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**FISH4ACP**

Unlocking the potential  
of sustainable fisheries and aquaculture  
in Africa, the Caribbean and the Pacific

## GENDER-BASED CONSTRAINTS AND OPPORTUNITIES

# The Lake Tanganyika sprat, sardine and perch value chain in the United Republic of Tanzania

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## Acronyms

ARV	Antiretroviral
BMU	Beach Management Unit
CEDAW	Convention on the elimination of all forms of discrimination against women
COVID-19	Corona Virus Disease 2019
DRC	Democratic Republic of Congo
FAO	Food and Agriculture Organization
FETA	Fisheries Education and Training Agency
FISH4ACP	Fish for Africa, Caribbean and Pacific
FSDP	Fisheries Sector Development Programme
FTE	Fisheries Training Education
FTT-Thiaroye	Fish Smoking Technology
GALS	Gender Action Learning System
GBV	Gender Based Violence
GM	Gender Mainstreaming
GMS	Gender Mainstreaming Strategy
GSVCA	Gender-Sensitive Value-Chain Analysis
GTA	Gender Transformative Approach

HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunol Deficiency Syndrome
ICT	Information Communication Technology
LTA	Lake Tanganyika Authority
<i>MKUKUTA I na II</i>	<i>Mpango wa Kujenga na Kukuza Uchumi</i> Tanzania
MLFD	Ministry of Livestock and Fisheries Development
NPoA-SSF	National Plan of Action for Sustainable Small-scale Fisheries
NSGPR I and II	National Strategies for Growth and Poverty Reduction
RoS	Return on Savings
SADC	Southern African Development Community
SDG	Sustainable Development Goal
SIILC	Saving and Internal Lending Community
STD	Sexually Transmittable Diseases
SWOT	Strength Weaknesses Opportunities and Threat
TAFIRI	Tanzania Fisheries Research Institute
TAWFA	Tanzania Women Fish Workers Association
ToC	Theory of Change
VC	Value Chain
VICOBA	Village Community Bank
WGDP	Women and Gender Development Policy

## Executive summary

FISH4ACP project conducted a gender mainstreaming study to increase women's participation in the fish value chain. Specifically, the study aimed at revealing the gender-related constraints, their root causes and an implementation strategy to reduce challenges facing women as well as unlocking the potential opportunities for women working in the fish value chain. Three regions of Kigoma, Katavi and Rukwa were involved in the study. These regions share borders with Lake Tanganyika. Checklist of questions was used during data collection. Focus group discussion, key informant interview and in-depth discussions with VC actors were used as approaches in data collection. Gender Transformative Approaches (GTA) were used in formulation of questions for data collection.

From the findings, value chain actors in the perch, sardine and sprat value chain experience various gender related constraints in different nodes. For instance, women are restricted from participation in fishing (production) node, hence, majority of the women participate in the processing and trading nodes. Cultural norms and traditions were mentioned as the root causes of restricting women in fishing activities. Other constraints include lack of ownership of the production resources such as land among women processors and traders, lack of capital to expand their business, lack of modern processing and storage equipment leading to poor quality fish products especially during rainfall season. Other constraints from the study were lack of access to national and international markets due to poor road infrastructures. Further, negative impact of climate variability and change has led to rising of water levels, leading to destruction of fish breeding centres leading to low fish catch. Furthermore, unsustainable utilization of natural resources increased high cost to processors as they buy firewood at a very high cost.

The study also revealed various forms of gender-based violence such as wife battery where mainly husband being the perpetrators. Sexual violence commonly the sex for fish (Transactional sex) where a man makes agreement of offering fish for sex with a woman. This form of violence is mainly practiced in the low fish catch season. Early pregnancy and marriage are also practiced in the fishing community. Mainly teenagers are preferred by fishers because they are easily convinced, and they are of low cost. This has led to school dropout and low

education levels among women. Almost all young mothers start fish processing business with a very low capital as their source of income. Further, abusive languages spoken by majority of the actors in the fish value chain is one of gender-related constraints in the fishing community. When such abusive languages are normalized by the listeners and speakers can lead to violence. Economic violence is also practiced as women are the main providers of the family as compared to men. After selling of processed fish, women buy all the daily requirements for the family. Apart from being fish processors and traders, women practice various activities such as farming, food vending and processing of palm oil. Majority of women as compared to men perform agricultural activities as a source of food.

Causes of gender-related constraints include cultural norms and beliefs that exclude women from equal participation in the fish production node. Lack of modern equipment for storage and processing leads to poor quality of processed fish as they do not meet the international standards. Further, environmental shocks and climate change leads to low fish catch.

The gender mainstreaming strategy was developed so as to address the gender related constraints obtained from the findings. FISH4ACP is expected to design and test interventions relevant in addressing constraints affecting both women and men in the value chain (see Fig. 1). FISH4ACP interventions will transform the existing norms and power relations that exacerbate gender inequalities in the fishing communities. Interventions such as facilitating access to storage and processing equipment by women processors, capacity building on leadership and financial management, connecting processors to the market. Through collaboration with microfinancing institutions/loan institutions will facilitate easy access to soft loans by actors in the VC. Men engagement throughout the project cycle will lead to sustainability of the project activities.

## 1.0 Assessing the United Republic of Tanzania context: a gender perspective

### 1.1 The United Republic of Tanzania's commitments to gender equality

#### 1.1.1 National and international commitments: history and present constraints

#### 1.1.2 International policies

The United Republic of Tanzania presents a history of full alignment with all major international policies on gender equality. In 1986, the country signed the Convention on the Elimination of all forms of Discrimination Against Women (CEDAW) as well as its Optional Protocol in 2006. In 1995, the United Republic of Tanzania also committed to the Beijing Declaration and Platform of Action, with national priority given to four main areas of focus: enhancement of women's legal capacity; economic empowerment of women and poverty eradication; women's political empowerment and decision making and women's access to education, training and employment. Regionally, the country was signatory of the Protocol to the African Charter on Human and People's Rights on the Rights of Women in Africa (Maputo Protocol) in 2003, and to the Southern African Development Community (SADC) Protocol on Gender and Development, in 2008. Furthermore, the United Republic of Tanzania committed to the Sustainable Development Goals (2016) through the recognition of the 2030 and the 2063 Agenda, and showed particular improvement along eight SDGs, among which SDG5 for *Gender Equality* and SDG14 for *Life Below Water* (Chuwa, 2020).

#### 1.1.3 National policies

The United Republic of Tanzania's national policies on gender parity have been recognised among the most progressive in Africa. The domestication of globally accepted narratives on gender has been particularly rapid, as shown by the creation of a Sub-programme for Women's/Gender Advancement (1997-2003) by the national government, following Beijing's promises. The Constitution of the Republic of the United Republic of Tanzania (1997) also represented a tangible demonstration of the governmental commitments on gender equality. The founding paper prohibited any form of gender-based discrimination and ensured the participation of women in decision-making processes. Gender-sensitive legislations to be mentioned are the Sexual Offences (Special Provisions) Act (1998), enacted to protect the

dignity and integrity of women and children, and the Land Act and Village Land Act (1999), which repealed customary and traditional practices and ensured equal ownership, use and management of land. In 1999, the United Republic of Tanzania Development Vision 2025, aiming at the achievement of the status of middle-income country, successfully mainstreamed gender equality in its social, economic and political dimensions (World Bank, 2022). From Vision 2025, two National Strategies for Growth and Poverty Reduction (NSGPR I and II or MKUKUTA I and II) were developed in 2005 and 2010, both holding a gender mainstreaming approach for poverty reduction, with particular focus placed on education and gender-based violence (GBV). In 2000, the Women and Gender Development Policy (WGDP) was formulated by the United Republic of Tanzanian Government, calling for the establishment of gender focal points and advisory bodies from the national to the local level. To implement the latter, the National Gender Development Strategy (NGDS) was formulated in 2005. The strategy aimed at the operationalization of the WGDP in priority sectors, addressing the challenges prioritised at the Beijing Platform of Action as well as ensuring gender-disaggregated data gathering and gender-based planning and budgeting.

Despite the rich history of gender implementation in national policies, notable weaknesses have been measured by the Ministry of Health, Community Development, Gender, Elderly and Children in its Country Gender Profile (2016) relative to employment, ownership and gender-sensitive budgeting and planning legislations (Badstue et al., 2021). Lack of budget has been regarded as a major obstacle for the implementation of gender-sensitive legislations and lack of gender disaggregated data has disabled a more holistic monitoring of the gender gap and division of labour (Badstue et al., 2021). Finally, the United Republic of Tanzania remains a legal pluralist jurisdiction, therefore accepting customary laws and religion-based laws together with statutory laws (Matinda, 2019). This leaves the rights stipulated in statutory law often unprotected, ultimately hampering not only women's rights but also the rights of other sexual and gender minorities (JICA, 2016). The presence of gender progressive policies has not fully translated into women's effective emancipation.

