used a cross-sectional research design to collect data from multiple cases at a single point in time. Purposive sampling was used to select participants for Focus Group Discussions (FGDs) and Key Informants (KIs) based on their personal experiences and positions in the fisheries sector. For the study, eight FGDs were conducted, each comprising 8-10 participants. Four of the FGDs were conducted in the four wards with both women and men, based on the availability of small-scale fish market places. The other four FGDs were conducted in the two districts, with separate sessions for women and men to avoid sex bias and traditional customs that might restrict one sex from giving opinions before the other. Data collection tools included an FGD guide, a KIs interview guide, an observation checklist, and an audio recorder, which was used after getting the consent of the study participants. The participants were asked to provide their opinions on the common roles played by women and men in small-scale fish businesses, the types of gender power relationships that existed in the SSFB, and the nature of access to and control over fish products by women and men in SSFB.

2.3.3 Data analysis

The study employed content analysis to examine data obtained from Key informant interviews (KIIs) and Focus Group Discussions (FGDs) in order to determine the gender dynamics in SSFB. Prior to analysis, the data were transcribed. The analysis process involved several steps. Firstly, the interviewee responses and opinions were coded. Secondly, the data were categorized according to the topics in the interview guide and in relation to the research objectives. A database was then prepared to aid in categorizing, sorting and retrieving data. Thirdly, the categorized data were analysed in three stages: data reduction (selecting, simplifying and transferring raw data to an analysable format), displaying the data and drawing research conclusions (Taylor *et al.*, 2011). Finally, the incident studies sets were documented in the form of qualitative descriptions

and interpretations. The ATLAS.ti computer software was used to facilitate the analysis of the data gathered through KIs and FGDs.

2.4 Results and Discussion

The study findings indicate that small-scale fish business, traditionally considered a male activity, is now predominantly pursued by women in the study area, although women and men perform different roles in the SSFB. This suggests that cultural norms surrounding gendered work can evolve over time, supporting the theory of inequality. However, the study also revealed the existence of gender inequalities in all aspects of the small-scale fish business, including gender roles, access to and control over productive assets, gender relations, and power differentials in decision making. The results are detailed below, drawing on data from FGDs, KIs, audio recordings, field notes, and themes identified using the ATLAS.ti computer software, as utilized by other scholars such as Njau *et al.* (2019) and Soratto *et al.* (2020).

2.4.1 Common roles played by women and men in small-scale fish business

2.4.1.1 Gender roles in small-scale fish business

The study found that in the small-scale fish business, both women and men were actively involved in buying, processing, and selling fish. However, the study revealed that some inequalities existed regarding the types of fish products sold, such as fresh fish, fried and dried fish, and sardines (*dagaa*). Sardines were predominantly sold by women in all the market areas studied. Additionally, some tasks such as receiving fish at landing sites were done by women, while frying fish was dominated by men. Conversely, fish cleaning, packaging, and hawking activities were more performed by women than men. The study found that both men and women processed fish by cleaning, frying, and selling fresh fish depending on the customers' needs. A key informant interviewee revealed that:

“Women now have the right to participate in fish trading without exclusion, something which was impossible during

our ancestors when traditional ways of life did not allow women's movement from the homestead. However, men are dominant in all activities that required strong muscles.” (KI, Nyamagana, January 2022).

The study found that gender roles in small-scale fish business were changing with the evolving world economic trend. During FGDs, participants were asked whether traditionally women were allowed to participate in the fish business with men. The response was that cultural norms were shifting, and women were taking up more prominent roles in the sector. The participants expressed optimism that in the future, women engaged in small-scale fish business would take on different roles and be valued as equals. Participants in an FGD agreed:

Today, due to global economic challenges, women are increasingly recognized as valuable contributors to their families and the business world. They are perceived as hardworking and effective in managing small-scale fish businesses (FGD, Kamanga Relini, January, 2022).

Key informants were asked whether women were traditionally allowed to participate in small-scale fish business. Zhu and Chang (2019), from their related study, reported similar arguments as those of key informant interviewees who confirmed that gender roles were rapidly changing, with more women taking on the roles of heads of households. The study found that women and men had different experiences and roles in the small-scale fish business, including the products they sold, business opportunities, and cultural setups. Although both women and men were engaged in small-scale business, women faced more challenges in balancing their time between business and household chores due to gender division of labour at the family and community levels. This was explained by one key informant during an interview as follows:

“Women face various constraints, one of which is the lack of time due to their many responsibilities of managing household work” (KI, Kamanga Relini, January, 2022).

In both men and women's FGDs, participants expressed concerns about how traditional socio-cultural interpretations of gender roles perpetuate gender disparities in fish marketing activities. The persistence of such inequalities can be attributed to the reluctance of some communities to accept change due to illiteracy and poverty, as explained by the inequality theory. The study's findings are relevant to this theory, which posits that male domination in the biological distinction of sexes will continue to persist within labour division because of physical differences between men and women that make men feel dominant. Heise *et al.* (2019) support this argument by stating that individuals born biologically male or female develop into gendered beings that face gender inequality and restrictive gender norms that affect their well-being.

2.4.1.2 Gender roles at the household level

The study findings revealed that women engaging in the small-scale fish business, not only carry out the role of financial contribution to the household, but also they carry out other roles such as food provision, paying for health services, as well as children's school needs which traditionally are assigned to men. In such situations, women's effective participation and confidence in the small-scale fish business are hampered by the triple roles as women are socially expected to perform other traditional and biological roles like productive roles, reproduction of society members and household responsibilities, sometimes in the absence or presence of their husbands and sons at home. Literally and theoretically, it is the mother who provides crucial social reproduction roles for the boys and girls, and transmits down the ideological discourses, cultural attributes, and gendered knowledge to the society.

The study's literature has recognized the crucial role of women's involvement in small-scale fish businesses in promoting their economic development and empowerment (Ilemela Municipal Council, 2017; Agbontale *et al.*, 2020). Similarly, the study found that women's participation in small-scale fish businesses had a positive impact on their household's economic capacity, allowing them to contribute to financial expenditures. This financial freedom, coupled with the sense of achievement and enhanced status at the household level, has improved their self-esteem. These findings were reinforced by a key informant interviewee, at Kamanga on 26th January, 2022 who said: *“Women's active involvement in small-scale fish businesses leads to remarkable enhancements in households' asset quality and overall development”*.

However, research has shown that men have different perspectives on the changes experienced due to women's financial contributions in households. For men, the participation of women in the fish business is one of the main reasons leading to marriage dissolution because as women become financially independent, they start to behave differently towards their husbands. They no longer show respect, which men cannot tolerate, so they choose to leave their families and start new ones. During men's focus group discussions (FGDs), the participants explained that:

Most married women who gain financial freedom tend to become arrogant towards their husbands since they no longer depend on their husbands' provisions. Men are not ready to accept such behaviour, and as a result marriages fail. Among ten households where both husbands and wives participate in small-scale fish businesses, only two can maintain peace in their marriage, especially when men start demanding that women's income be part of the family income. In such a situation, conflicts occur, and they often lead to divorce (FGD, Nyamagana, 28th January 2022).

The study found that such gender perspectives existing among men continue to place women into gender-based norms regarding appropriate behaviour and what is right or wrong. This has negative impact on women's networks by limiting their network to social ties while men's networks remain much wide on one hand while on the other hand women do not have access to skills, information, credit, and knowledge, and hold low self-confidence when compared with their male counterparts in the household and business spheres. At the same time, the gender inequality theory holds that norms primarily are a mechanism that ruling groups use to dominate others and perpetuate their interests.

Discussions held through FGDs and KIIs revealed that men hold the belief that sustainable family life is only possible when women remain at home to take care of the household chores, while men go out to search for family income. Participants in an FGD emphasized that:

Families where women spend more time on business than on family responsibilities experience a high level of moral decay. Children who are left without proper guidance for an extended period of time increasingly become parents themselves and are unwilling to accept their parents' instructions. This, in turn, can contribute to an increase in street children in one way or another (FGD, Busweru market, 27th January, 2022).

The nature of small-scale fish businesses and the time required to achieve good performance in the business have a significant impact on the sustainability of women's marriages. Women have reported that small-scale fish businesses require individuals to wake up earlier and go to bed late, leading to conflicts in marriage. Men often complain about missing their marital rights on time and are jealous of women's potential to engage in sexual activities with fishermen. This view emerged during an FGD with women, where they agreed that:

To obtain good quality fish products, we sometimes have to go to distant places of Lake Islands or wake up early in the morning to arrive at fish selling points on time (FGD participants, Mwaloni, 29th January 2022)

The study findings obtained through FGD and KI interviews suggest that despite global economic challenges that have forced men to accept their spouses' engagement in economic activities, women are still viewed, according to socio-cultural constructions, as individuals who are born to do domestic chores and serve men, so long as they are physically capable. This implies that women are often entrusted with more responsibilities and burdens than men, including caring for and sustaining familial well-being and meeting social and emotional needs. However, as the inequality theory explains, socio-cultural constructs change slowly, depending on social set-ups. FGD participants also highlighted that restricting women from doing business in the current century denies them opportunities to earn additional income and minimizes poverty in households.

2.4.2 Nature of access and control over productive assets in small-scale fish business

The study revealed that women are more disadvantaged than men in terms of information, knowledge, financial resources, storage facilities, access to infrastructure, and social capital, which limit their ability to expand their businesses. This often leads to product spoilage and prevents women from meeting market demands. For example, women's failure to access capital and resources reduces their business potential due to social barriers. The discussion highlights that ownership and control over productive assets provide cultural capital by enabling commercial exchange, and women's ability to achieve efficiency and safety in their business operations is influenced by various factors, including discriminatory perceptions and access to assets. Community perceptions reflect a strong gender bias that men should own productive assets, despite women

working harder for their families, while cultural barriers limit their access to such assets. Both male and female FGD participants explained that:

Although women have weaker access to financial resources than men, they are still expected to manage household finances and are held responsible when household finances are insufficient or poorly managed (FGD, Igoma market, 26th January 2022).

The study found that women in the fish business face multiple challenges, including limited access to infrastructure such as cold storage, electricity, and transportation, which hinder their ability to manage their businesses effectively. Additionally, they have limited access to credit due to availability, tough credit conditions, and inadequate collateral, making it difficult for them to invest in their businesses. The low access to financial resources has led to women fish traders engaging in transactional sex to access quality fish. Women reported leaving their homes as early as 3:00 a.m. to purchase fish at landing sites to process and sell, and they could only sell small quantities due to transportation constraints. This underscores the need for women to receive support from their husbands and other men in terms of physical, financial, technical, and moral assistance to achieve equitable access to and control over productive assets. This can help address the gender-based discrimination and barriers that women in the fish business face.

2.4.3 Kinds of gender power relationships exist in small-scale fish business

2.4.3.1 Gender relations among women and men in SSFB

It was discovered that women's participation in the fish business posed a challenge for men because fishermen always favoured women over men during purchasing competitions. Some fishermen received transactional sex as payment from women, which was evident from male respondents who revealed that even if men offered a higher price for buying fish, women would still win the offer

even at a lower price for the same fish products. Male participants explained this phenomenon as follows:

Women are given first priority by fishermen because the latter use those transactions to win transactional sexual relationships with the women (FGD, Busweru market, January 27th, 2022).

This perspective creates business conflicts between women and men at fish landing sites and market centres; on the other hand, conflicts arise between fishermen and business men for the same reasons. Male FGD participants insisted that:

Even if men offered a better price for buying fish from fishermen, women would always buy the fish at a lower price from the same sellers. It goes beyond selling and buying between fishermen and women (FGD, Nyamagana, 28th January, 2022).

The study revealed that women's participation in the fish business is hindered by conflicts which arise between men and women, and between fishermen and business men. This leads to married women being restricted by their husbands from participating in the business, as they are seen as a source of community conflicts rather than being business partners with men. If this continues, the patriarchal system gains strength, and women are forced to stay at home and depend on their male partners to provide for them. Deb *et al.* (2014) share a similar view, arguing that women face threefold obstacles stemming from patriarchal, patrilineal, and patrilocal socio-cultural constructs, religious traditions, and limited control over economic resources and decision-making processes. These socio-cultural factors have deep roots and shape power relations, influencing the ways individuals perform their responsibilities according to gender norms and expectations within their communities.

According to FAO *et al.* (2022), the gender division of labour is a result of gendered social construction. This perception was reflected in an FGD where participants stated the following:

Fish products are obtained late at night on the lake island, a time when married women are expected to be at home fulfilling parental responsibilities. Consequently, men find it challenging to allow their wives to participate in small-scale fish business (FGD, Kamanga Ferry market, January 2022).