#### 1.1.4 Mainstreaming gender policies in the fisheries sector

As for the before mentioned national legislations, policies on fisheries and aquaculture are also formally non-discriminatory towards considerations of gender. Formulated within the broader

framework of the NSGRP (MKUKUTA II), the Fisheries Sector Development Programme (FSDP) of 2010 holds the objective of mainstreaming gender in national fisheries (4.6.2). In 2015, the National Fishery Policy also aimed at integrating gender into policy, planning and decision making at all levels to facilitate the sustainable socio-economic development of fisheries. In March 2021, the United Republic of Tanzania launched its National Plan of Action for the implementation of the Voluntary guidelines for securing sustainable small-scale fisheries in the context of food security and poverty eradication (NPoA-SSF guidelines), which aims to provide a framework that would enhance small-scale fisheries', both men and women, contribution to food security and nutrition (MLF, 2021a). Acknowledging the gender-specific challenges facing women in fisheries, the action includes output and activities that specifically focus on supporting women (Sendall et al., 2022). Nonetheless, difficulty in the implementation of policies is also to be found within the fishery sector, given the lack of knowledge on gendered access to fishery resources (Bradford & Katikiro, 2019) as well as women's lack of knowledge on their potential for empowerment. The Fisheries Sector Master Plan (2021/22–2036/37) which strongly recognizes the contribution of women and youth in the fisheries subsector, furthermore it asserts two operational objectives in support of women and youth. Operational objective 3: To support the development and implementation of appropriate strategies for involving the youth, women, and marginalized groups at various levels of management. To develop a strategy to involve youth, women, and marginalized groups in fisheries management and development. And Operational objective 4: To promote and support the formation of aquafarmer cooperatives and associations with particular emphasis on the youth and women. To encouraging youth, women, and marginalized groups to form aquafarmer cooperatives and associations.

## 1.2 Roles and status of women in the United Republic of Tanzania and the fisheries sector

### 1.2.1 Socio-cultural context

The discrepancy between the numerous gender-progressive policies formulated and the extent of their full implementation in the United Republic of Tanzania, is partially linked to the power that religious and customary laws still play in society. The radicalisation of such customs can be especially explained by the colonial history of the country, whereby Western gender norms

have been imposed to local populations and ultimately insinuated themselves in post-colonial traditions and governance (Badstue et al., 2021). On the contrary, women in pre-colonial societies often held high office and status as food producers, while constituting fundamental players in the struggle for the country's independence (Badstue et al., 2021). Nowadays, dominant masculine norms are reinforced in discriminatory customary laws and practices, particularly in rural areas (JICA, 2016), with consequences spanning from women's impediments to land access (Badstue et al., 2021) to women's lower educational levels (FAO, 2014).

In the fisheries sector

The gendered characterisation of the United Republic of Tanzanian society has not spared the fishery sector. Here, a gendered division of labour - with women holding mostly reproductive roles while men are responsible for production - has resulted in a socialised spatial division (de la Torre-Castro et al., 2017). Such spatial positionalities are linked to the duties, social taboos (Fröcklin et al., 2014; Bradford & Katikiro, 2019) and, more profoundly, to the identities of gendered individuals. Nonetheless, if it is easy to identify the "aquascape" as fuelling a number of masculinity traits, such as adventure, comradeship, risk and strength, the same is not possible with women's identity in connection to the land (Worldfish, 2010). The latter can be viewed as the product of the historically eclipsed identities of women in favour of a man-centric society and it is considered to ultimately fuel economic and social discriminations towards women in the small-scale fisheries (SSF) sector. The impact of discriminatory societal norms on each individual woman depends on the extent of overlapping minority identities and positions relative to wealth, disability, marital status, age, education, ethnicity and migration status (Lwenya et al., 2009; Badstue et al., 2021).

### 1.2.2 Socio-economic context

The sustained economic growth experienced by the United Republic of Tanzania in the past 20 years has led the country to transition from a low-income to a middle-income economy in 2020 (WorldBank, 2022). Such achievement can be partially explained by the long-lasting governmental efforts to expand women's economic opportunities and to mainstream gender in the country's developmental agenda. Among all, the United Republic of Tanzania has showed an increase in the female labour-force participation rate, from 60 percent in 2000 to 80 percent



in 2019, a percentage that is well-above Sub-Saharan averages. The share of women engaged in unremunerated agricultural work has fallen from 78 percent in 2005 to 64 percent in 2016 and the rate of women's representation in parliament in 2019 was among the highest in the African continent (37 percent). Despite the strong advancements made by the United Republic of Tanzania as a country in the last two decades, the gender gap remains tangible, positioning the United Republic of Tanzania as low as 140<sup>th</sup> out of 160 in the global Gender Inequality Index (UNDP, 2019). Profound discrepancies between men and women are still visible at the educational level- with 12 percent of the female population holding a secondary education compared to 17 percent of males (2015-2019)- and at the employment level- with a 9 percent gap in labour force participation rates measured in 2019. Lower schooling rates coupled with high fertility rates (4.8 children per adult woman) all lead to a feminisation of poverty, with poverty rates in urban areas being higher for women-headed households (20 percent) compared to men-headed ones (14 percent). The United Republic of Tanzania also remains below the average for landownership and homeownership rates in Sub-Saharan Africa, due to the low percentages of land (8 percent) and home (7 percent) ownership among women. The COVID-19 pandemic's impact on society can be regarded as particularly affecting women's economic status, with 43 percent of female-led businesses closing during the pandemic compared to 34 percent of male-led ones (WorldBank, 2022).

In the fisheries sector

Women in the United Republic of Tanzanian small-scale fisheries constitute a larger proportion of the poor (Odhone et al., 2020) and are often excluded from the most profitable markets and decision-making spaces- from the local to the national level (Worldfish, 2010). The extent of women's involvement in and benefits from the fishery value-chain is especially influenced by the socio-cultural settings. Discriminatory beliefs and norms maintain the majority of women within the informal sector, therefore reducing their socio-economic welfare and inhibiting their full empowerment (Worldfish, 2010). Access to markets is often impeded by tangible factors like reduced mobility, access to storage facilities (de la Torre-Castro et al., 2017), access to the right contacts and less available time. Poor/lack of road infrastructures inhibit women from access to distant markets. The lower power position held by women in fisheries makes them particularly vulnerable to market changes, whereby, an increase in value of seafood products

renders the female-dominated markets appetible for men, who easily take over women- as in the case of *punk* (Medard, 2012) and octopus. In Lake Victoria, women are said to rely more heavily on informal sources of credits like family members and money lenders, given the inaccessibility of more formal credit types (Fröcklin et al., 2014). In recent years, women processors depend on an informal source of microcredit called Village Community Banks (VICOBA). These are traditional bank services providing microcredit to local communities. The amount of money a member can take as a loan depends on the money deposited under the VICOBA, therefore, women processors deposit little money, hence what they get is also very little. Given the fisheries decline and the lack of alternative remunerated positions, women's bargaining power is particularly vulnerable, often forcing them to engage in "fish-for-sex" with male fishers.

### 1.2.3 Sex-disaggregated data

Despite presenting the highest number of sex-disaggregated indicators published at the international level among Sub-Saharan African countries, the United Republic of Tanzania gender-relevant data still remains incomplete. In particular, the United Republic of Tanzanian health and economic indicators hold the majority of sex-disaggregated data, followed by education, social security and political participation indicators. Nonetheless, no sex disaggregation is still available for any environmental indicator (Data2X, 2019). The lack of disaggregation by gender is also characteristic of the fishery sector, whereby no official data has been reported or published on formal and informal employment and on the economic benefits brought about by women's work in SSFs (Bradford & Katikiro, 2019). The latter ultimately impedes the recognition of women's hidden work as a vital contribution to the sector's sustainability (Worldfish, 2010).

## 2.0 Gender-sensitive analysis of the Tanganyika's value chain: adopting multiple frameworks for a better understanding of women's constraints

### 2.1 Introducing the gender-sensitive value-chain analyses and other complementary approaches

The gendered nature of various value-chains makes the achievement of gender equality one linked to the understanding of the unequal access, ownership, participation and norms

distinctly held by women and men (Finkbeiner et al., 2021). For the purpose of this paper, a gender-sensitive value-chain analysis (GSVCA) will be adopted to inform the gender status of sprat, sardine and perch value-chains in Lake Tanganyika. The GSVCA aims to acknowledge women's contributions and hindrances in the fish value-chain of Lake Tanganyika, by going beyond the examination of the core and extended value-chain to analyse the individual and household level of analysis. This stems from the idea that, to achieve gender equality, one should not only look at women's economic contribution- both paid and unpaid, formal and informal- but at their network of relations as well as their subjectivities and identities. In particular, the GSVCA will build on traditional value-chain analysis approaches by disaggregating men's positioning, roles and contribution from women's (Step 1), identifying factors hindering or facilitating women's participation (or lack thereof) in the value-chain (Step 2), assessing the root causes (Step 3) of each constraint and providing recommendations (Step 4). In order for the gender-sensitive analysis to be not only economically efficient but socially and environmentally sustainable, the GSVCA will be accompanied by two complementary frameworks: intersectionality approach and social-ecological analysis approach.

### 2.1.1 Intersectionality approach

The concept of intersectionality develops from the need to bring attention to the intersections of multiple marginalised identities and groups, beyond the category of women. With the adoption of an intersectionality framework, the analysis aims to examine the extent of hindrances experienced by other minorities groups and to ensure their enhanced inclusion for more equitable and sustainable value-chains. With that, disability, ethnicity, poverty, indigeneity, education, age, and migration status are all to be considered as producing additional layers of discrimination that ultimately result in hindered participation and reduced benefit from local value-chains. Despite intersectionality being deemed an important step in the selection of gender-sensitive value chains (FAO, 2016), the framework has failed to be fully implemented in GSVCA. In order to conduct an analysis of perch, sardine and sprat value-chain in Lake Tanganyika, intersectionality will be included throughout the whole process to ensure that all the different perspectives and identities in the VC are thoroughly considered and not overlooked.

## 2.1.2 Social-ecological system approach

Considering the three pillars of economic, social, and environmental sustainability, and the importance of each pillar's full development for achieving long-term objectives in the fishery sector, a social-ecological system approach to GSVCA shall be adopted. The latter considers social-ecological systems as dynamic and interdependent sets of interactions (Virapongse et al., 2016) and might be beneficial in understanding the extent of human pressure that a gendered division of labour poses onto fish stocks and overall environmental health, and the disproportionate effects that an exploited environment might exert onto women and other marginalised groups.

## 2.2 Understanding the Tanganyika's value chain

### 2.3 Step 0: Zooming into Lake Tanganyika (setting the context)

#### 2.3.1. Socio-environmental context in Lake Tanganyika

SSFs in the United Republic of Tanzania are estimated to account for up to 97% of the national fish production (Pauly and Zeller, 2015), and more than 30% of animal protein consumed nationally is estimated to come from fish (MLFD, 2011). This makes the small-scale sector an important pillar for the country's economy and food security (Bradford & Katikiro, 2019). Given the greater international and national interest for the ocean-scape, the value of inland fisheries might oftentimes be overshadowed (Funge-Smith and Bennett, 2019). Nonetheless, inland fisheries in the United Republic of Tanzania constitute a prominent and equally important role in the achievement of livelihoods and food security for many communities (Murera et al., 2021).

Recognised as a global hotspot of biodiversity (Groombridge and Jenkins 1998) and as the leading national producer of sardines, sprat and perch (Bulengela et al. 2020a), Lake Tanganyika represents a cogent example of the profound assets held by inland bodies of water. The lake washes the banks of four different countries (i.e. Democratic Republic of the Congo, the United Republic of Tanzania, Burundi, and Zambia) and it is jointly administered by the Lake Tanganyika Authority (LTA) (Lowe et al., 2019). The high biodiversity found in the Tanganyika ecosystem constitutes a source of livelihoods and income for over 10 million people (Bulengela et al., 2020a) and its SSF sector is estimated to employ around 27,000 fishers and 11,000

processors, who are responsible for the transformation of 90% of the fish caught artisanally (Lowe et al., 2019).

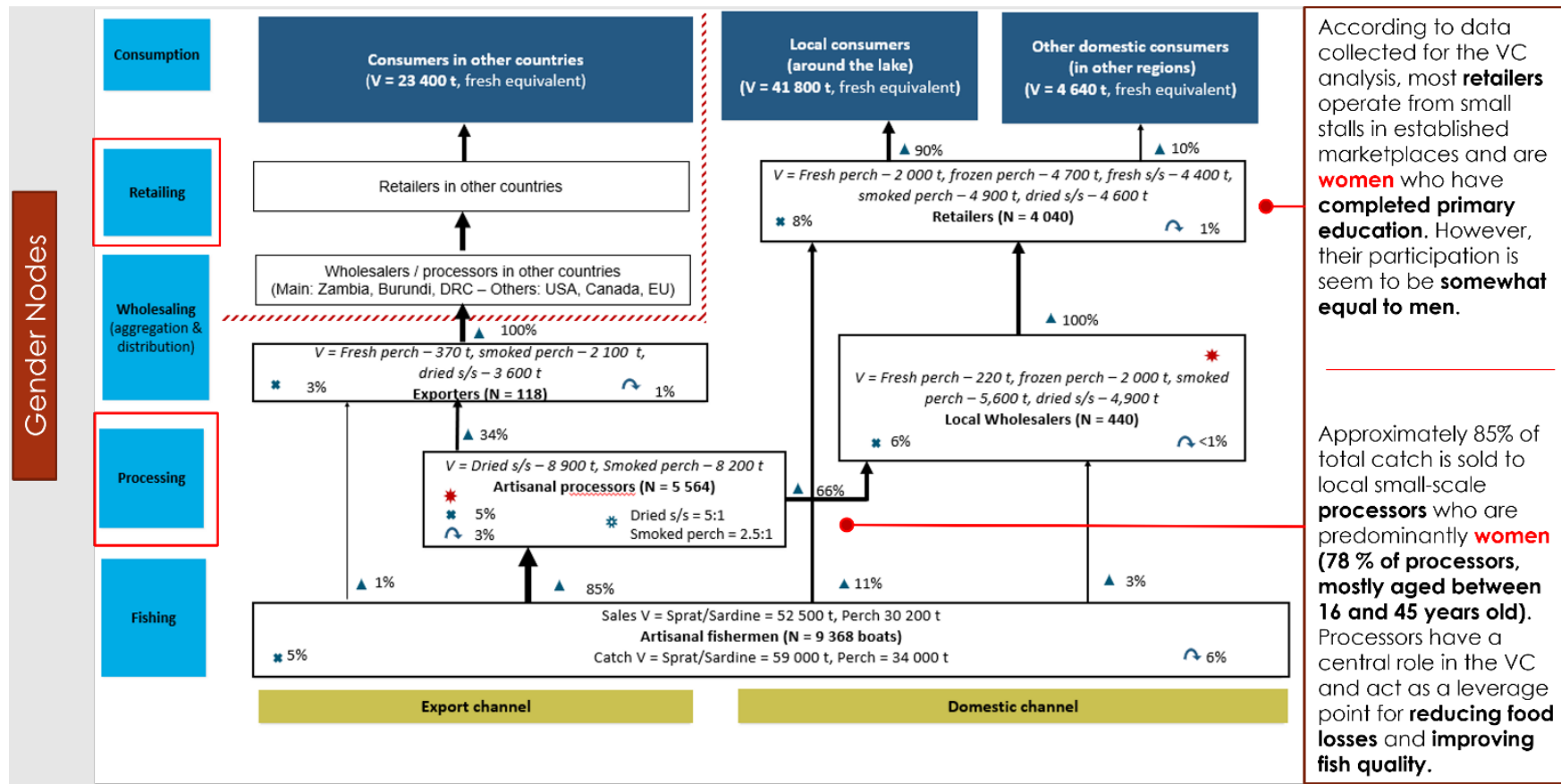
### 2.3.2 Climate change and other threats multipliers

The historical biological richness unique of Lake Tanganyika has been progressively hampered by chronically unsustainable fishing practices. The latter have been especially fuelled by population growth, the adoption of disruptive gear and the increased commercialisation of both Nile perch and sardine species (Bulengela et al., 2020a). Other externalities, resulting from a growing population, have been deforestation - ultimately affecting the lake primary production and fish breeding grounds- and pollution - enhancing biodiversity loss (Lake Tanganyika Authority 2012). Recent attempts towards natural resources community management have failed to substantially reduce unsustainable fishing practices, often conducted through the negotiation of rules overfishing (Bulengela et al., 2020b). The COVID-19 pandemic containment measures have only temporarily increased fish stocks and expanded fish nurseries and breeding areas (Aura et al., 2020), although re-engagement in extractive activities might pose equally alarming threats to the ecosystem viability as prior to the pandemic.

The destabilised equilibrium brought by several human pressures has been ultimately worsened by climate-driven rising temperatures, resulting in declining stocks and ecosystem productivity, threatening the resilience of the socio-ecological system of Tanganyika (Bulengela et al., 2020a). The water level of Lake Tanganyika has been rising for years due to climate change, causing floods and submerging fishing villages and landing sites. For example, according to information collected during the environment interviews conducted by FISH4ACP project in late April 2021 on the United Republic of Tanzanian side of the lake, it was found that some landing sites like Kasanga in Rukwa region were completely submerged and fishers had limited spaces to dry their fish, in addition to an ice production factory that was forced to close down due to the floods. To date, climate change is expected to exacerbate gender disparities (WorldFish, 2010), although little is known on how this threat will specifically impact women's livelihoods (Murera et al., 2021).