2.4.3.2 Gender relations at the household level

The study indicated that cultural norms frequently affect women's control over their earned income and the degree to which it is reinvested in their business or used to cover general household expenses. During a focus group discussion, participants were asked about the reasons why men still functioned as the main providers for their households. One FGD group expressed this concern as follows:

The husband is traditionally regarded as the president of the household and holds the position of overall overseer of all day-to-day household responsibilities and basic needs. This societal construct expects the woman to be submissive to her husband until the man's death, at which point the woman becomes the head of the household (FGD, Kamanga market, 28th January, 2022).

Similarly, the participants emphasized that Holy books have granted power and authority to men as the heads of the household. As a result, campaigns promoting gender equality and a 50:50 distribution of power and responsibilities between men and women are perceived as being against God's instructions. They added that when women go against these instructions, it becomes impossible for them to live harmoniously with their husbands. About this, participants in an FGD unanimously agreed as follows:

A woman needs to always be submissive to the husband. If she disrespects her husband, there is no more marriage in our communities (FGD1, Busweru, 27th January, 2022)

Despite the arguments presented earlier, female participants in a focus group discussion acknowledged that gender relations at the household level have undergone changes in recent years. They explained that this shift is largely due to men's inability to fulfil their responsibilities as family providers, resulting in abandonment. Women shared that in response to this, they have taken up income-generating activities that were traditionally perceived as men's roles, to support their families, particularly to meet their own and their children's needs.

In this study, from both women and men FGD participants, KIs as well as researcher's observations, it is true that within communities engaged in small-scale fish business there is high marriage break-ups, and the majority of fish business workers are women. For women who remain in their marriages, husbands are there pretending to be family needs providers, but in reality they sometimes do or don't provide any thing for the family. Such a practice puts both sexes in vulnerability, especially when there are limited opportunities for income and for fish purchase, food insecurity and poverty. It was, however, found that women are likely to be more affected than men because the vulnerability trauma tends to reduce their self-esteem, something which potentially affects their ability to advocate for their needs, and they fail to participate well in businesses. Women participants in an FGD concluded that:

The burden of financial management and household budgets often leads to mental and physical abuse by men towards women. In situations where income is low, women are forced to take loans to meet various needs, but are often blamed if there is any loss incurred (FGD, Busweru, January 27th 2022).

2.4.4 Power differences in decision making

It was found that women had limited decision-making power in fish business. It was reported that women's and men's decision making powers differed based on the types of decisions they made; women's decisions were limited when compared to men's. Many women did not have decision-making power at the household level and over all household resources; they were also not able to keep or manage their own earnings. On this aspect, the inequality theory concurs with the findings due to the fact that men have always been involved in all critical traditional decisions that involve sacrifices. For that case, the implication of women's participation in small-scale fish business does not guarantee their position when it comes to making decisions that affect their aspirations in business. In the same line, Kwok (2017) found that participation does not lead to having power in decision making, and women participating in these spaces may face challenges that are not typically addressed in household level analyses.

Further, it was reported that women have more decision-making power if they contribute to the family income. In such a situation FGD participants reported that both husband and wife will always seat together to discuss about children's education, health services, how much money to save, type of productive activities to do, and purchasing of household appliances as the woman has own income obtained from business. Women FGD narrated the following:

We suffer a lot here. If a woman doesn't have money, her husband won't even disclose his income to her. Consequently, it's possible to witness how the money is being spent without being consulted on how to spend it (FGD, Busweru, 27th January, 2022)

Generally, socio-cultural values (both the social attitudes and institutions) have impact on decision making whereby men largely control decision-making. The inadequate decision making power of women especially on income constrains their business capacity.

However, some who obtain more/bigger loans increase their income and hence sometimes disappear (to enjoy the money and come back home when they are broke), leaving the family with burden to repay the loans. Women are reported to have good ability to plan well and optimize the amount of income they have to meet family and business needs.

2.5 Conclusions and Recommendations

Based on the study's findings, it is evident that small-scale fish business women and men in the study area are assigned socially constructed roles that differ between genders. These results align with the gender inequality theory, which posits that inequality between the sexes is inevitable. The study found that gender inequalities are prevalent in all aspects of small-scale fish business, such as gender roles, access and control over productive assets, gender relations, and power differences in decision-making. Men tend to dominate high-value economic activities, such as collecting fish from far distances in the lake and receiving fish at landing sites, while women concentrate more on cleaning and selling fish. Therefore, the study recommends that the government, in collaboration with non-governmental organizations and community-based organizations operating in Mwanza Region, should develop programmes that increase community awareness of gender issues, including gender roles. Additionally, the government should create gender strategies and programmes that meet the strategic and practical gender needs of women, enabling them to fulfil both household and business roles within the fisheries sector effectively.

The study also concludes that, despite women being the majority of people engaged in small-scale fish business, the existence of deep-rooted gendered socio-cultural constructions of the motherly myth, family teachings, and relations has continued to impact women's ability to engage in small-scale fish businesses. Women are more disadvantaged than men in terms of access to information, knowledge, financial resources, storage facilities and infrastructure,

as well as social capital, which limits their means to expand businesses. The society perceives women's as well as men's participation and growth in small-scale fish businesses in view of their socio-cultural set-ups. For example, married women do not enjoy the same business environment as their male counterparts and single or widowed women due to mobility restrictions from their husbands. Therefore, the study recommends that policymakers should include gender equity in policies and create a favourable environment for both women and men engaged in SSFB. These policies should promote women's participation in small-scale fish business to improve their livelihoods at the household, community and national levels.

Furthermore, the study concludes that, although women are the majority in the small-scale fish business, their actual decision-making power over income accrued from the business is limited, which affects their business growth prospects. Women's engagement in small-scale fish business and their financial freedom are often understood by men as a means of women engaging in sexual relationships with fishermen, leading to arrogant behaviour towards their husbands, resulting in marital conflicts and divorce among SSFB practitioners in the study area. The inequality theory states that social inequality starts with initial differences in power, and that due to natural inequality, someone is able to do, control, and decide on how others should follow the laid down norms. Therefore, in addition to the aforementioned findings, it is recommended that gender activists, traditional and religious leaders should emphasize on and facilitate gender equality and equity education in the communities through public meetings, speeches, and seminars to ensure inclusive participation within small-scale fish business activities. Moreover, intra-household communication and co-operation should be promoted to encourage equitable participation of women and men in decision-making at the household level.

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CHAPTER THREE

3.0 GENDERED RELATED FACTORS INFLUENCING SMALL-SCALE FISH BUSINESS GROWTH IN MWANZA REGION, TANZANIA

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3.1 Abstract

The study aimed to assess gender related factors which influence the growth of small-scale fish businesses (SSFBS) owned by women in Mwanza, Tanzania. A total of 309 individuals in the fish industry were surveyed using questionnaire, which was complemented by focus group discussions and key informant interviews. The study assessed the nature of small-scale fish businesses, the constraints facing them, and the determinants of small-scale fish businesses growth which was measured by daily profits obtained. The results showed that Nile perch (*Lates Niloticus*), Tilapia (*Oreochromis aureus*), Sardines (*Sardina pilchardus*), Catfish (*Siluriforme Spp*) and Marbled lungfish (*Protopterus aethiopicus*) were the main types of fish found in Lake Victoria. It was uncovered that, deep frying and cold storage were key methods used for fish preservation.

Furthermore, the study found that the constraints facing women and men include lack of enough capital, poor working condition, family care burden, domestic violence, social exclusion and polygamy. Furthermore, the investigation unveiled that, marital status, experience in the business, daily capital, type of customers, storage facilities, and involvement in self-help groups' significantly impacted daily profit. The study demonstrated that marital women's capital investment and profits were lower compared to men's, mainly due to differences in these factors. The study highlights the need for policies to support women-owned SSFBs, including the establishment of self-help groups to provide opportunities for networking and support. The study calls for programmes to boost the growth of women's SSFBs, addressing the challenges and constraints they face. The results emphasize the importance of promoting entrepreneurship and job creation, particularly among women, to drive economic growth in Mwanza Region.

Keywords: *Small-scale fish business, Business growth, gendered factors, Tanzania*

3.2 Introduction

Globally, women are reported to possess strong desires, qualities, and capabilities necessary for their strong business development (Khan, 2021). Due to such traits, the world is experiencing a massive explosion of women entering the business world (UN, 2020). These tremendous changes record women's strong movement from conventional businesses, which tie them into their traditional roles in the family such as vegetable and food vending, caring for the elderly and the sick, and venture into "unconventional" or previously male-dominated businesses such as digital media, automation, and transportation, to mention but a few (OSISA, 2018). However, since business activities are embedded in a social context, women-owned businesses have traditionally faced significant barriers in their creation and growth (Bastida, 2021). In a study by the World Bank (2018), women-owned businesses are reported to

have weaker economic performance and are characterized by smaller coverage, less profit, a slow level of growth, and higher closure rates.

Women-owned businesses in developing countries generate less employment growth than those owned by their male counterparts (World Bank, 2018). This argument is supported by Farrell *et al.* (2019), who found that women start businesses that have lower revenues and grow more slowly than those started by men. Although there is no single metric used to measure growth, several data points can be highlighted to show whether a certain business is growing or not. For Osoro (2012), business growth can be measured in terms of increased profitability, sales volume, improved standards of living, access to loans, the creation of employment, wealth maximization and expansion of businesses through the opening of new branches, value addition, and improved social responsibility. According to Acts (2022), business growth is measured by important aspects such as revenue, sales, business values, profits, number of employees, and number of customers. Alharbi and Al-Ashaab (2020) measure business growth in terms of human capital, knowledge, business relationships, social involvement, and social responsibilities.

Fish trading and marketing are among rapidly growing business opportunities in which the majority of women and men are self-employed as their major source of food and livelihood in the Coastal and Lake Zones of Tanzania (URT, 2017; Sambuo *et al.*, 2018; TIC, 2019; Sibeyo, 2020; Thomas *et al.*, 2021). Women represent around half of those working in the small-scale fisheries sector, particularly in post-harvest activities such as processing and marketing (FAO, 2020). This is because small-scale fish businesses are acknowledged by scholars to play significant roles in household food security, nutrition, and women's economic empowerment (USAID, 2018; FAO, 2020; IFAD, 2020; Ogbu *et al.*, 2020). According to these authors, women enter the business because it requires lower

capital and is a quick source of income when compared with other businesses (USAID, 2019; FAO, 2020; IFAD, 2020; Ogbu *et al.*, 2020). Literature has acknowledged the significant contribution of women-owned businesses to the economic development of sub-Saharan Africa, including Tanzania (Kapinga and Montero, 2017; Lindvert, 2017; World Bank, 2018; ADB, 2019; Said and Enslin, 2020). Nevertheless, despite high representation of women in small scale businesses and their significant contributions to the economic development in SSA, studies conducted by World Bank (2018), Said and Enslin (2020) and Bastida (2021) have warned that women's owned businesses are prone to different factors that hinder their growth. This allegation calls for more empirical evidence from different angles on women's businesses, particularly small-scale fish businesses, in order to understand the nature of the business, its growth prospects, and factors that influence its growth in Nyamagana and Ilemela District, Mwanza Region.

Women engaging in different small-scale businesses are often disadvantaged and do not have the same opportunities as men because their efforts to grow and expand their businesses are constrained by different factors such as low access to credit facilities, a poor transportation network, a lack of access to resources, and unequal power relations in decision-making (Locke *et al.*, 2017; Harper *et al.*, 2020; FAO, 2020). Studies by the World Bank (2018), Kikula (2018) and Mashenene (2020) found that, when women are compared with their male counterparts, women's small-scale business development is reported to be affected by multiple factors such as lack of capital, unreliable markets, and socio-cultural factors, which include poor societal attitudes and a lack of support from the family (Khan *et al.*, 2021). It is also reported that women have limited access to business information, a lack of financial management and control skills, and limited access to credit services (World Bank Group, 2021).

Based on the views of Egg (2015), Luomba (2019), Morris *et al.* (2020), Chumbula (2020), Pallangyo (2021) and Popal and Langley (2021); it is clear that geographic location, the types of business that women choose, the amount of capital invested, and socio-economic and cultural set-ups are limiting factors for women's business development. And the fact that women-owned businesses not only face different risk factors that stymie their growth (World Bank (2018), Nkwabi and Mboya (2019), Said and Enslin (2020), Alharbi and Al-Ashaab (2020), Bastida (2021), Sendra-Pons *et al.* (2022); the businesses also have lower revenues and grow at a slower rate. It was critical to conduct this research in the Lake Zone, where fishing employs the majority of women and men, to understand the nature and type of small-scale fish business, the type of fish sold, business growth prospects, and limiting factors. Specifically, this study was conducted in Nyamagana and Ilemela Districts because there is still a lack of consensus on the nature and types of women's small-scale fish business, the type of fish sold, and factors affecting women's small-scale fish business growth, measured by daily profit obtained.

A study conducted by Szymkowiak (2020) in Europe and North America shows that when women enter fisheries, they continue to face substantial barriers to direct harvesting engagement, including superstitions about them as bad luck on boats, stereotypes about their physical abilities, and harassment. Now the question was, "What happens in developing countries, including Tanzania, when women enter small-scale fish businesses?" To answer this question, the study took into account the geographical location of Ilemela and Nyamagana Districts on the shores of Lake Victoria to understand the nature of SSFB and the types of SSFB that women are likely to engage in, the socio-economic and cultural set up in relation to the type of fish sold and their customers, and the amount of capital that women invest in the business to determine their business growth prospects and the limiting factors in the study area.

3.3 Conceptualization of the Factors Influencing Small-Scale Fish Business Growth

This study was conceptualized based on the fact that factors such as marital status, type of customers, capital, household size, processing and selling method, membership in self-help groups, geographical location, age, education level, ethnicity, access to the market, business skills, business experience, access to storage facilities, and type of marriage have the probability of affecting the growth of small-scale fish businesses. The assumptions in the conceptual framework were that socio-economic characteristics such as age, education level, marital status, type of marriage, and ethnicity determine individuals' capacities to engage in SSFB depending on the cultural setting from which they come. For example, according to a study by Farrell *et al.* (2019), gender, age, and location are key attributes for women's business growth. It was further expected that independent variables such as access to marketing information, access to credit services, education and training, business skills and experiences, storage facilities, and membership in self-help groups would have influence on the dependent variable (business growth), measured in profit obtained by an individual in Tanzanian shillings, which is a continuous variable. Therefore, this study provides empirical evidence for both policy makers and practitioners in the sector for them to understand the nature of small-scale fish businesses in the study area, available women-owned small-scale fish businesses' growth prospects, and the types of factors influencing their business growth in Mwanza Region.

3.4 Methodology

3.4.1 Research area and research design

The study was conducted in Ilemela and Nyamagana Districts, Mwanza Region. The study area was purposefully selected because Lake Victoria is the world's largest tropical lake with more than 500 fish species and employs over 90% of the world's capture fishers and fish workers, about half of whom are women (EMDO, 2017).

Furthermore, women play an important role in the fishing sub-sector in the study area and represent 70%–80% of fish workers (URT, 2020). The study employed a cross-sectional research design, which entails the collection of data on more than one case at a single point in time. Simple and proportionate stratified sampling techniques were used to select 309 women and men participating in small-scale fish businesses. Simple stratified sampling was used because the selected respondents had similar characteristics of participating in small-scale fish business, and proportionate stratified sampling was used because of distinct characteristics among men and women and the market places where fish businesses take place. The technique was used to ensure sufficient, consistent, and unbiased estimators (Gupta and Kapoor, 2012) to make inferences on the population from which the sample was selected.

3.4.2 Sampling procedure and sample size

The sample size was calculated using the proportional allocation formula that was adjusted for an infinite population (Kothari, 2004). The formula was used since the list of participants (N) in small-scale fish business was not known or not available as observed from the study area, but participants were there; hence, the researcher decided to use a minimum probability of selecting participants ($p = 0.28$), with the margin of error (e) = 0.05 and the level of significance $z = 1.96$. The formula was as follows:

$$n = \frac{z^2 * pq}{e^2} = \frac{(1.96)^2 * 0.28 * (1 - 0.28)}{0.05^2} = 309.$$

This sample size was used only for the questionnaire based survey.

3.4.3 Data collection

A questionnaire with both closed and open-ended questions was improved and administered to 309 respondents (199 women and 110 men) using face-to-face interviews. Focus Group Discussions (FGD), Key Informant Interviews (KII), as well as personal observation, were employed in each ward to complement the information gathered through the questionnaire. The selection of key informants considered people with experience in the fish business.

Six (6) FGDs, each comprising 8-10 participants, were conducted. Two (2) of the FGDs comprising both women and men were conducted in two wards based on the availability of small-scale fish markets. The other 2 FGDs were conducted in the two districts involving separate women and men that is 2 for women and 2 for men to avoid sex bias and traditional customs that might restrict one sex members to give opinions before the other sex members. The rationale for using a mixed-methods approach was based on its major advantages of neutralizing the biases of a single method and allowing for complementation and triangulation of different approaches for data collection on the same variables (Creswell, 2003; Glazier and Powel, 1992).

3.4.4 Data analysis

Multiple linear regression was used to estimate factors contributing to the growth of small-scale fish business. The model was used because the dependent variable was business profit, measured in Tanzanian shillings, which was a continuous variable. The predictor variables from the conceptual framework and the questionnaire, such as marital status, daily capital, small-scale fish business experience, access to fish markets, access to credit, and others, were stepwise regressed with a 0.1 to 0.9 probability of removing collinearity predictors of responses (Table 3.2). Profitability growth was measured in this study by the amount of income earned per day as reported by the respondents. According to Peng *et al.* (2020), there is no single indicator used to measure the growth and performance of small businesses; growth and performance indicators might include profitability, financial condition, results of products, and the number of customers and sales. The study results, as shown in Table 3.1, reveal the amount of profit earned per day among businessmen and women in the study area.

Furthermore, the Chi-square test was used to assess factors associated with SSFB by gender, such as marital status, self-help group membership, storage facilities, and type of customers (Table

3.3). And the independent sample T-test was used to compare factors (experience and daily capital) influencing business profitability by gender (Table 3.4). If the T-test is significant such that a p-value less than 0.5 indicate that the mean difference between men and women participating in SSFB is enough to be regarded as a gendered factor in business profitability.

Qualitative information was analysed using content analysis, whereby different data gathered in the field were placed into specific themes of the study, which helped generate meaning. The themes for content analysis revolved around the specific objectives of the study, including the respondents' knowledge on the nature of small-scale fish businesses in the area, women-owned small-scale fish businesses' growth prospects, and the types of factors influencing business growth.

The equation of a linear regression model was specified as:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \dots + \beta_j X_j + \varepsilon_i \dots\dots\dots 1$$

1. Y_i is a continuous response variable (daily profit) of each the i^{th} observation, $i = 1, 2 \dots 309$
2. $X_1 \rightarrow X_j$ Are the j^{th} predictors, $j = 1, 2, 3 \dots p$ and p are a number of predictors.
3. $\beta_0 \rightarrow \beta_j$ Are the j^{th} unstandardized parameter estimates of j^{th} predictors.
4. ε_i is an i^{th} residual of each $i = 1, 2 \dots 309$.

Where:

X_1 : Respondent's age (in years)

X_2 : Education Level (number of years spent on schooling)

X_3 : Household size (number of household members)

X_4 : Marital status (1 = married, 0 = single)

X_5 : Access to information (1 = yes, 0 = no)

X_6 : Access to credit services (1 = yes, 0 = no)

X_7 : Business skills (1 = yes, 0 = no)

X_8 : SSFB experience (1 = yes, 0 = no)

X_9 : Storage facilities (1 = yes, 0 = no)

X₁₀: Self-help groups (1 = yes, 0 = no)

X₁₁: Type of customer (1 = Individual only, 0 = Individual and hotels/restaurants)

3.5 Results and Discussions

3.5.1 Nature of small-scale fish business done in the research area

3.5.1.1 Fish types commonly sold in the research area

The study results in Figure 3.1 show the types of fish available and regularly sold at market places and the customers' preferences. The common types of fish sold at market places were the Nile perch (*Lates niloticus*), which is known as *Sangara* in Kiswahili by (113 women and 72 men), followed by tilapia (*Oreochromis aureus*), which is known as *Sato* in Kiswahili by (91 women and 63 men), Sardines (*Sardina pilchardus*), which is known as *dagaa* in Kiswahili by (95 women and 38 men), catfish (*Siluriformes spp.*), which is known as *kambale* in Kiswahili, and marbled lungfish (*Protopterus aethiopicus*), which is known as *kamongo* in Kiswahili.

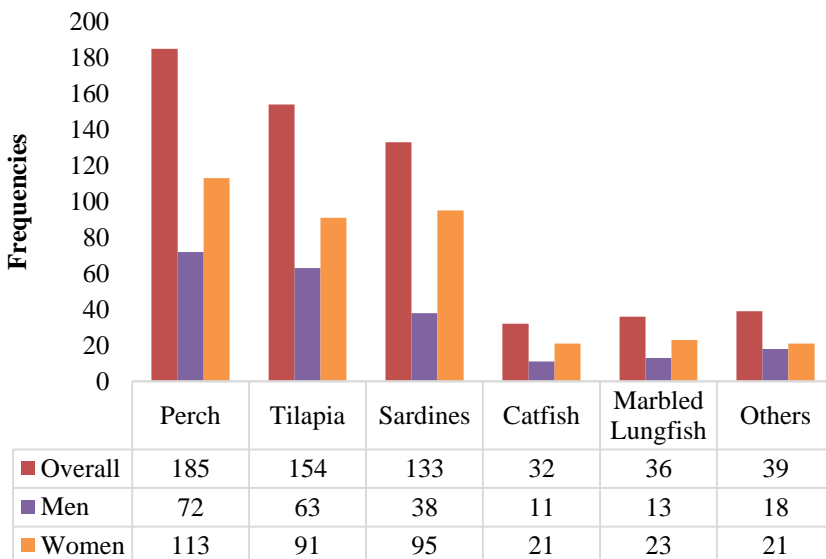


Figure 3.1: Fish types commonly sold in the area

It was also found that sardines are more commonly sold by women than by men, whereas tilapia is more commonly sold by men than by women. These results are contrary to those by Murphy *et al.* (2020) who found that in Egypt, higher proportions of women sold tilapia and catfish than men. Other fish types included catfish, marbled lungfish, and others, which were almost equally sold by both men and women. Retailers sold their fresh fish to local hotels, restaurants, and individual consumers. Women's participation in traditional retailing was high in most fish market places in Ilemela and Nyamagana Districts in Mwanza Region.

3.5.1.2 Fish Preservation methods

The findings showed that the majority of the small-scale fish business participants in the area preferred deep frying and cold storage as methods of preservation, especially for the remaining unsold fresh fish. During an FGD, the participants had the following to say:

The methods allow remaining fresh fish to be sold either fried, in cold storage in containers using ice because there is no access to electricity at the market areas, or by sun drying, particularly for sardines, and in smoke storage for Nile perch. Due to its quick spoilage when exposed to heat and other environmental conditions, proper fish preservation is a vital practice in the fish business (FGD, Busweru Market, January, 2022).

3.5.2 Constraints to women's and men's small-scale fish businesses in the study area

The findings showed that lack of enough capital was the biggest constraint to small-scale fish businessmen and women. The number of women with a lack of capital was generally higher as compared to that of men (Fig. 3.2). Poor working conditions were a challenge for men and women in the business, and the situation showed that working conditions were a greater problem for men compared to women.

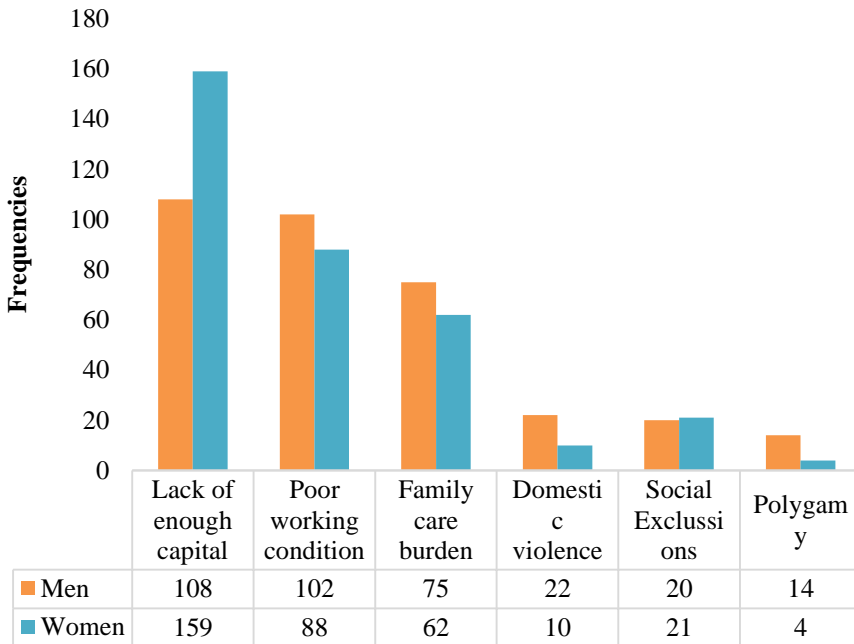


Figure 3.2: Constraints in Small-Scale Fish Business

As the results show, men as heads of families and women as mothers and nurturers had different responsibilities in families; women's responsibilities as mothers and nurturers were heavier compared to their business responsibilities. These findings imply that within fishing communities, men are more responsible for family care than women, which could be due to the fact that they link family care with the provision of family needs, which is the responsibility of men in the Lake Zone. Findings from the FGDs indicated that:

When the majority of married women gain financial independence, they display arrogance and violence to their husbands, forcing their husbands to bar them from doing fish business ... If a woman is forced to participate in the business, men are not ready to accept such acts, and marriage breaks up (FGD, Igoma Market, 26th January, 2022).