## 2.4. Step 1: Analysing the Lake Tanganyika sprat, sardine, and perch value chains

Figure 1. VC Map with highlighted gender nodes



Source: Author's own elaboration.

Core value chain actors:

#### 2.4.1. Women's participation in the value chain

Women participate in almost all activities in the value chain, but their presence varies across the different nodes of the value chain. Women's participation in the fishing node is very low – indeed, they appear to be hardly participating in fishing crews. However, this does not mean they are fully excluded from fishing activities. In fact, there are businesswomen who own fishing boats and hire fishing crew to conduct fishing activities, but the number of women owning fishing business is suggested to be much lower than men. Meanwhile, women actively participate in other segments of the VC, namely processing, wholesaling and retailing.

Almost all (nearly 90 percent) of the direct value-added generated in the VC is captured by fishing workers (30 percent), fishers (22 percent), retailers (21 percent) and wholesaler (14 percent). Processors and processing workers capture negligible shares of direct value-added (4 percent and 1 percent respectively), which is largely because processing is the least profitable function along the VC. This situation is concerning, as it shows women can capture very little benefit from the VC. Also, surveys with workers, processors, and fishers show that workers and processors are from poorer households as compared to fishers (Sendall et al., 2022).

Processors: Women account for 78 percent of processors, mostly aged between 16 and 45 years old. Processors have a central role in the VC and act as a leverage point for reducing food losses and improving fish quality. However, processing is the activity with the lowest returns of investments in the value chain and processing activities are usually aiming at preserving fish from deterioration rather than for value addition. Processors mainly claim to receive technical and market information from other processors and/or buyers, thus stressing their need for training and capacity building. As sprat and sardine in Lake Tanganyika are usually sun dried, financial capital is vital for the construction and use of the drying racks. On the other hand, perch are normally smoke dried, which is partially attributed to the lack of cold chains that are required to preserve fish fresh and/or chilled. Up to 80 percent of processors are not part of any association or organization. A same percentage of processors dry the fish on the ground

due to lack of sufficient financial resources to access raised or mobile racks, but also lack of access to land.

Retailers: According to data collected in the VC analysis, most retailers operate from small stalls in established marketplaces and are women who have completed primary education. Dried and smoked fish are stored in bamboo and wooden boxes, whilst fresh/frozen fish are stored in refrigerators/freezers. There is little knowledge, or implementation of, food safety standards amongst retailers. Retailers estimate losses to be around 8 percent (in terms of quantity loss) due to a lack of cold storage. Processors, wholesalers, and retailers have obtained new skills on using modern stoves and storage techniques to improve quality thanks to Ministry of Livestock and Fisheries (MLF) trainings and extension services, however it is still unclear if and to what extent women have access to these stoves in order to perform their activities in the VC.

2.5 Assessing the gender-based constraints and their root causes in the value chain

2.6 Step 2: Identifying the gender-based constraints and their consequences across the value chain

2.7 Women's economic involvement

#### 2.7.1 Gendered division of labour

Women's participation in the VC – either as business owners or workers – is mostly restricted to post-harvest activities; and women are not actively engaged in fish harvesting. According to the FISH4ACP findings, women are not part of any fishing crews and very few women own boats. Women's participation is generally limited to processing (78 percent women) and retailing (women's participation is roughly equal to men in terms of people involved).

In addition, much fewer women than men are employed as workers along the VC. In the survey of workers employed to work at different functions along the VC, nearly 80 percent are men. Interviews with VC actors also indicate a tendency to hire male rather than female workers across all VC functions, except for processing which involves relatively light tasks as compared to other functions. Of over 133 000 family labour and hired workers (people) employed to work in the VC as wage and salaried workers, it is estimated that just 23 percent (or nearly 31 000) are women paid to do processing and retailing tasks. Additionally, as their employment is



mostly part-time, women' share in the total number of wage and salaried jobs in FTE terms is even lower, estimated to be around 10.5 percent for processing and retailing tasks.

Even within post-harvest activities, women do not spend as much time as men on their work in the value-chain due to other competing demands on their time. Instead, women spend much more time than men on household chores (such as cleaning the house, cooking, cloth washing, water fetching, farming and looking after the children), which are traditionally considered as entirely women's responsibilities. On the other hand, men are indicated to only engage in bush clearing. Women's care and domestic responsibilities inhibit the time they have to spend on income-generating activities and restricts their ability to travel to other landing sites and larger markets (Bradford & Katikiro, 2019), which impacts the scope of women's networks and exacerbates gender wealth disparities.

This inequitable division of labour may also impede women's opportunity to benefit from any interventions aimed at increasing women's participation in the value chain due to constraints on their time and movements, unless a gender-sensitive or gender-transformative approach is implemented to mitigate this risk.

Furthermore, apart from being active members in the fish value chain, women also perform other activities such as agriculture. They cultivate various crops depending on the geographical location, however, maize is one of the staple food crops grown in all regions in the United Republic of Tanzania. Other crops include palm oil in Kigoma region, whereby processing of crude palm oil is also performed by women as another source of income. In high fish catch season, women hire labour to assist them in agriculture. Similarly, men's contribution in agriculture is through paying to laborers. Doing petty business is also a woman's responsibility. Food vending is also one of the sources of income, mainly performed by women. Based on the fact that women perform all other activities, they are increasingly becoming the bread winner of the family while men are working as fishers (Sornkliang et al 2018).

### 2.7.2 Access to income and economic opportunities

When women are able to access paid employment, gender stereotypes sometimes impede women from earning equal pay as men. This holds true both when women are performing

similar jobs, for example, women claimed that men get the higher wages as they do for carrying bucket or boxes of *dagaa* and perch, as well as in dissimilar jobs, as women also get lower pay than men because their jobs are often considered lighter or easier than men's (Sendall et al., 2022).

Women employed in retailing and processing as hired workers are among the lowest-paid workers in the VC, earning on average USD 0.5 to USD 1.12 per day (which is below the minimum wage of USD 1.66/day and the poverty line of USD 1.35/day) as opposed to the hired fishing workers and exporting workers who are male and earn USD 4.54 and USD 2.77 per day on average. Gender biases pave the way for an environment where VC actors, and even the workers, attribute these wage differences to the differences in the nature of the tasks conducted by men and women (e.g. fishing is heavier and riskier than processing) – thus making the generally low level of wages for female workers even more concerning (Sendall et al., 2022).

When considering self-employment, women comprise nearly 40 percent of all the business owners along the VC, mostly as owners of processing businesses and some as owners of retailing businesses. However, as processors' profitability level is the lowest among VC actors, the share of direct value added from the VC that is captured by women is low, i.e. around 17 percent, in the forms of profits (for female processor and retailer business owners) and wages for female processing and retailing workers. Processors in particular capture negligible amounts of direct value added, with processors and processing workers retaining just 4 percent and 1 percent respectively. Low incomes for both wage-earning and self-employed women in the value chain, combined with women's time constraints for unpaid care work, may inhibit women's ability to save money (Bradford & Katikiro, 2019). Limited savings increases women's vulnerability to livelihood shocks as they are less likely to diversify their incomes and invest in their businesses, perpetuating the risk of poverty and food insecurity for women and their households.

It is important to note that most retailers were able to start their businesses with savings and loans from family and friends and own some form of land or house. They also have higher net incomes and return on sales than processing business owners (20 percent vs. 4 percent), demonstrating the impact that social networks and access to capital can have on subsequent

business ventures and earning potential. Similarly, while female workers (primarily in processing and retailing) earn less than the minimum wage and live below the poverty line, all business owners, including processors and retailers, had an income above the minimum wage. This distinction shows the socio-economic differences between women who can afford to start a business, which requires some start-up capital, and women who continue to work as wage labourers, likely due in part to poverty. Although most women face barriers to equitable participating in and benefiting from the VC, these constraints can differ between women across socio-economic lines.

Despite their relatively low levels of participation in and benefits from the VC, the interviewed female actors and workers generally perceive that they are not discriminated against when participating in the VC. While it may be considered reasonable that lighter tasks have lower pay, the fact that women generally get paid lower than men in the VC raises a concern that there may be some (rather discrete) form of discrimination against women, which women themselves are not fully aware of. During interviews, VC actors reported few incidences of potential discrimination at their workplaces, mostly about fishing crews refusing to pay back the cash that female traders or processors advance to them. Women's income from processing and retailing and other sources is mainly used for feeding the family, paying school fees and other household necessities. Therefore, sustenance of the households in terms of food and other requirements of the family are shouldered by women, hence what they get is just from hand to mouth.