The principle roles of women in small-scale fish business are daily household work, child care, shopping for daily necessities, meal preparation, facilitating young ones' education, and elderly care. The woman's roles are critical for the social wellbeing of families, and an unpaid woman's services are not measured in financial terms and are not fully acknowledged in families and communities in general. According to Murphy *et al.* (2020), women's burden of unpaid household work and insufficient support continue to place women at lower levels of income contribution at the household level.

3.5.3 Determinants of small-scale fish business profit in the study area

3.5.3.1 General factors influencing women's and men's small-scale fish businesses

To determine the extent to which each various factors affected business profit, a multiple regression model was estimated. The results in Table 3.1 indicate that six variables statistically significantly influenced profit in the small-scale fish business. These were marital status, self-help groups, type of customers, small-scale fish business experience, storage facilities, and daily capital invested in the business. However, three variables were negatively correlated with the amount of profit obtained per day, while the other three variables were positively correlated with the profit obtained. Separated marriage had a significant and negative influence on the amount of profit individual women obtained per day as compared to men. This means that where women and men are engaged in business without support from each other the probability of obtaining a good profit decreases. This scenario may be due to the fact that the amount of capital invested per day may be small and some money may be spent on family needs before buying fish for sale. For example, during a KI discussion, one woman said:

"Look, my capital is only for one tin¹ of sardines per day, and the expected profit is very little." So, how can I make a good

¹ A tin is a container made of tin which is commonly used to measure amounts of liquid and non-liquid items; when it is full, it is equivalent to 20 litres of water.

profit from such a business?” (KI, Buswelu Market, January 26, 2022)

Table 3.1: Factors influencing women’s and men’s small scale fish business Profit

Earnings	Coef.	Std. Err.	t	P>t	[95%Conf. Interval]	Sig.
Marital status						
Married	-37 732.6	35 980.4	-1.1	0.296	-108 787.0 33 321.7	
Otherwise	-73 926.6	43 668.9	-1.7	0.092	-160 164.4 12 311.1	*
SSFB experience	2 647.1	1 194.9	2.2	0.028	287.3 5 006.9	**
Access to fish markets	11 160.4	19 989.9	0.6	0.577	-28 315.9 50 636.7	
Daily capital in SSFB	.154	.024	6.36	0.0001	.106 .202	***
Type of customers (Individual vs Hotels)	-138 558.1	40 398.4	-3.4	0.001	-218 337.2 -58 779.0	***
Storage facilities	734 32.5	31 487.4	2.3	0.021	11 250.9 135 614.1	**
Mode of operation (Full time Vs Occasional)	691 08.1	128 726.3	0.5	0.592	-185 101.8 323 317.9	
SSFB self-help groups (Member vs non-member)	-46 180.9	20 592.4	-2.2	0.026	-86 846.9 -5 514.9	**
Access to any source of credit/loan	-20 072.9	20 264.1	-1.0	0.323	-60 090.7 19 944.9	
Constant	106 507.3	59 004.7	1.8	0.072	-9 798.6 221 775.0	*
R-squared	0.674	Number of obs				213
F-test	41.741	Prob > F				0.000

The results showed that experience was significant, and it positively influenced the amount of business profit obtained per day. That is, a person with long-term experience participating in the small-scale fish business would lead business owners to be knowledgeable about the business, risks, and opportunities. This result concurs with that of Peng *et al.* (2020), which showed that, through the absorption and reflection of previous experience, entrepreneurs can improve their entrepreneurial opportunity recognition ability, entrepreneurial knowledge level, and entrepreneurial performance. Previous studies have shown that business experience is essential to tactical achievements not only during the entrepreneurs’ subsequent career lives but also for the long-term development of the entrepreneurial enterprises (Haley and Marsh, 2021). On January 25, 2022, at Relini Market Place in Nyamagana, one senior key informant who was

experienced in the fish business, aged 69, had the following argument:

“We have experience on how to sell and make a profit. If you see a fish of a certain size, you know what amount to buy and sell in order to at least get a little profit; otherwise, the capital will be depleted.” (KI, Relini market, January 2022)

With regard to capital, this study found that it was highly significant ($p = 0.000$) and had a positive influence on the profit of a fish business (Table 3.2). The implication is that the more capital that one invests in business, the higher the expected profit, and vice versa. The implication of capital on business performance has been widely acknowledged by a number of authors (Cesinger *et al.*, 2018; Alharbi and Al-Ashaab, 2020; Ha *et al.*, 2022), who found that capital is among the key characteristics with a positive impact on business development. During an FGD, the participants agreed as indicated in the quote below:

“The sustainability of our business is determined by working capital and access to credit facilities to sustain and expand the business ... It is not always easy for a business to make a lot of money and grow with little capital” (FGD, Igoma ward, January 2022).

Self-help groups had a significant and negative influence on the profit of a fish business (Table 3.2). However, different from other studies, in this study, men were found to be more engaged in the self-help groups than women. The reason behind that situation may be that the fish business requires more time early in the morning and late at night, which in itself is a challenge for women when combined with household chores, making it difficult for them to get other time for attending group meetings like men could. These results are contrary to findings by Anand *et al.* (2020), who reported that women’s participation in self-help groups, collective action, and other institutions are key enablers of business development, gender equity, and the reform of oppressive norms and practices.

According to the findings of the study, type of customer had a negative impact on profit, implying that fish businesses with mixed customers (individuals and hotels) had a greater potential for profit making due to market reliability and a larger scale of profit accumulation than businesses with only individual customers. Moreau and Garaway (2021) argue that type of customer has an impact on business profit because the more positive a customer's experience in service, the more beneficial the impacts are on their businesses. In one of the FGDs, participants stated that:

Many times, the customers you already have are your best reward for increasing your sales (FGD, Nyamagana ward, January 2022).

3.5.3.2 Gendered factors associated with small-scale fish business

The independent samples T-test and chi-square test were used in this study to determine the relationship between profit-influencing factors and gender. For this study, gender means women and men engaging in small-scale fish business. The chi-square results presented in Table 3.2 reveal that three variables (marital status, self-help groups, and type of customer) were significantly associated with gender. It shows that separation was highly significant ($p = 0.000$), positively associated with women, and that 14% of women were separated compared to 3% of men. The implication is that women are victims of separation and are not doing well because they are burdened by reproductive responsibilities related to household and child care without division of labour and many other responsibilities in society that men do not necessarily face. This scenario, according to Table 3.2, leads to a decrease in profit among women, meaning that, for women, engaging in business without support from husbands decreases their probability of obtaining a good profit. This scenario may also be due to the fact that the amount of capital invested per day by such a woman is very little because she has to spend some money on family needs before

buying fish for sale. This was further expressed by participants in a focus group discussion as follows:

Women have family responsibilities, which sometimes prevent them from arriving early at the business areas and missing fish for selling (FGD, Nyamagana ward, January 2022).

These findings are consistent with those by Haley and Marsh (2021), who found that the difficulty in balancing productive (income generation) with reproductive (housework) tasks, based on gender-restrictive social norms, was identified as a persistent constraint to women to participate fully in business.

Table 3.2: Chi-square test for Gendered factors associated with small-scale fish business profits

Characteristics	Categories	Female		Male		Chi-squared	P-value	Average Profit	
		n	%	n	%			Female	Male
Marital status	Single	17	9	2	2	29.797	.000*	92313	69870
	Married	13	6	8	7			62300	85118
	Separated	1	7	7	7			28071	65667
	Widowed	28	4	3	3			49150	N.A
Self-help groups	No	20	1	0	0	2.831	0.092	51163	90257
	Yes	80	4	3	3			63956	77368
Storage facilities	No	11	5	7	6	0.369	0.543	30375	50250
	Yes	4	9	6	8			49942	64036
Type of customers	Hotels/restaurants	24	1	1	1	6.527	.011*	287471	121095
	Individuals	17	9	9	8			36486	72178

Table 3.3: T-test results to compare experience and daily capital between women and men in small-scale fish business.

Characteristics	Categories	n	Mean	t-value	P-value
Experience	Male	113	12.19	2.183	0.03
	Female	195	9.67		
Daily capital	Male	111	437171.2	1.665	0.097
	Female	195	360145.1		

Furthermore, Adam *et al.* (2021) argue that, even in the same roles, profit gaps between men and women fish retailers persist. This is because of gender norms and relations that constrain mobility and time use, which are likely to increase the labour burden and contribute to women receiving low economic returns. Therefore, the evidence of the study provides confirmation that female entrepreneurs face more difficulties than male entrepreneurs in upgrading their business growth. Furthermore, during one of the key informant interviews, it was reported that:

“Women have dual, i.e., domestic and productive, responsibilities which limit both their ability to accumulate capital and experience and their opportunities to travel, network, and access more profitable markets” (KI fishing officer, Nyamagana ward, January 2022).

Results further revealed that men were likely to dominate more customers who are hotel owners and restaurants and individuals than women were, and this had a significant influence on the amount of profit made when compared with the majority of women who only depended on individual customers (Table 3.3). In the same vein, results from an independent sample T-test revealed that men are more experienced in the fish business than women and, at the same time, men invest more capital (437 171.2) than women (360 145.1), and this scenario, according to the results in Table 3.2, brought men more profit than women. The results in Table 3.3 imply that women’s engagement in small-scale fish business will continue

to serve them for subsistence income for a long time because the probability of their business growth prospects is constrained by many factors that are embedded in the household and business environment as well.

3.6 Conclusions and Recommendations

According to the study findings, women make up the majority of small-scale fish business participants and owners. However, based on the three specific objectives considered in this study, the following gendered conclusion can be made: A slight difference between women and men engaging in the SSFB was observed in the nature and type of fish sold. It is concluded that sardines are sold by a greater proportion of women than men in all the market areas studied: open market and hawking. This situation may be due to the nature of this type of fish, which requires not only small and large capital but is also easy to process and sell without necessarily having expensive storage facilities. This is because women can buy small amounts of sardines, like sardines which fill up a tin, and sell them anywhere because, even if the fish remains, they have the ability to stay longer without rotting when compared with other types of fish.

The study further concludes that socio-economic and cultural settings determine the type of fish that both women and men sell in the study area. Results from the study revealed that the amount of capital one has, marital status, ability, and opportunity to access fish on time from fishermen, and the attitude of men towards women's engagement in the business differentiate the types of fish sold by women and men in the study area. Married women, for example, experienced their husbands' movement restrictions, which prevented them from accessing quality fresh fish at a low price because they arrived late at the landing site, so they opted for either poor quality fresh fish that required frying before selling or sardines, which allowed sun drying for selling at any time.

The study generally concludes that men have a greater comparative advantage and capacity to overcome all risk factors affecting SSFB growth when compared to women, based on their geographical location, socio-economic, and cultural set up, as well as the amount of capital they can invest in the business on a daily basis. Thus, the study concludes that women's small-scale fish business growth is influenced by different factors, namely marital status, daily capital, business experience, type of customers, and self-help groups. This is because women are in more disadvantaged positions due to socio-economic factors and gendered factors, all of which were found to negatively affect their business growth. As a result, based on the study findings, the study makes policy recommendations to policymakers to design programmes that encourage women's business growth in the study area. To achieve this, gender activists need to work in collaboration with the government to establish women's small-scale fish business groups that will serve as a platform for women to share their business experiences. Nevertheless, all efforts made should involve fisheries officers, community development workers, and men working in the same field to create an inclusion strategy in the fish business development strategies.

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CHAPTER FOUR

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

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4.1 Abstract

This paper examines the contribution of small-scale fish business (SSFB) to women's empowerment in Mwanza Region, Tanzania, using a cross-sectional research design. Purposive sampling was employed to select Ilemela and Nyamagana Districts, wards and fish markets from which 309 respondents were sampled using the proportion allocation formula. Women's empowerment index and Ordinal regression were employed for data analysis. Five indicators of women's empowerment were used, namely participation in household decision making, control over permanent assets, women's economic contribution to household, freedom of movement and political autonomy. Results based on the Women's Empowerment Index (WEI) showed a medium level of empowerment among women participating in small-scale fish

business. However, among the five indicators of women's empowerment levels, women were found to have a higher level of empowerment on two indicators namely participation in household decision making and freedom of movement, with medium level on political autonomy and low level in control over assets. Results of ordinal regression showed that type of marriage, contributing to family income and accesses to resources were important predictors of women's empowerment ($p < 0.05$) in the study area. Based on these findings, the study concludes that small-scale fish business contributes to medium levels of empowerment on control over permanent assets, contributing to household income and political autonomy, while higher levels of empowerment are evident on the aspects of women participation in household decision making and freedom of movement. Therefore, to achieve holistic empowerment of women in SSFB, the study recommends to policy makers and gender activists to develop policies and programmes that challenge gender norms that perpetuate gender inequalities. This will promote sustainable women's empowerment on all the five indicators in the study area.

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

4.2 Introduction

4.2.1 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 Illemela and Nyamagana Districts? (ii) What are the key factors that influence such level of empowerment?

4.2.2 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.

4.2.3 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.

4.3 Methodology

4.3.1 Description of the study area and research design

The study was conducted in Illemla 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.

4.3.2 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.

4.3.3 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:

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

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

ε_i = Residuals

Table 4.1: Variable description and measurement

Variables	Type and definition	Measurement	Expected sign
<u>Dependent variable:</u> Women empowerment in SSFB	Categorical (0 = Low, 1 = Medium, 2 = High)	Ordinal scale	+
<u>Explanatory variables:</u>			
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	-

4.4 Results and Discussion

4.4.1 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 4.3). 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.

4.4.1.1 Decision making on gender issues

The results in Table 4.2 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 4.2: 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

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.

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.

Table 4.3: 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

4.4.1.2 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).

4.4.1.3 Women's economic contribution to household

The low level of women's economic contribution to their households, as shown in Table 4.3 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).

4.4.1.4 Freedom of movement

The study findings, as shown in Table 4.3, 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).

4.4.1.5 Political autonomy

The results presented in Table 4.3 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.

4.4.2 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 4.3). 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.

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.

Table 4.4: 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
	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			
Location (slopes)	[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 likelihood = 300.313, final model -2 loglikelihood = 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

4.5 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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CHAPTER FIVE

5.0 GENDER DYNAMICS AND CLIMATE VARIABILITY IN SMALL-SCALE FISH BUSINESS: A CASE OF MWANZA REGION, TANZANIA

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5.1 Abstract

Small-scale fish businesses in Mwanza, Tanzania are crucial to the local economy, providing livelihoods and ensuring food security. However, the impacts of climate variability on gender dynamics often marginalize women in this sector, due to prevailing norms and power imbalances. This study explores how climate variability affects gender dynamics in the sector; Strategies employed by women to adapt to climate change and, how can gender-sensitive interventions enhance the resilience of small-scale fish businesses in the face of climate change. The study adopts a feminist theory framework to understand gender roles and power dynamics in shaping various social, economic, and political outcomes and Socio-ecological systems framework to analyze complex interactions between human societies and the environment. Qualitative research methods, such as interviews, focus group discussions, observation, are employed, with data analyzed thematically and discursively. The study found that climate variability affects existing gender dynamics by

exacerbating women's difficulties in accessing fish resources and creates opportunities for women to take new roles and responsibilities. The study shows that women employ different strategies such as enhancing resourcefulness and diversifying income-generating activities. The study found that gender-sensitive intervention enhance the resilience of small-scale fish businesses by promoting access to climate change information; capacity-building programs on climate-smart fishing techniques, sustainable resources management and access to financial credits. The study concludes that, climate variability exacerbates gender inequalities in the sector and recommends to policymakers, stakeholders, and relevant institutions to take responsibility for implementing gender-sensitive interventions like climate information, training, and financial support to women.

Keywords: *Gender dynamics, climate variability, small-scale fish business, Tanzania*

5.2 Introduction

For many decades, women have been marginalized and experiencing challenges due to prevailing gender norms and power relations within fisheries sector. Gender dynamics play a critical role in small-scale fisheries, with women often being marginalized in all process of decision-making processes and facing specific challenges related to gender norms and power relations. Crona *et al.* (2019) argue that women in small-scale fisheries often face barriers to accessing resources, markets, and decision-making spaces, which tend to limit their economic and social empowerment.

Gender dynamics in this study refers to the ways in which socio-cultural ideas about gender and the power relationships that define them shape and are shaped by climate variability in the context of small-scale fish businesses in Mwanza, Tanzania. It is frequently reported that traditional gender norms tend to restrict women's participation in decision-making processes (Harris *et al.*, 2019), limit

women's access to finance and technology (McDougall *et al.*, 2020), and confine women to lower-income activities within the lower part of fish value chain (Ratner *et al.*, 2021). This trend has made the government and gender activists to call for the need to develop a more systematic and rigorous gender responsive policies and strategies to better understand, improve, and substantiate women's socio-economic improvement and empowerment. The trend indicates that, there is relatively less focus on the research to explore the challenges facing small-scale fish business.

The current climate variability which is reported to have negative effects on fishing communities seems to affect more women than men. This impedes the interventions for gender equality and women empowerment (FAO, 2020). The impacts of climate change variability on women's and men's livelihoods differ significantly. Gopal *et al.* (2020) has reported that women face multiple setbacks as they engage in fish business or seaweed farming, they always experience inequalities, low yields, lack of appropriate technology, economic inefficiencies, and social and cultural constraints. In this ground, climate change impacts are likely to change livelihoods, gender roles and gender hierarchies resulting in socio-economic changes on women and men.

Other negative impacts of climate change include changes in regular resource conflicts between women and men, high migration of fishing communities which impact not only the marriage sustainability but also loss of contact with support networks (Du Preez, 2018). It has been reported by Ainsworth and Pitcher (2020) and O'Reilly *et al.* (2021) that women engaged in fisheries industry face significant challenges due to unequal power relations, which translate into limited access to resources, and the increasing vulnerability to climate change impacts. Climate change-related factors such as unpredictable weather patterns, declining fish stocks, and environmental degradation disproportionately affect

women's livelihoods and their ability to adapt the adaptation mechanism (Cinner *et al.*, 2022; de la Torre-Castro *et al.*, 2020).

Small-scale fish businesses as sub-sector in the fisheries play a vital role to the economies of communities, providing livelihoods, food security and women empowerment in Mwanza region of Tanzania. International and government stakeholders (FAO, 2020; IFAD, 2020; URT, 2020) further report that, both women and men play a significant role in the business (Issa, 2023). It is important to understand whether the ongoing changes in climate change impacts the actors in the fisheries sector in the same way or differently. This is because, women often face challenges related to gender norms and power dynamics than their male counterparts. It is therefore, vital to understand how these impacts of climate change exacerbate the existing inequalities and vulnerabilities facing women within small-scale fish business.

It has been reported (Mgale and Nikusekela, 2017) that in Mwanza Region there is a decline of fish stock caused by climate change. These impacts on the household that depend on the income obtained from fishing activities. In such circumstances women as opposed to their men counterparts always earn less, and have lower access to resources, and remain underrepresented in all spheres of human livelihood activities (UNDP and UNICEF, 2021).

It has frequently been reported that climate variability may have negative impact on fisheries and fishing communities' livelihood (Mgale and Nikusekela, 2017; Crona *et al.*, 2019; FAO, 2020). However, there is lack of consensus on evidence of that linkage, how climate variability impacts gender dynamics among small-scale fish businesses, and types of strategies employed by women to adapt to climate change as well as resilience of small-scale fish businesses in the of climate variability. By doing so, local communities, national and international development actors will be informed on gender dynamics and climate resilience within small-

scale fish businesses in Mwanza Region of Tanzania. The study further informs on the existing interplay between gender dynamics, climate variability, and adaptation strategies which are essential for promoting gender equality and building resilience in this fishing sub-sector.

5.2.1 Theoretical Framework

This study was guided by two important theories namely the Feminist Theory Framework which emerged from the work of several influential thinkers and activists throughout history, but is more linked with the prominent figure, De Beauvoir (1949), and the Socio-ecological Framework developed by Ostrom (1990) to understand how the interaction between gender dynamics, climate variability, and adaptation strategies affects women's efforts to achieve gender equality and their empowerment through their participation in the small-scale fish business in Mwanza Region, Tanzania. The Feminist Theory is rooted in the recognition that gender is a socially constructed concept, and that societal expectations and norms surrounding gender influence individuals' opportunities, behaviour, and outcomes. This view of feminists holds water as it is significant to apply the theory to understand the existing gender roles and power dynamics in the society, and how they impact social, economic, and political outcomes of small-scale fish business actors especially women. This study used the theory to explain women's vulnerability and resilience, access to resources and opportunities, gender roles and their influence on economic activities as well as power imbalances and their impact on decision-making processes in the face of climate change within the small-scale fish businesses.

A study by Huyer and Twigg (2019) revealed that gender inequalities exacerbate the impact of climate change on vulnerable communities. This means, climate change impacts can be understood by analysis of communities' available opportunities, how they behave and the outcomes they receive from their day to day activities, fish business

in particular for this study. In the view of Huyer and Twigg, understanding the impacts of climate change on livelihood activities of individuals requires gender-sensitive interventions which are essential for building resilience. This view is supported by Zahedi *et al.* (2020) who advocates for the need of developing gender-sensitive climate adaptation policies that consider specific challenges faced by women in the context of climate change.

The study extends on the social-ecological systems framework by Ostrom (1990) to analyse the interactions between human societies and the natural environment, and how they influence each other over time. Women, as part of the society, need to be understood on how they cope with the changes in gender roles vis-à-vis the impact of climate on their environment. Researchers like Folke *et al.* (2019), emphasise on the importance of understanding the complex relationships between social and ecological systems in the context of climate change, and how these relationships can inform adaptive strategies. Thus, these theoretical frameworks provide a foundation for understanding the gender dynamics and climate resilience of small-scale fish businesses in Mwanza Region, Tanzania. Oteros-Rozas *et al.* (2020) highlight the need for a holistic approach to climate adaptation that considers the social and ecological dimensions of vulnerability. Results from this study inform the development of gender-sensitive policies and interventions that enhance their resilience to climate change.

5.2.2 Conceptualization of the Study

The conceptualization of this study is based on the two theoretical frameworks to understand how climate variability influences gender dynamics, business opportunities, behaviour of key actors in the sector and access to fish resources in Mwanza Region. The feminist theory emphasizes the importance of understanding gender roles and power dynamics within the society and how they impact social, economic, and political outcomes. Based on this fact, the study used the theory to understand how women's opportunities such as access

to fish resources are influenced by the advent of climate variability and whether they have alternative livelihoods. The study also examined how women interact with other business actors and maintain their behaviour despite the abrupt changes in their day to day activities. The feminist theory emphasizes on the need for understanding women's vulnerability and resilience as they develop different coping strategies for climate adaptation.

The study further extends on the socio-ecological systems framework to analyse the interactions between human societies and the natural environment and how they influence each other over time. For this study, the framework helps to explain how actors in the small-scale fish businesses may experience environmental challenges such as changing fish stocks and extreme weather events, examining how gender intersects with other factors like market environment and business networks in order to identify how certain groups, particularly women, may face heightened vulnerabilities.

5.3 Methodology

5.3.1 The study Areas and Scope

The study was conducted in Ilemela and Nyamagana Districts, Mwanza Region, which is located on the southern shores of Lake Victoria. The region has a large population of small-scale fishers, and the fishing industry which plays a significant role in the local economy. The study area was purposively selected because Lake Victoria is the world's largest tropical lake with more than 500 fish species and employs over 90 per cent of the world's capture fishers and fish workers, about half of whom are women (EMDO, 2017). Furthermore, women play an important role in the fishing sector in the study area and represent 70% to 80% of fish personnel in post-harvest and related activities (URT, 2020).