Expert interviews indicate women's important roles in the fisheries in the lake are usually unrecognized. Although women are not part of fishing crew, the fishing activities (by men) are heavily supported by women who provide logistical or financial support to fishing trips, for example through pre-financing some costs or providing/prepare food for fishing crew. As all these support arrangements are informal and not legally binding, these women also run the risk of not getting paid by fishers, as is the case often reported in interviews with female processors.

One of the key informants reported that income accrued by men (fishers) is always misused hoping that the next day they will receive money. They believe that the "lake never dry" they will

always get money. It is very unfortunate that fishers (men) do not keep part of their money to be their capital for the next fishing trip, rather they depend on borrowed money from women processors. Women agree to lend money to fishers with the anticipation that they will easily buy fish from them, however, returning of the borrowed money is always not an easy task, women end up running their business with little money and hence, their income is negatively affected. It has been evident that men (fishers) borrow money from more than one processor (women) and ended up not returning or paying beyond the agreed time, this leads to women somewhat losing their business capital. In case of low fish catch, fishers fail to fulfil their promises to women processors whom they borrowed money from. Sometimes fishers change the landing sites and sell all the fish to other clients. Although there is an office for Beach Management Unit (BMU) leadership on each of the landing sites to resolve such disputes, women still recover their monies with difficulties.

When it comes to processing, women play a dominant role, thereby also taking most of the risks associated with processing (such as fish spoilage due to rain or poor storage). To reduce these risks, women processors at Kigoma District Council reported that they always hire labourer in the daytime to cover their fish with plastic papers/sheets in case of rainfall and pay them TZS 2 000 while in the night they pay TZS 5 000. This in a way reduces the profit margins of women processors and traders.

At home, women are responsible for household chores, taking care of the family when their fisher-husbands go fishing. All these activities undertaken by women are crucial to the functional of the value chain; but women are often not counted in official statistics and do not receive proportionate recognition or value for their participation.

### 2.7.3. Gendered access to productive resources

The national land policy as well as other legislative documents calls for equal opportunity for all genders in accessing resources. However, according to many women interviewed under the conduct of the VC analysis, this is not the case. These female respondents indicated that they do not have ownership over land as men do. Traditionally, land has been owned and controlled by men, and the transition to ensure equal opportunity on land ownership is slow. The issue of

access to land is of particular relevance to processors who need land to dry/smoke fish. Many processors reside outside of fish landing site areas and travel to the lakeshore every day to process fish. This group do not own land and therefore have difficulties accessing secure space to dry fish and to invest in building their own drying racks. Processors may rent land from landowners on or close to the shore and pay TZS 2 500 per box of fish in Kigoma region. The price differs from one place to another. This represents an additional cost that cuts into their already limited profits.

Women's inequitable access to land also prevents them from accessing formal financial services which require ownership of assets (e.g. land) to be provided as collaterals. In fact, many of the women do not access any formal financial services, as 84 percent do not have bank accounts. Due to the lack of access to formal credit, women are more likely to be involved in informal saving schemes than men, whose participation in these informal groups is low. While informal credit and saving schemes enable women to access small amounts of funds, their lack of access to formal credit and the larger amount of available capital is a barrier that may impede access to higher-quality fish or markets, or to invest in improved technologies such as drying racks, modern stoves, and freezers (Fröcklin et al., 2013) or even miss opportunities to expand their business operation and access formal and larger markets.

For all core actor types, except processors and exporters, a typical (average) VC actor has a (Return on Savings) RoS above the United Republic of Tanzania bank lending rate of 17 percent, indicating the activity still provides positive financial returns even if the funding has to be borrowed from the bank (Sendall et. al, 2022). As a consequence of this situation, low profitability of processing leads to uncertainty in terms of benefits that processors might gain, limiting access to and demand for formal credit and thus leaving no room for improvements in their RoS.

The combination of low incomes and lack of access to credit further impedes women's ownership of productive resources, as processors are unable to afford the materials required to build their own drying racks. Drying racks increase the quality and food safety of fish which means that the fish can be sold for higher prices, yet roughly 80 percent of processors continue to dry their fish on the ground. Processors who want to adopt better processing practices but

cannot afford the materials must rent racks from other processors or VC actors which could prevent them from meaningfully benefitting from the higher returns.

Similarly, many processors use wood stoves to smoke perch as opposed to more modern and energy efficient stoves. These stoves rely on firewood from local forested regions – the reliability of women’s access to firewood is dangerous as these resources are threatened by deforestation and urban growth. The cyclical and intersecting nature of these risks mean that without access to more energy-efficient stoves, women are likely to face a heightened burden as their activities collecting firewood for stoves contribute to ongoing deforestation. Energy-efficient stoves could be helpful, provided that gender-based constraints such as cost, maintenance requirements (skills, money, and time), taste/quality demands, and others are addressed.

Although there are no reports of gender discrimination in business licensing or registrations (as licenses are issued to anybody who meet the legal requirements), 70 percent of processors have not registered their business thus creating strong implications for accessing insurance, social protection, and other financial services, as well as to markets: examples of this indirect discrimination are the permits required to transport fish outside of the fishing community, but also the preferences of intermediaries reportedly advantaging wealthy traders from the DRC.

#### 2.7.4. Marketing of fish along Lake Tanganyika

Some villages along Lake Tanganyika such as Kagunga, Mwamgongo and Mtanga has no road infrastructures connecting them to the mainland. The only means of transport is through passenger Boat shuttling from the village to Kibirizi market in Kigoma Ujiji once per day. Missing that boat, leads to the processor incurring losses. Majority of processors in these villages sell fish in Burundi and the Democratic Republic of the Congo. With the exception of Kasanga village in Kalambo District in Rukwa region, most of the fishing villages in the three regions along Lake Tanganyika had no tarmac road infrastructures, hence, accessing local markets such as in mainland the United Republic of Tanzania and outside the United Republic of Tanzania becomes difficult. Majority of women processors sell fish in an example of Kilewani and Samazi in Kalambo district, women carry the luggage of fish on their head to catch the bus to the market.

An expert (fish quality control officer) at Kigoma reported that very few women (30 percent) as compared to men (70percent) manage to sell fish on the international markets. Reasons being lack of enough capital to buy a meaningful quantity of fish and processing equipment to attain the international quality standards as well as lack of business skills and connections. For instance, transportation of fish to the United States of America and Canada is through DHL system, which is associated with high delay that may lead to fish spoilage, hence, majority of women are not ready to take the risks.

#### 2.7.5. Women ´s decision-making and leadership

Women have limited roles in decision-making and leadership in the fisheries value chain of Lake Tanganyika sprat, sardine, and perch. In many decision-making organs like BMUs, the number of women is generally low, with up to 80 percent of processors stating that they are not members of any relevant association or organization. When women do participate, majority of them hold lower positions than male members, without equitable representation in decision-making processes.

In addition, nearly 60 percent of women who were interviewed during workers survey indicated that their husbands make unilateral decisions on how to spend household income. This may imply that women are also not involved in making decisions related to the purchase and/or utilization of assets by the family.

Given the relatively low profitability of women´s activities in the fishery sector, their lack of input in decision-making around income from fishing and other income-generating activities suggests women have less control over capital. The consequence of this is that even in situations where women may earn additional income, they may not be able to use this money to invest in their business (such as by buying boats or materials for drying racks) or to diversify their income, perpetuating low technology processing processes and exposing women to vulnerability in the case of external shocks as well as health risks. On the other hand, women reported to be the bread winners of the household, thus, making some decisions to the income obtained from selling of fish in the local market or mainland the United Republic of Tanzania. For instance, decisions on minor purchases such as food for the family, clothes for children and their school

requirements and even buying clothes for the husband. Buying household furniture is also a responsibility of women, one of the focus group discussants at Kibirizi market was quoted saying:

*“Purchasing of furniture at household level is a responsibility of a woman, if a woman do not buy, then there will be no furniture at home”*

Majority of the fishers move from one area to another, normally stay in temporary small houses along the beach as a result they do not see the importance of buying furniture.

#### 2.7.6. Gender-based violence and sexual exploitation

Women involved in the fisheries also experience gender-based violence. Since owning a boat goes against traditional gender roles, women often face jealousy from their male counterparts. If a female boat owner's spouse is not a fisher and her business become successful, marital issues in the form of violence and intimidation often occur (Waldorff et al., 2016, as cited in Bradford & Katikiro, 2019).

The risk of violence may also constrain women's participation in fishing activities which take place at night (including sprat, sardine, and some perch). Aside from the domestic and care responsibilities that would prevent women from being out at night, women are also at risk of abuse and harassment when they work at landing sites after dark (EMEDO, 2017, as cited in Bradford & Katikiro, 2019; Medard, 2012).