5.3.2 Study Design and Data Sources

The study employed a qualitative cross-sectional research design to provide a comprehensive understanding of the experiences and perspectives of small-scale fish business owners, particularly women. By utilizing a combination of interviews, focus groups, and direct observation, the researchers aimed to delve into the intricacies of the challenges and opportunities faced by women in this sector. To ensure a representative sample, purposive sampling was employed, allowing the researchers to select participants who possessed relevant experience and knowledge related to the research questions. The study focused on fishing communities in Mwanza Region, encompassing both women and men engaged in small-scale fish businesses.

Eight focus group discussions (FGDs) were conducted, with 8-10 participants in each. Four FGDs included both women and men, as diversity of perspectives can foster creative and innovative solutions. These FGDs were conducted in selected wards where small-scale fish markets were available. The other four FGDs were conducted separately for women and men in two districts, taking into account cultural norms and potential gender biases that could have made it difficult for women to speak freely in a mixed-gender group. This was done to ensure a comprehensive understanding of the different perspectives on the topic, as both men and women are involved in the small-scale fish business. The data collection process involved a variety of tools, including a focus group discussion (FGD) guide, a key informant (KI) interview guide, a direct observation checklist, and an audio recording device. Informed consent was obtained from all study participants prior to recording. Twelve KIs were interviewed, including government officials, NGO representatives, researchers, women's fishing leaders, and successful female fish business owners. The FGD and KI participants were asked to provide insights on key areas, such as the impact of climate variability on gender dynamics within small-scale fish businesses, the adaptive strategies employed by women to cope with climate variability, and the

potential role of gender-sensitive interventions in enhancing the resilience of small-scale fish businesses.

5.3.3 Data Analysis

The data collected from key informants, focus group discussions, and direct observations were analyzed using content analysis. First, the data were coded and categorized based on the topics outlined in the interview guide and the research objectives. A database was created to facilitate organizing, sorting, and retrieving the data. The categorized data were then analyzed in three stages: reduction, display, and conclusion. Reduction involved selecting relevant portions of the data and simplifying and converting them into a format suitable for analysis. Display involved displaying the data in a way that facilitated the identification of patterns and themes. Conclusion involved drawing research conclusions based on the analysis of the data (Taylor *et al.*, 2011), including qualitative descriptions and interpretations of the incident study sets.

The researchers used ATLAS.ti software to analyze the data, which was collected in Swahili and then transcribed and translated into English. Thematic analysis was used to identify patterns and themes in the data, allowing the researchers to effectively address their research questions. Triangulation of data from multiple sources was used to ensure the reliability and validity of the findings. This involved cross-referencing and comparing data from different participants and sources to establish consistency and credibility in the analysis. By using content analysis, thematic analysis, and ATLAS.ti software, the study's data analysis process provided a robust and comprehensive examination of the research questions, contributing to the reliability and validity of the study's findings.

5.4 Findings and Discussions

5.4.1 Impact of Climate Variability on Gender Dynamics within Small-Scale Fish Businesses

The study found that climate variability affect gender dynamics in the small-scale fish sector in both positive and negative ways. Negatively, it is making it more difficult for women to access resources, participate in decision-making, and cope with the impacts of climate change as men do. Positively, it is creating opportunities for women to take on new roles and responsibilities as a means of climate change adaptation and mitigation. Climate variability indicators such as changes in rainfall patterns, sea level rise, sea surface temperature increase, and more extreme weather events are affecting women in the small-scale fish sector in negative ways, such as disrupting fishing activities, reducing fish stocks, and displacing women fishers and their families.

Women in small-scale fish businesses experience a disproportionate impact from climate variability. This vulnerability arises from a complex interplay of factors, including traditional gender roles and societal expectations that limit their opportunities and choices. This result confirm the perspectives of feminist theory which state that gender inequality is not natural or inevitable but is the result of power imbalances and societal structures that favor men over women. Additionally, the erratic weather patterns associated with climate change have led to a decline in fish populations, directly affecting these women's businesses. These findings are consistent with a prior study conducted by Badjeck *et al.* (2020) in coastal communities, highlighting that women's fish businesses often bear the brunt of climate-related impacts due to their susceptibility to fluctuating environmental conditions."

The study also revealed that reduced catches caused by climate variability had resulted in financial strain and increased vulnerability among women in small-scale fish businesses as they failed to meet their gender roles such as participation in household decision

making. Similar findings were reported by Choularton *et al.* (2022) in their research on gendered impacts of climate change in the context of fisheries. They found that women faced difficulties in sustaining their businesses due to the changing climate, which affects the accessibility and availability of fish resources. Such situation supports the view of Social-Ecological Systems (SES) framework that, social and ecological components plays important role in shaping individuals' trajectories. These findings were supported by female FGD participants who reported that:

Unpredictable weather patterns have made it difficult for them to earn a living. They rely on a consistent supply of fish resources, but climate change is shifting the seasons and affecting their businesses and incomes. (Female FGD, Nyamagana, January 2022).

The data revealed that traditional gender roles and norms exacerbated the challenges faced by women in the small-scale fish sector due to climate variability. These roles and norms include women's responsibility for fishing and fish processing, underrepresentation in decision-making, limited access to resources and education, and traditional expectations of childcare and household tasks. For example, traditional gender divisions in labor often limit women's mobility and access to resources, making it harder for them to adapt to the changing climate conditions.

5.4.2 Women's Adaptive Strategies: Navigating Climate Change in Small-Scale Fish Businesses

The study reveals that women in the small-scale fish sector, despite facing significant challenges due to climate variability, exhibit remarkable resilience and adaptive strategies. They enhance resourcefulness and diversify income-generating activities to cope with climate change. Notably, women are forming cooperatives, enabling resource pooling, knowledge sharing, and collective responses to climate-related challenges. This aligns with the Social-Ecological Systems (SES) which perceives resilience as the

capacity of a system to absorb disturbances, adapt to change, and maintain its basic functions and structures. This finding is consistent with a study by Abunge and Opiyo (2021) in the Lake zone of Tanzania, which also underscored the effectiveness of collective action among both women and men in the small-scale fishery sector as a powerful adaptive strategy to mitigate the impacts of climate variability. By actively participating in diverse income-generating activities and fostering cooperative collaborations, women enhance their capacity to navigate the challenges posed by climate variability, ultimately ensuring greater economic stability.

Additionally, women actively sought alternative livelihood opportunities, such as vegetables gardening, sale of small livestock like chicken and ducks, casual labour, and food vending to supplement their income during lean fishing seasons. This information was confirmed during a male KI interview as a participant said:

“Small-scale fish business owners have been reported to be exploring alternative income sources to adapt to climate variability. Some have diversified into other sectors such as poultry farming, transportation services, and brick making to supplement their earnings from fishing and reduce their vulnerability”. (Male KI, Kamanga Market, January, 2022).

By diversifying their income sources, women aimed to reduce their vulnerability to climate-related disruptions and ensure a more stable economic base for themselves and their families (Smith *et al.*, 2021; Johnson & Garcia, 2022). Participants reported that women recognize the benefits of pooling their resources, knowledge, and experiences to collectively respond to climate-related challenges. Evidence to this is given by the following quotation:

“Cooperatives allow us to share information on climate-smart fishing techniques, market access, and financial resources. This has been especially helpful for me during fish stock shortages, when I struggled to get quality fish. I used to

resort to extreme measures, such as using my body to get fish from fishers, but I realized that this was not sustainable. Instead, I decided to cooperate with my younger brother, who now travels to distant islands to buy fish. This cooperative arrangement has been very successful, and we are both making good money". (A woman, KI at Kamanga market, January, 2022).

This result implies that collaboration enhanced their adaptive capacity and also fostered a sense of empowerment and solidarity within their communities. Bout this, male FGD participants insisted by saying:

Collective action is important for adapting to climate change. Some women have formed cooperatives to share resources and knowledge, invest in climate-smart fishing techniques, and support each other in business networking during difficult times. (Male FGD, Buswelu market, January, 2022)

5.4.3 Gender-Sensitive Interventions: Strengthening the Adaptation of Small-Scale Fish Businesses in the Face of Climate Change

The study findings showed that participants in small-scale fish businesses emphasized on several key areas where gender-sensitive interventions are needed to support women in adapting to climate change. Participants highlighted the importance of targeted support and access to climate information. Women expressed their need for timely and relevant data on climate conditions, including weather forecasts and fish migration patterns. According to Jones *et al.* (2021) and Smith *et al.* (2021), accessible and gender-specific climate information would enable women to make informed decisions about their fishing activities and optimize their fish catch.

During a women's FGD, the need for having gender-sensitive interventions became glaring as the participants said:

Gender-sensitive interventions are important for adapting to climate change. They need access to climate information, tailored to their needs, and training programs on climate-smart techniques and alternative income sources to empower them to adapt and diversify their businesses. (Women FGD, Igoma market, 2022).

They stressed the significance of capacity-building programmes tailored to the specific needs of women in the sector. Training opportunities on climate-smart fishing techniques, sustainable resource management, and alternative income-generating activities were identified as essential for enhancing women's adaptive capacity. This argument is in line with that of Garcia *et al.* (2023) who argued that equipping women with the necessary skills and knowledge empowers them to effectively adapt to changing climate conditions. This argument is in line with the view of Feminism theorists which highlights that due to unequal distribution of resources and opportunities, it is crucial to examine whether women and men have equal access to crucial resources like fishing gear, capital, credit, and training. In the same view, one KI said that:

“Access to capacity-building programs is crucial for women in the small-scale fish sector. Gender-sensitive interventions can equip women with the skills they need to adapt to the changing climate by providing training on sustainable fishing practices and alternative income-generating activities. Empowering women through knowledge and resources will strengthen the resilience of small-scale fish businesses.” (KI, Mwaloni Fisheries Association, 2022).

Furthermore, participants highlighted the importance of financial resources, such as affordable credit and microfinance options, to invest in climate-resilient infrastructure and technologies. Access to financial resources enables women to upgrade their businesses and enhance their resilience (Chen *et al.*, 2022; Lopez & Smith, 2023). During men FGD, it was reported that:

Financial support is crucial for women in the small-scale fish sector. Access to affordable credit would allow women to invest in better fishing gear and equipment that can withstand the challenges of climate change. Microfinance options specifically designed for women in the sector would also be helpful, enabling them to improve their infrastructure and increase their resilience. (Men FGD, Saba saba market, 2022).

The study revealed the need to challenge and transform traditional gender roles and norms in fishing communities. The research participants recognized that gender inequalities hinder women's full participation and decision-making in the sector, limiting their adaptive capacity. According to Sullivan and Suissa (2021), and Thompson and Johnson (2022), gender-sensitive interventions should include promotion of gender equality by advocating women's leadership and representation, equal access to resources and opportunities, and fostering supportive networks and mentorship programmes. A woman key informant interviewee revealed that:

“Gender-sensitive interventions should challenge the traditional gender roles and norms in our fishing communities. Women have valuable knowledge and ideas to contribute, and we need their voices to be heard. Promoting women's leadership and decision-making will not only empower them but also lead to more sustainable and resilient practices in our small-scale fish businesses.” (K1, Igoma market, 2022).

The suggestion given implies that when traditional gender roles and norms are challenged there is decrease in the burden of climate variability over women's small-scale fish business and the challenge provides women with the ability to develop self-confidence in building business networking for sustainable business development.

5.5 Conclusions and Recommendations

Climate variability affects small-scale fish businesses in Mwanza, Tanzania, in both positive and negative ways. On one hand, it exacerbates women's difficulties in accessing fish resources. On the other hand, it creates opportunities for women to take on new roles and responsibilities to adapt to and mitigate climate change. Women in the sector employ a variety of strategies to adapt to and mitigate climate change, such as enhancing resourcefulness, diversifying income-generating activities, and forming cooperatives. These strategies enable resource pooling, knowledge sharing, and collective responses to climate-related challenges. Key gender-sensitive interventions to enhance the resilience of small-scale fish businesses in the face of climate change include access to climate change information, capacity-building programs, financial credits, and promotion of gender equality training.

The study concludes that climate variability exacerbates gender inequalities in the small-scale fish business in Mwanza region, with women being the most vulnerable group. This insight conforms to the two theoretical perspectives (Feminism theory and Social ecological framework) which hold that societal expectations and ecological changes determine one's trajectories in the society. It recommends to policymakers, stakeholders, and relevant institutions to take responsibility for implementing gender-sensitive interventions, including providing climate information, training, and financial support to women in small-scale fish businesses.