One of the key informants (woman owner of a boat and fishing nets) when asked the reasons for excluding women from fishing, she opined that majority of fishers are drunkard and some of them are addicted to drugs mainly marijuana, therefore, women being part of the fishing crew for the whole night will be at high risk of abuse and harassment.

Notably, there are indications of sexual harassment/exploitation in the VC, whereby female processors can only obtain fish or get back the money they advance to fishers in exchange for having sex or other forms of sexual relationships with fishers. In Lake Victoria, declining fisheries, increased demand, and lack of feasible alternative income options for women have caused competition to become so great that women are now forced to offer sex to male fishers



in order to acquire offloading *dagaa* (Béné and Merten, 2008; Medard, 2012; Fiorella et al., 2015). This sexual exploitation was only indicated by a few female processors during the interviews conducted under FISH4ACP at Lake Tanganyika, but this may be due to the sensitive and stigmatizing nature of this issue. Through probing, it was evident that majority of crews in Kigoma region are from Burundi, therefore, they have official wives at Burundi when they come to the United Republic of Tanzania, they just have temporary marriages.

Furthermore, early pregnancy resulting from sexual exploitation of girls was reported in all villages under FISH4ACP project area. This form of gender-based violence is commonly practiced among fishing communities. Majority of young women aged between 18 to 25 years old were reported to have 2 to 5 five children. When asked about the causes for early pregnancy, one of the discussants replied that normally fishers move from one area to another, leaving behind their families, therefore, they start new sexual relationship with young girls who are considered to be less demanding and easily convinced.

Early pregnancy goes together with early marriages, young girls at the age of 13 onwards start marriage life. This is regarded as a blessing to the parents. One of the discussants at Kabeba village in Uvinza district commented that *"if your daughter gets a husband in this era, it is a blessing"*. Marriage is a blessing regardless of the age of the girl and the so called "husband", sometimes the husband is too old as compared to the age of the girl. Apart from being old, he might be married to another wife. It was noted that most of the marriages in the fishing communities is always temporary. Up on separation, the remaining young mother has to take care of the family and therefore, fish processing is always the only option. Entering into such business without having good capital, such young mothers will be getting just small income for daily consumption, hence such family will be in a vicious circle of poverty. High fertility level in the fishing community is an indicator that condoms are rarely used. This, coupled with men having multiple partners therefore increases the risk of contraction and spread of HIV/AIDS and other sexual transmittable diseases.

As a result of these established harmful practices, HIV/AIDS and social stigma are factors strongly intertwined with transactional sex in the fisheries sector and its communities. Useful examples can be cited in other countries in the region: on the Ugandan side of Lake Victoria

women strongly rely on their partner's financial support, and this dependency limits their ability to negotiate sexual boundaries including contraception, promiscuity, and pregnancy (Pearson et al., 2013). In Malawi, while HIV/AIDS is a well-known risk and a serious issue affecting the fishery communities, especially in the case of people having multiple partners, the blame for the spread of HIV was clearly borne by women (MacPherson et al., 2012). In general, HIV risk could be augmented depending on the nature of the fish-for-sex relationships in the fishery, such as whether they are longer-term or ad-hoc, and whether individuals have a singular or multiple partner (Fiorella et al., 2015). In Lake Victoria, the United Republic of Tanzania exchanging sex-for-fish is not perceived as a shameful practice, but it is considered a necessary step for women participating in the fishery value chain (Medard, 2012). Despite this apparent acceptance, many processors have experienced the loss or disruption of their romantic relationships as a result of their engagement in transactional sex with multiple partners (Medard, 2012) – this could be seen as an example of how stigma manifests in subtle ways.

In the United Republic of Tanzania, transactional sex can be considered an established and accepted social norm, as linked to the general agreement that extra-marital sexual relationships often necessitate some sort of exchange (Deane & Wamoyi, 2015). These assumptions pave the way for complicated gender dynamics; in some cases, women may purchase fish on a loan and then try to pay in sex later. On the other hand, some men would give fish on loan to women in order to try negotiating sex at the time of payment. The degree of negotiation and agency varies, with some women forced to pay back debt with sex due to economic vulnerability or power relationships, whilst others use sex in order to increase their profits (Deane & Wamoyi, 2015).

In other contexts, like the Kenyan side of Lake Victoria, fish-for-sex was more related to fish scarcity and used as a practice for building preferences that would determine a successful attempt to buy fish, regardless of prices (Fiorella et al., 2015). However, researchers found that women who engaged in transactional sex were more likely to be experiencing severe food insecurity.

Similarly, during the study by FISH4ACP project, focus group discussants at Mwamgogo and Mtanga villages in Kigoma informed that sexual transaction is mainly practiced during low fish

catch period. Fishers sell fish to specific women due to the fact that either they borrowed money from them or they have sexual affairs. One of the key informants at Kigoma testified that no one can buy fish direct from fishers. This was supported by one of the District Fishery's officer was quoted saying:

*"...you cannot buy fish from fishers at the landing sites, even myself as a fisheries officer I cannot buy fish from fishers"*

While the tendency of strictly selling fish to processors is commended, the underlying cause might be due to transactional sex. One of the woman owners of fishing equipment at Kabwe village in Rukwa was quoted saying:

*"...Being the owner of the boat and fishing nets, I am assured of getting fish on daily basis, because my fishing crews will always sell fish to me and being a woman, I process and get more money than men fishers..."*

For women with capital, they seem to be free from transactional sex than those with no capital. Women with no capital are sometimes forced to offer sex for fish in order to get fish for sell for their daily bread at their homes.

a) Abusive languages

Abusive languages at the landing sites are regarded as a normal practice for both men and women. Discussion with a group of men at Mwamgongo village in Kigoma, they agreed that such languages are normally spoken by men, women respond by also using similar or related languages towards men. One of the key informants at Kibirizi landing site contend that abusive languages at the beach/landing sites are spoken by almost all actors regardless of their age group. Since some of the landing sites are equipped with market infrastructures, there are different people with different age groups visiting the place, therefore, such abusive languages are against Tanzanian moral and norms. Normally, they speak words in relation to the gender and sex roles of an individual. According to Davis *et al.* (2022), there is a significant relationship between abusive languages and gender-based violence. Such language stimulates the body and thoughts of the speaker/listener and increase chance for occurrence of gender-based violence.

Abusive languages sometimes are spoken in a harsh manner or with patting (mainly men patting women). During focus discussion with the group of men, one of the discussants was quoted saying:

*“Any woman who refuse patting, she will hardly get fish and sometimes women respond with abusive languages to men too”.*

As an outcome of early pregnancy, some of the young mothers move around with their children along the beach, their children grew up on the beach, therefore, they hear such languages in their childhood until when they attain puberty. As it was stipulated by Davis *et al.* (2022) such languages are normalized in the mind of the speaker and the listener. In the long run they lead into violent behaviour of an individual.

b) Wife battery

Wife battery is practiced among fishing communities along Lake Tanganyika. However, this type of gender-based violence is also regarded as normal practice. During focus group discussion with young women at Muyobozi village at Uvinza District in Kigoma region, one of the discussants was shocked after hearing that wife battery is one form of gender-based violence, she was quoted that:

*“Is wife battery a form of violence? I thought it is right for the husband to beat his wife if she is not obedient, majority of young women are always not respectful to their husbands”*

Such statements are caused by their low level of education and lack of exposure. This is a call for FISH4ACP to create awareness among women and men in the fishing communities.

Reasons for wife battery include: wife asking about the suspected extra marital relationship of the husband or wife, asking for support for daily requirement of the family by the wife. Gender based violence is one of the causes of separation of many marriages among the fishing communities. Based on the fact that majority of fishers are mobile, they easily separate and start new relationship somewhere else. Most of the marriages are temporary. One of the key informants at Katonga landing site at Ujiji Kigoma said that, currently there is a street of singles/separated women commonly known as the *“hill of women street”* after getting money

from fish processing and trading, women become disobedient to their husbands. Such language connotes jealousy of men towards women who work hard to improve their economic status. Inferiority complex of men married to successful women processors may lead to violent relationship that might end up at separation. Traditionally, women are used to be economically dependent on men, however, those who work hard to economically empower themselves are regarded as deviant.

#### c) Raping

Very few FGD participants mentioned raping as one form of gender-based violence in the fishing communities. This is due to the stigma associated with raping. Key informant reported that raping is commonly practiced among fishing communities. Apart from there being laws protecting women and children from sexual exploitation (SOSPA 1998), still raping is practiced. One of the experts at Kigoma revealed that raping in the fishing community is very common, family members of the victims are expected to be in the front line reporting such cases of violence, however, this is not always the case. One example of a case where a girl was raped, when the case was presented to the mother of the victim, her response was as indicated in the quote:

*"...you have been raped because you refused to offer him sex, now you have seen the outcome of your own mistakes..."*

This is one of the stereotypical thinking that men are always right, instead of blaming the perpetrator, the parent blames the victim. With this kind of attitude, sexual exploitation will continue and unexpected pregnancies and risk of contracting sexual transmittable diseases will never end. Even if the government formulate and enact laws against the perpetrators, still violence will continue and the law will remain in papers. Change of attitude towards gender-based violence among communities is of paramount importance.