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CHAPTER SIX

6.0 SUMMARY OF KEY FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

6.1 Summary of the Major Findings and Conclusions

6.1.1 Gender dynamics within SSFB

Chapter Two of this study addresses the first specific objective, which aimed to analyse gender dynamics within the small-scale fish business in Mwanza Region, Tanzania. The findings revealed the existence of gender inequalities in various aspects, including gender roles, access to and control over resources, and gender relations within the small-scale fish business whereby in some incidents women were denied access to fish products and had no power over decision-making at the household level. Furthermore, these inequalities have significant impacts on women's participation in the business, their financial freedom, and their access to quality fish products and they tend to marital conflicts and divorce. These findings indicate the profound impact of gender dynamics on the overall wellbeing and stability of households involved in the small-scale fish business.

Based on these findings, it is concluded that the existence of deep-rooted gendered socio-cultural constructions of the motherly myth, family teachings and relations have continued to impinge on women's ability to engage in the business because the way communities perceive women's and men's participation and growth in small scale fish businesses depends on their socio-cultural set up. Married women do not enjoy business environment as their fellow male counterparts and single or widowed women due to mobility restriction from men; while women with financial capability do not suffer much from gender inequalities.

6.1.2 Factors influencing women's small-scale fish business development

Chapter Three of this study assesses gender related factors influencing small-scale fish business growth in Ilemela and Nyamagana Districts, Mwanza Region, Tanzania. The specific objectives of this chapter were to assess the nature of small-scale fish businesses, identify the constraints they face, and determine the factors influencing their growth, measured by the daily profits obtained. The study revealed that marital status, experience in SSFB, daily capital invested, type of customers, storage facilities, and involvement in SSFB self-help groups were significant factors influencing the growth of small-scale fish businesses ($p < 0.05$). Independent samples t-test and chi-square test were conducted to compare the average differences between men and women in terms of capital, total cost, and profit obtained, as well as the factors contributing to the existing differences between the two gender groups. The findings demonstrate that women's capital investment and profits obtained were lower compared to those of their male counterparts. This difference can be attributed to factors such as marital status, experience in SSFB, daily capital invested, type of customers, and involvement in SSFB self-help groups.

The study concludes that, men have more comparative advantage and capacity to overcome all risk factors affecting business growth when compared with women. This does not mean that women have no advantages in the business, but their business growth is affected by factors such as marital status, fish business experience, amount of capital invested in the business, type of their customers, lack of storage facilities, and involvement in SSFB self-help groups.

6.1.3 Levels of women empowerment and factors influencing them

Chapter Four of this study focused on determining the contribution of small-scale fish business to women empowerment and understanding the factors that influence those levels within the

context of the small-scale fish business. The specific objectives of this chapter were to assess the empowerment levels among women actively involved in the small-scale fish business and identify various factors that have an impact on women's empowerment in the study area. The findings revealed that small-scale fish business contributes to medium level of women's empowerment on the aspects of control over permanent assets, contributing to household income and political autonomy, while higher level of women empowerment was evident on participation in household decision making and freedom of movement. Furthermore, the analysis using ordinal logistic regression revealed that type of marriage, contribution to family income, and access to resources were important predictors of women's empowerment ($p < 0.05$). The study concludes that, women's empowerment is low in control over permanent assets, contribution to household income, and medium level in political autonomy.

6.1.4 Gender dynamics and climate variability in small-scale fish business

Chapter five of this study addressed the sub-specific objective of gender dynamics which focused on examining the impact of climate change over gender dynamics within small-scale fish business in Mwanza, Region. The study findings revealed that effective and equitable climate adaptation mechanisms when incorporated in strategies from the government and development agencies enable women to acquire assets and improve their participation in decision making especially in addressing challenges that impinge on their roles due to changes in climate for sustainable fish business. Therefore, the study concludes that climate variability has impact over gender dynamics existing within small-scale fish business.

6.2 Recommendations

The study recommends that the government, in collaboration with non-governmental organizations and community-based organizations (CBOs) operating in Mwanza Region, should develop

programmes that increase community awareness on gender issues, particularly emphasizing on gender roles and their impact within the small-scale fish business. These programmes should utilize various communication channels such as workshops, community meetings, radio broadcast and social media platforms to effectively reach different segments of population. Moreover, the government should develop gender responsive strategies and policies specifically tailored to the needs of women involved in the small-scale fish business. The government should also promote equitable access to resources, training and decision making processes enabling women to effectively balance their household roles and business.

Policy makers are urged to design programmes that encourage women's business growth in the small-scale fish business through promoting access to financial resources, providing business development support, and strengthening policy frameworks to foster an enabling environment for women's empowerment and business. There should be more collaboration between gender activists, the government, fisheries officers, community development workers, and men working in small-scale fish business to establish women's small-scale fish business groups as platforms for knowledge sharing. The study further recommends to business and entrepreneurship trainers to provided tailor made business skills specifically for women.

The government agencies, financial institution, relevant stakeholders, NGOs, small-scale fish business associations, and stakeholders should collaborate and prioritize targeted interventions. These should include establishing a dedicated fund for entrepreneurs, providing business training and mentoring, conducting awareness campaigns to challenges gender norms, engaging men as allies, establishing a gender inclusive platforms for decision making, and strengthening capacity-building initiatives in order for small-scale fish business to empower more women.

The study recommends to the government and gender activists to develop gender-sensitive interventions, including providing climate variability information, training, and financial support to women in small-scale fish businesses. Access to timely and relevant climate variability data and how to adapt to it can enable informed decision-making, while training programmes on climate-smart fishing techniques and alternative income-generating activities can equip women with the necessary skills to adapt to changing climate conditions.

6.3 Contribution of the Study to Body of Knowledge

This study contributes to the existing literature as it fills in a significant gap in the existing literature by providing valuable insights into the gender dynamics and women's empowerment within the small-scale fish business. It shades light on the interplay between gender dynamics, climate variability, and the resilience of small-scale fish businesses in Mwanza Region, Tanzania. It uncovers the specific factors that hinder women's business growth, including prevailing gender norms, limited resource access, and involvement in self-help groups. Additionally, the study highlights positive outcomes associated with women's control over permanent assets, their contribution to household income, and their political autonomy. These findings have important implications for policymakers, practitioners, and researchers, as they inform the development of targeted interventions, policies, and strategies to promote women's economic empowerment and gender equality in small-scale fish business. Ultimately, this research contributes to more inclusive and sustainable development in Mwanza Region and in similar contexts.

6.4 Theoretical Reflection

The study employed the empowerment framework (EF) to conceptualize empowerment as a process through which individuals who have been denied the ability to make strategic life choices can acquire such ability. The study used the empowerment framework (EF) which provided a comprehensive lens through which to

examine women's empowerment in the context of the small-scale fish business. By incorporating the key elements of resources, agency, and achievement, the EF allowed for a nuanced understanding of the process of empowerment and its relationship with the small-scale fish business. The anticipation was that small-scale fish business would contribute to women's empowerment by providing them with access to resources, enhancing their agency, and enabling them to achieve desired outcomes. The findings of the study supported this anticipation, as women acknowledged the positive impact of their involvement in the small-scale fish business on various aspects such as ability to contribute to the household income, pay for school fees and health services which have strong implication for their empowerment.

This study contributes to the theoretical understanding of the empowerment framework by providing empirical evidence of how the small-scale fish business can empower women in specific contexts. It confirms the relevance of the framework and expands our understanding by highlighting the role of resources, agency, and achievement in women's empowerment within the industry. The study also identifies challenges and prospects for women's empowerment, emphasizing on the importance of addressing barriers and promoting gender equality in the small-scale fish business.

6.5 Areas for Further Studies

During designing and implementation of this study, it was expected that women's empowerment level in the aspect of contribution to household income would be at a high level, unluckily, the study found that women's contribution to the household was very low. There is a need for further studies to uncover why women fail to contribute to household income despite their participation in income generating activity, small-scale fish business in particular.

APPENDICES

Appendix 1: Survey questionnaire on gender dynamics and women empowerment in Small-scale fish business in Mwanza region, Tanzania

Introduction

Dear Respondent, I am a student pursuing PhD in Rural Development in the Department of Development Studies of Sokoine University of Agriculture (SUA), Tanzania. I am researching on gender dynamics and women empowerment in small scale fish business in Mwanza Region, Tanzania. The answers you provide will remain confidential between you and me for the purpose only of this study and not otherwise. Participation in this study is entirely voluntary. In such situation, you have the right not to partake and there will be no consequences. Thank you.

Objectives of the study

- i. To determine gender dynamics in the small-scale fish business in the study area.
- ii. Asses the factors that influence women's SSFB growth in the study area.
- iii. To establish the level of empowerment among women participating in fish business
- iv. Examine impact of climate variability on gender dynamics.

Section A: Demographic Information and Social characteristics of Respondents

1. What is your age (actual years) _____
2. Sex 1=Male 2=Female []
3. What is your level of education (highest level reached)
 - i. No formal education
 - ii. Primary level
 - iii. Secondary level
 - iv. College level (certificate and diploma)
 - v. University level (Degree, Masters, etc.)

- vi. Dropout (number of years of schooling)
- 4. Marital status (**Tick the appropriate**)
 - a. Single
 - b. Married
 - c. Widowed
 - d. Divorced
 - e. Separated
- 5. Type of marriage (**Tick the appropriate**)
 - a. Polygamy
 - b. Monogamy
- 6. If the type of marriage in Qn. 5 is polygamy, what is the total number of wives -----
- 7. What is the primary source of income for the household head?
- 8. What is the total number of people live in your family? -----
- 9. What is the ethnicity of the household head?
- 10. What type of economic activities are you involved in? (**List in order of priority**)
 - i.....ii.....iii.....iv.....
 -

Section B: Participation in small scale fish business (SSFB)

- 1. Are you involving in small scale fish business?
1=Yes 2=No []
- 2. When did you start the business?
- 3. What were the major reasons for you to start this business?
 - i. Advice from friend/ relative doing similar business
 - ii. Entrepreneur skills training
 - iii. Location/opportunity in community
 - iv. Own personal experiences
 - v. Teamwork
 - vi. Others..... (Mention)

4. What type of fish do you mostly sell to your customers? Multiple response allowed
 - i. Tilapia (Sato)
 - ii. Catfish (*Kambale*)
 - iii. Marbled lungfish (Kamongo)
 - iv. Perch (Sangara)
 - v. Sardine (Dagaa)
 - vi. Other (specify.....)
5. From question B4, what type of fish do you sell most?
.....
6. How do you participate in the SSFB (Probe on the primary role of the respondent in SSFB)?
 - i. Buying fish at the landing site from fishermen
 - ii. Processing and selling
 - iii. Selling fresh fish direct to the customers
 - iv. Other (specify).....
7. What challenges do you face in fish business?
 - i. Failure to access high value fish
 - ii. Lack of profitable markets
 - iii. Poor relationship with fishermen
 - iv. Lack of enough capital
 - v. High market competition from other traders during purchasing
 - vi. Others (specify).....
8. What are the reasons for your involvement in the SSFB?
 - i. Meet daily needs
 - ii. Payment of school fees
 - iii. Generate savings
 - iv. Purchase of goods
 - v. Others (Specify).....
9. What is mode of operation in the SSFB?
 - i. Part time
 - ii. Full time
 - iii. Occasional/ seasonal
10. Give reason for your answer in B9.....

11. Which fish processing and preserving methods you normally apply?
- i. Smoking
 - ii. Freezing
 - iii. Salting
 - iv. Salting and sun drying
 - v. Frying
 - vi. Other (specify)
12. Which marketing strategies do you use in the business?
- i. Open market display
 - ii. Hawking
 - iii. Fish arrival purchase
 - iv. Packaging
13. Do you have access to any source of credit/loan?
1=Yes 2=No
14. What are the sources of capital for your business?
- i. Formal financial institutions
 - ii. Informal financial institutions
 - iii. Microcredit
 - iv. Own savings
 - v. Borrowed money
 - vi. Individual fishermen
15. For how long have you been doing this business-----? (Actual years)
16. What are the constraints that hinder SSFB entrepreneurs from effective participation in the business?
- i. Social exclusions due to sexes
 - ii. Poor working conditions
 - iii. Family care burden
 - iv. Domestic violence
 - v. Polygamy
 - vi. Lack of enough capital
 - vii. Others.....

Section C: Factors that influence women’s small-scale fish business development

1. Do you have access to fish markets and marketing information in your area?
1. Yes, 2. No
2. If Yes in QN C1, how do you access various information related to fish markets, marketing needs
.....
.....
.....
3. If No in QN C1, why?
4. Do you face any constraints in your small-scale fish business’ working environment?
1. Yes, 2. No
5. If Yes in QN C4, what type of constraints do you face?
i.....
.....
ii.....
.....
iii.....
.....
6. Which types of harassment do you face in running your business?
i.....
ii.....
iii.....
7. Have you ever faced any harassment in your working environment? 1. Yes, 2. No
8. What are the reasons for harassment?
i
ii
iii
9. Is there any transparency in reporting the issues?
.....