### 2.7.7. Access to fishing (harvest) and availability of fishing resources

All the fish in Lake Tanganyika are caught by small-scale fishers who are predominantly men, and approximately 85 percent of their total catch is sold to local small-scale processors who are predominantly women. In Kigoma on the eastern shore of Lake Tanganyika, Waldorff et al. (2016) noted that all capture fishers were male. The fishing in Kigoma takes place at night as solar or gas lights are used to attract fish to the surface waters. When male fishers were interviewed, they explained that fishing is not a job fit for women as they are expected to stay home and care for children and the aged.

Access to the lake and fishing effort is not limited and anyone can carry out fishing on Lake Tanganyika as long as their boat is registered with District Council and fishing and crew licences are paid for. The Fisheries Act states restrictions on fishing methods, but not on volumes caught. Therefore, the number of fishers and volume of fish harvested is limitless and the fishing grounds are essentially 'open-access'. Although women are not specifically barred from registering boats and obtaining fishing licenses, the financial burden of purchasing boats and paying for a license may be prohibitive, since women involved in the fishery have lower incomes and less access to capital than men.

Moreover, Waldorff et al. (2016) observed that boat owners in Kigoma, a strong stakeholder group within the value chain, are predominantly male. Female boat owners explained that along with financial barriers, cultural norms and gender roles inhibit their access to boat ownership. Marriage is the most common way for a woman to enter the fishery (Lwenya et al., 2009.) This was corroborated by Sendall et al. (2022), who found that women were not part of any fishing crew and very few women owned boats. These are due to various reasons, including the social norms that fishing is a male business, the physically demanding nature of fishing tasks, as well as the difficulties facing women in accessing finance to buy boats and gears as opposed to men.

Beyond the socio-economic barriers, women's access to fishing is limited by changes to the natural environment around the fishery. Deforestation in the area has greatly accelerated

erosion, leading to sedimentation. The eroded sediments accumulate in the nearshore areas of the lake negatively affecting habitat, breeding grounds, and disturbing primary production. In addition, increasing domestic and industrial waste as a result of the growing population is argued to be increasingly causing pollution of the lake environment. Such pollution, along with the deforestation, all results in the loss of biodiversity and a reduction in fish stocks (Lake Tanganyika Authority, 2012). While fish catches in Lake Tanganyika were steadily declining since the mid-1990s due to over-exploitation (Sarvala et al., 2006; Van der Knaap, 2018), recent data from the Ministry of Livestock and Fisheries shows that between 2016 and 2019, the catch increased significantly due to intensified fishing efforts, demonstrating persistent over-exploitation of the fishery. This unpredictable catch and illegal fishing further jeopardize the sustainability of these resources and threatens the longevity and security of women's livelihoods.

The effect of these changes has direct implications for income, livelihood security, and food security, with potential risks for women and children, as further explained in the paragraphs on shocks and climate change, as included in the "root causes" section of this document (*Step 3*).

#### 2.7.8. Access to quality species

When both men and women engage in the same activities, evidence from other fisheries in United Republic of Tanzania suggests that women are often competing with men and may only have access to inferior, lower value products (Bradford & Katikiro, 2019). At Lake Victoria, women mainly have access to fish species that are not exported such as tilapia and *dagaa*, as well low-quality Nile perch, while most men are involved in the more valuable Nile perch fishery (Lwenya et al., 2009). Women only participate in the Nile perch fishery by dealing with products of low value, such as under-sized fish and factory rejects. More information is needed to understand these dynamics at Lake Tanganyika specifically, however this dynamic may be a risk to equitable incomes since good-quality fish can be sold for nearly double the cost of lower-quality product (Sendall et al., 2022).

### 2.7.9. Access to export/high level markets

Socio-cultural roles affect the extent of women's involvement in the fishery value chain. Customary beliefs, norms and laws and unfavorable regulatory structures of the state, reduce women's access to fisheries resources, assets and decision-making (FAO, 2006; Porter, 2008; Okali and Holvoet, 2007), confining them to the lower end of supply chains within the so-called "informal" sector. Indeed, women in the value chain of fisheries account for a large majority but are least ranked in terms of access and control of economic resources (Gardner et al., 2017, Odhone et al., 2020). Out of this majority, women are likely to constitute a larger proportion of the poor within the fisheries sector and are often excluded as a resource user group in fisheries governance and resource management. Following this trend, it is difficult for women to be involved in decision-making related to fishing either at household, community, regional or national levels (Worldfish, 2010).

United Republic of Tanzanian women generally have limited access to financial capital (de la Torre-Castro et al., 2017), but also less available time to spend on fishing, less mobility and less access to markets compared to men (Calhoun et al., 2016; de la Torre-Castro et al., 2017). These considerations take into account the fact that transport improves trader's flexibility both temporally and spatially. Without transport, women tend to struggle in dealing with changing markets and have less financial power, thus being pushed to borrow money, buy less fish or engage in other income-generating activities to increase their income (Fröcklin et al., 2013).

Women predominate in local marketing of fish while males dominate the export market (Lwenya et al., 2009). This dynamic is also seen in Lake Tanganyika, where women are involved in local markets as retailers, but remain underrepresented as wholesalers or exporters, where there are greater opportunities for expansion (Sendall et al., 2022). Access to main markets and to storage facilities such as freezers is mainly available to men, making them less vulnerable to market changes (de la Torre-Castro et al., 2017) and providing them the tools to make their activities in the value chain more profitable. This predominancy is consolidated in terms of access to the right contracts which are mostly available to men, as well as the pressure of social and cultural norms discourage women from accessing the main markets and consequently higher profits (Fröcklin et al., 2013).



### 2.7.10. Access to information and training

Although the Ministry of Livestock and Fisheries (MLF) provides training and extension services in the VC regarding fisheries management, conflict management, and improved fishing, post-harvest handling and processing techniques, the lack of financial and human resources, as well as the lack of facilities and infrastructures hamper the effectiveness of the institution's work (Sendall et al., 2022). However, fishers have reported these trainings to be useful, gaining information about proper fishing techniques, whilst processors, wholesalers, and retailers have obtained new skills on using modern stoves and storage techniques to improve quality thanks to MLF trainings (Sendall et al., 2022).

In general, women obtain most of the technical and market information related to their activities in the VC from either buyers or fellow processors: this explains why, when asked about the need for training, over 80 percent see a need for training in business management, processing or marketing. This implies concerns related to the technical trainings currently provided, as well as a need for further training on improved fishing and processing skills and methods (Sendall et al., 2022). Information about markets where VC actors operate is often shared through the networks of social relationships which are based on trust and often shape buying-selling and input provision. In fact, in terms of market information, customers and fellow actors are the main source of information for the VC actors, as indicated by around 60-70 percent of the surveyed fishers and processors. While these networks enable women to access limited market information, formal training may be beneficial to expand women's technical information and social networks, particularly in other areas of the fishery where they may not have as many contacts.

A crucial role in the flow of market and technical information along the VC is born by women's organizations (like TAWFA) where women can find and provide mutual support in terms of information sharing and money lending/borrowing. When processors and retailers are part of specific groups, it is easier for them to share the cost of buying inputs and services, and to share information about production techniques and models, about marketing locations and prices, as well as to receive training and extension services which in some case appear more effective than the public ones (Sendall et al., 2022). However, over 80 percent are not members of any

association or organization; there is an opportunity to increase their access to information and skills development by supporting women's participation and coordination in these groups.

All the interviewed VC actors, from fishers to retailers, perceive existing means of telecommunication are affordable for them and supportive for their operations. For instance, mobile phones are reported to have helped fishers to obtain market information and to have helped wholesalers, exporters, and retailers to pay for the raw material supplies and to get payment from buyers using mobile banking. The accessibility of these technologies offers a pathway to use them in a gender-sensitive way that could benefit women along the VC.

#### 2.7.11. Occupational health and safety

Fish processors continue to use wood and charcoal to smoke fish (Sendall et al., 2022). In addition to ecological impacts such as deforestation, wood stoves can pose health risks to processors like difficulty breathing and burning eyes. In fact, occupational fish smokers reported higher symptom rates compared to those in other occupations: a study shows that working near wood combustion for 5 hours per day has significant implications for women's health, even when done outdoors (Weyant, C.L., et al., 2022).