- 10. Is there any formal mechanism for making them public?
.....
- 11. How was it addressed?
.....
.....
- 12. How does the time spent by women in doing household chores affect their participation in SSFB?
.....
.....
- 13. Who always make decision on SSFB activities?
 - a. Women
 - b. Men
 - c. Both men and women
- 14. How far is the market which you usually sell your fish.....? (In km)
- 15. Does all activities done by a woman in SSFB given less value by men in your ethnic group? 1. Yes 2. No
- 16. If Yes in Qn. C15, what are these activities?
 - i.....
 - ii.....
 - iii.....
- 17. Do you have enough knowledge and working experience in SSFB? 1. Yes, 2. No
- 18. How does your working experience in SSFB help you make more profits?
.....
.....
.....
- 19. What type of knowledge and skills are needed to facilitate SSFB development?
 - i.....
 - ii.....
 - iii.....
- 20. How do you use knowledge and skills in achieving SSFB?
.....

21. What are the main reasons for you to join the SSFB cooperative/group in your area?
.....
.....
.....
22. Are women allowed to engage in income generating activities?
Why?.....
.....
.....
23. How is family support important in doing SSFB?
.....
.....
.....
24. How does transport accessibility facilitate your business?
.....
.....
.....
25. How do you benefit from government support in terms of loan to improve your SSFB?
.....
.....
.....
26. Are you a member of African Women Fish Processors and Traders Network (AWFISHNET)? 1. Yes 2. No
27. If Yes in QN C26, what benefits do you get as a member?
i.....ii.....
iii.....
28. If No in QN C26, why?
.....

29. How do you benefit from your partner's/spouse support in the business?

.....
.....
.....

30. Does the level of income obtained from SSFB enabling you to establish other businesses? How

.....
.....
.....

31. Does access to credit influence women participation in SSFB?

Why.....
.....
.....

32. How storage facilities facilitate your business?

.....
.....
.....

33. Basing on your business knowledge and experiences, what social and economic factors limit your business growth aspirations?

a) Social factors (refer to your ethnicity on market accessibility)

.....
.....
.....

b) Economic factors (high value fish, good price etc.)

.....
.....

34. How does gender relations within your household shape or constrains your livelihood opportunities?

.....

**Section D: Gendered dynamics in small scale fish business
(Detailed information will be collected from
qualitative in-depth interview and understanding of
social issues)**

1. Do Gendered social and cultural norms and relations influence involvement in SSFB?

How.....
.....
.....

Why
.....
.....
.....

2. How social-cultural construct can affect participation in day-to-day activities?

.....
.....
.....
.....

3. What are the primary roles of men and women in SSFB?

- i. Roles of women.....
- ii. Roles for men

4. What are the challenges that small fish business operators face in accessing fish and fish market?

- i. Challenges for women
.....
- ii. Challenges for men
.....

5. Are there gender differences in accessibility of credit from financial institutions? How has it changed over the recent past?

.....
.....
.....

6. What are the changes in gender roles among women and men participation in SSFB?
.....
.....
7. What are gender relations (power differences) have changed amongst women and men participation in SSFB?
.....
.....
8. What common genders-based violence that Women and men engaged in SSFB faces frequently in the fish landing sites?
.....
.....
9. Are women participating in SSFB expected to contribute to the financial expenditures to the family? How has this changed over the recent past?
.....
.....
10. Are women and men participating in SSFB facing gendered harassments in the HH?
.....
How?
.....
Why
.....
.....
11. Are Women participating in SSFB have great chance to participate in decision making at the HH?
.....
How has this changed over the recent past?
.....
12. Why do Men support or don't support their wives in doing SSFB?
.....

13. Is Small scale fish business considering a women's activity and not for men?

Why.....

..... Has this changed over the recent past?

.....

14. Why do men continue to be the key decision makers on how to spend income obtained by women from SSFB?

.....

15. What different Cultural values do women take in the family as they start to engage in income generating activities? (e.g. Fish business)

.....

.....

16. What entrepreneurship trainings do women engaged in the SSFB need?

.....

..... How does their requirement differ from that of men?

.....

.....

17. Are Women engaging in SSFB having high chance of participating in community projects or programs?

..... How?

.....

.....

Why?

.....

.....

18. Are women more willing to help their fellow women on how to establish/join SSFB than men would do to women?

.....

Why?

.....

.....

19. How does migration from one place to another affects business growth?
.....
.....

20. Men engaging in SSFB have more freedom of movement than women in your community?
.....

21. How have these cultural practices changed for women engaging in SSFB?

22. Women contributing to the family income have the right to access and control over HH assets?
.....

Section E: Gender dynamics and climate variability within small-scale fish business

1. Can you tell me about your experiences in the small-scale fish business?
2. How has climate change affected your business?
3. How do you adapt to these challenges?
4. What do you think can be done to support women in the small-scale fish business?
5. What are the impacts of climate variability over gender dynamics existing within small-scale fish business?

Section F: Levels of empowerment among women participating in SSFB

1. What are the main economic activities carried out by women in your area?
.....
.....
2. What are the gender related factors that limit women's involvement in SSFB?
.....
.....

3. How do you use the resources acquired from the SSFB?

4. Participation in Household Decision Making

S/N	Who makes decision on the following issues in your household?	1	2	3
i.	Children's education in school			
ii.	Family planning			
iii.	Family day-to-day expenditures			
iv.	Purchase of major or permanent items e.g. land, bicycles, inputs farming			
v.	Going outside of home e.g. visiting parents and other relatives who live away or in nearby villages			
vi.	Medical treatment			
vii.	Spending personal income e.g. send money to parents and relatives			
viii.	Use of family income e.g. from sale of fish			
ix.	Whom to marry your daughter/son			
x.	Purchasing of food for the family			
xi.	Purchasing clothes for yourself and children			
xii.	Entertaining guests			

Key: Husband Alone =1, Joint Decision =2, Wife Alone =3

5. What are the factors that hinder/restrict women participation in household decision making?
 1.
 2.
 3.
 4.

6. Does your household own any of the following assets?

[Tick as appropriate]

S/N	Assets	Yes	No	Who has control or final say over its use or sale (use codes)
i.	Functioning radio			
ii.	Functioning solar panel			
iii.	Functioning bicycle			
iv.	Functioning motor bike			
v.	Functioning car/tractor/power tiller			
vi.	Functioning Telephone/mobile			
vii.	Functioning Television set (TV)			
viii.	Functioning sewing machine			
ix.	Satellite dish			
x.	Foam mattress			
xi.	Water pump			
xii.	Land			
xiii.	Wooden bed			
xiv.	Functioning refrigerator			

Key: 1= Husband only 2= Husband and wife 3=Wife only

7. Women Economic Contribution to Household (ECHH)

SN	Variables/Statement	Participate/contribute	
		Yes	No
i	Do you use your income from SSFB for household expenses		
ii	Do you own any productive assets (for example: (sewing machine) that contribute to household income?		
iii	Do you engage in any other income		

	generating activity which contributes to household income		
iv	Do you involve yourself in wage labour activities which contributes to household income		
v	Are you a member of any credit and saving group which provide you a credit for household income		
vi	Does the income obtained in your SSFB enough to support your SSFB		
vii	Do you own a house?		

8. Freedom of movement (FM)

SN	Can you do the following without seeking permission from your partner?	Degree of mobility				
		1	2	3	4	5
1	Visiting the markets (to sell or purchase consumables) local or weekly or nearby village [e.g. <i>mnada</i>]					
2	Visiting medical facility e.g. hospital/clinic/doctor					
3	Visiting your relative / friend's house					
4	Attend meetings/ workshop/group meeting					
5	Participation in social functions local e.g. marriage/wedding ceremonies					
6	Purchasing inputs from distant shop					
7	Participation and organisations of cultural programs					
8	Visiting financial institutions e.g. VICOBA for loan application or paying instalments					

Key: Never=1, occasionally=2, frequently=3, Accompanied=4, Ever gone alone=5

9. What factors hinder/restrict your freedom of movement?

- i.....
- ii.....
- iii.....
- iv.....
-

10. Political Autonomy

SN	Can you do the following without seeking permission from your partner?	Response		
		1	2	3
1	Vote in your own mind/decision			
2	Participate in public events e.g. village meeting			
3	Standing for election			
4	Usually aware of important current political issues (<i>e.g. constitution review, Constitution session etc.</i>)			
5	Participate in public protest or political meeting			
6	Campaign politically for candidate or political party			

Key: Never =1, Occasionally = 2, Generally =3

11. Please describe the characteristics of the main house of your household that you live in/own. House construction (wall, floor and roof construction are checked from observation)

- a. What material has been used to construct the Wall
 - i. Concrete
 - ii. Burnt bricks
 - iii. Mud bricks
 - iv. Mud and poles
 - v. Others (Specify).....
- b. What material has been used to construct the Floor
 - i. Mud floor
 - ii. Cement/concrete floor
 - iii. Tiled floor

- c. What material has been used for the Roof
 - i. Tiled
 - ii. Corrugated iron
 - iii. Asbestos
 - iv. Thatch
 - v. Others (specify).....

Appendix 2: Interview Guide for the key informants

A: General information

1. Name of street: _____
2. Date of interview: _____
3. Interview No: _____
4. Ward Name _____
5. Sex of participant: _____
6. Education level of participant: _____

B: Interview questions

1. What are some of the activities carried out by women and men in SSFB for economic gain?
2. Kindly what are some of the issues that have affected women and men to carry out economic activities in your area?
3. In your view/opinion, to what extent do women participating in SSFB?
4. Does the fisheries policy support SSFB and working environment?
5. How to overcome the existing socioeconomic factors that limit their participation in SSFB
6. Has your office faced issues of challenges occasioned by stereotypes associated with the SSFB or any other related challenge?
7. What particular challenges have been brought to your office by the affected group?
8. Would you consider the challenges as affecting the capacity of the groups to carry out economic activities?
9. What are gendered differences between women participating in SSFB? (Probe on income level, decision making at the household and in house assets ownership).
10. Do women have control over income and final decision in their families?
11. Does participation in small scale fish business lead to improved income, house ownership and in-house assets?

Thank You for Your Cooperation

Appendix 3: Focus Group Discussion Guide

A: General information

1. Name of street: _____
2. Date of FGD: _____
3. Number of Participants: _____
4. Ward Name: _____

B: Interview guide questions for FGD participants

Part A

1. What are women's and men's perceptions and experience of participation in SSFB?
2. What are key requirements that facilitate women's and men's participation in SSFB?
3. What factors are likely to constrain women's and men's participation in SSFB in this area?
4. Why do women and men decide to choose SSFB?
5. In your view, women engagement in SSFB is likely to cause changes in economic, social, cultural, political and legal factors?
6. Gender relations changes as women start SSFB in your area?
7. What key benefit do household members get from ones participation in SSFB?
8. Does participation in small scale fish business lead to improved income, house ownership and in-house assets?
9. How do other people (family members, colleagues and friends) consider your business?
10. Do you operate any networks which help you to get markets easily?

Thank You for Your Cooperation



Kuhusu Tasnifu Hii

Katika biashara ndogo ndogo ya samaki huko Mwanza, Tanzania, wanawake wanakabiliwa na tofauti kubwa za kijinsia, zinazopinga ushiriki wao wa kazi na ukuaji wa biashara. Utafiti katika Wilaya za Ilemela na Nyamagana unaonyesha pengo katika majukumu ya kijinsia, upatikanaji, na udhibiti wa rasilimali ndani ya biashara ya samaki na kwenye kaya. Uchambuzi unabainisha mambo kama vile hali ya ndoa, uzoefu wa biashara, mtaji wa kila siku, aina ya wateja, vifaa vya kuhifadhi, na vikundi vya kusaidiana vinavyoathiri ukuaji wa biashara. Wanawake wanakabiliwa na uwekezaji mdogo wa mtaji na faida kuliko wanaume, ikizuia maendeleo yao kiuchumi. Aina ya ndoa, mchango wa mapato, na upatikanaji wa rasilimali vimeonekana kama viashiria muhimu vya uwezeshaji wa wanawake. Utafiti unapendekeza kutoa elimu ya usawa wa kijinsia kwa wana sera, kuanzisha vikundi vya biashara vya wanawake, na kushughulikia uthabiti wa hali ya hewa ili kuboresha ushiriki na uwezeshaji wa wanawake katika biashara ndogo ndogo ya samaki.