Smoking in the Lake Tanganyika context is most often done with firewood in ovens with a processing ratio of 2.5kg of fresh perch to 1kg of smoked perch (Sendall et al., 2022). Smoking takes approximately 4 hours and extends storage time to about a week; in this regard, processors and processing workers are likely to experience impacts on their health. The complete absence of formal (written) contracts as well as the lack of occupational health and safety standards place workers in a particularly vulnerable situation due to the lack of job security and safety (Sendall et al., 2022).

In addition to this, community health centres are scarce around the lake, resulting a big proportion of the population being prone also to diseases such as water-borne diseases and malaria. This low level of the population's wellbeing due to the lack of basic facilities has negative implications for the VC, which is operated by and relies on the participation of the local communities, including for women who are most likely to suffer for exposure to harmful smoking techniques.

## Summary

Men's control over fisheries is thus a phenomenon consisting in the domination of the most lucrative activities of the value chain, or of whole sectors in specific circumstances. Women are relegated to a less remunerative position that can lead them to heavily rely on informal sources of credit, such as family members, savings or money lenders, and fosters the prevalence of risky practices such as fish-for-sex relationships. This couples with the difficulty for women to accumulate savings, access land and other resources, and gain experience in more profitable nodes of the value chain, particularly considering the amount of labour that they devote daily to unpaid domestic work (Fröcklin et al., 2014).

### 2.8 Step 3: Assessing the underlying causes of gender-based constraints

#### 2.8.1. Traditional knowledge and cultural norms

According to Bulengela et al. (2019), in the Lake Tanganyika regions of the United Republic of Tanzania, fishing activities are strongly influenced by the local traditional knowledge, such as navigation and weather forecasting, and cultural beliefs. The traditional knowledge that the local fishing community has accumulated over generations is crucial in guiding their fishing activities. According to the interviewed fishers, most of the fishing methods they currently use are inherited from previous generations, except for a few new technologies such as the use of solar lamps for fishing and monofilament nets (Freemaya). Inside the fishing community in Lake Tanganyika, this traditional knowledge is blended with the community's spiritual beliefs in the value of and relationship between natural resources and fishing. It is believed that a breach of beliefs "would make the spirits angry and even punish the entire society" (Bulengela et al., 2019).

Local traditions and customs are found to have provided the local community with guidance on how they should behave in life and at work, which in turn, has had positive impacts on the VC in terms of social sustainability. For instance, despite VC actors' lack of understanding of formal anti-discrimination rules, incidences of discrimination in the VC are generally rare because the local customs and traditions do not allow such practices. Additionally, the major religions in the region (i.e. Christianity and Islam), which advocate for good deeds, are suggested to have

shaped the characters of local people and motivates them to conduct good and trustful businesses (Consultation with VC stakeholders, 2021).

However, there exists socio-cultural gender norms which disadvantage women. For instance, women are not allowed to get into fishing boats because that will bring bad luck. Similarly, women face social taboos such as not being allowed on the water during menstruation or not being able to touch traps during fabrication, that their male counter parts do not (Bradford & Katikiro, 2019). It is largely due to such a cultural norm that there is hardly any participation of women in fishing crew, although this situation is also believed to be due to the nature of the fishing job (which is physically demanding) and due to women's preference for processing and retailing job (which entail lighter tasks) (Interviews with VC actors and MLF officers, 2021). According to interviews with gender/social experts, socio-cultural norms are indicated to dictate the roles women should play at home and in the community and the kinds of jobs that they should do. The main roles for women are mother and wife, taking care of household chores. Besides, fisheries businesses are often associated with social issues and thus discouraging women from entering these businesses. Thanks to good examples of strong women who are successful in fisheries, the social attitudes towards women in fisheries have been gradually improved; but there still exist strong social norms that disadvantage women.

### 2.8.2 Masculinity

Like gender itself, masculinity is a socially constructed set of norms and practices that manifests through behaviours performed in social contexts (Salguero-Velázquez, 2022; Connell and Messerschmidt, 2005). Masculinity and male identities are dynamic, relational, and contextual; they adapt and are constantly changing alongside both personal and socio-cultural shifts. However, while masculinities are not uniform nor static, hegemonic masculinity represents the dominant form of masculinity in a given context.

In fisheries, hegemonic masculinity constructs fishing as a male activity and fisheries as a masculine space (Salguero-Velázquez et al., 2022; Torre et al. 2019; Bradford & Katikiro, 2019). This belief is perpetuated through individual attitudes towards women fishers, who may be stigmatized, as well as through decision-making institutions such as cooperatives and BMUs

where men's domination is legitimized. These beliefs are often tied to ideas about men's physical and behavioural attributes such as physical strength, toughness, and endurance (Adkins 2010; Turgo 2014; Salguero and Alvarado 2017; Castañeda et al. 2020), as well as women's perceived weakness and domestic responsibilities.

Beyond excluding women from fishing and decision-making spaces, traditional masculinities can encourage unhealthy behaviours associated with the perception of fishing as a risky occupation. The occupational risks inherent in fishing and the culture of hyper-masculinity associated with it may disincentivize the use of condoms during transactional sexual relationships, particularly when HIV and other STDs are not considered immediate risks (Mojola, 2011). These expectations are not limited to men; a study in Uganda noted that young boys working at the landing site lacked sufficient secure income to maintain relationships but would use cash income to frequent sex workers in order to gain sexual experience (Pearson et al., 2013). Social expectations that men should have multiple sexual partners may drive or be used to justify short-term and non-monogamous transactional sexual relationships, further enhancing the risk of HIV and other STDs, as well as unwanted pregnancies.

According to Salguero-Velázquez et al. (2022), the construction of traditional masculinity is not only detrimental for women as it prevents them from equally participating in and benefitting from the fisheries value chain, but is also harmful to men by endangering their health, encouraging substance use, and hindering their ability to form meaningful relationships with others (Kaufman 1989; Kimmel 1997; García 2005; Tu-Anh et al. 2013; Turgo 2014; Coulthard et al. 2020).

### 2.8.3 Gender data gaps: Implications for gender mainstreaming in fisheries policy

Gender mainstreaming in legal frameworks and national strategies is possible only when institutions have data available to them that enables an informed decision-making process. This process relies on the availability of sex-disaggregated data and on the proper consideration of women's perspectives in the formulation of these legal instruments, along with the integration of a participatory approach at all stages of the strategies targeting gender equality as an objective, either direct or indirect. To date, the institutional and political context of many

countries, including the United Republic of Tanzania, continues to avoid gender mainstreaming and gender equality as women's contribution in the fishery sector is often overlooked in national statistics and political strategies. In fact, as highlighted in the Step 0 of this document, although many sex-disaggregated indicators are available in the United Republic of Tanzania, fishery statistics continue to lack disaggregation by gender, and this characteristic invisibilises women's employment (formal/informal) and underestimates their contributions to the VC, undercutting women's ability to be seen as key stakeholders in fisheries decision-making and management (Bradford & Katikiro, 2019; Kleiber, Harris, & Vincent; 2014). As a result of this data gap, gender-specific constraints cannot be meaningfully addressed through policies and programmes, thus at best maintaining the status quo, and at worst, threatening women's progress and opportunities in the sector.

One important impact of the gender data gap is the lack of policies and strategies to support women in the sector and to address gender-based constraints. As mentioned in Step 0, the United Republic of Tanzania's NOPA-SSF guidelines aims to enhance both men and women in fisheries' contribution to food security and nutrition (MLF, 2021a); however, the gender data gap is hindering effective implementation of this plan (Bradford & Katikiro, 2019). For example, regulations governing permitting procedures in Lake Victoria, the United Republic of Tanzania were applied to both *dagaa* and Nile perch fisheries, despite the differences in capital, technology, and markets between each value chain, thus inadvertently disadvantaging workers in the *dagaa* fishery (primarily women) through burdensome requirements (Smith & Basurto, 2019). Several promising developments have occurred in recent years that may support women's opportunities in the sector, including the founding of TAWFA and the establishment of a gender desk at the Ministry of Agriculture, Livestock and Fisheries (FAO, 2020; Smith & Basurto, 2019). With sustained political will and accompanied by sufficient resources, these initiatives could lead to meaningful changes in the balance of power in the United Republic of Tanzania's fisheries, supporting women to overcome constraints and achieving enhanced well-being for all VC actors.

#### 2.8.4 Shocks and climate change

Social and ecological shocks have a key role in determining women's vulnerability and resilience to their socio-economic context in the VC, including their access to resources, to land, and to fishery markets. These factors influence women's role in the VC and are being exacerbated by the ongoing impacts of climate change on the fisheries sector and the surrounding environment.

Unpredictable weather events, which are becoming more common as a result of the changing climate, jeopardize the VC's access to markets. Although there are several end markets for the VC products, most of the markets outside of the three regions around the Lake (Kigoma, Rukwa, Katavi) often quickly become unreachable for VC actors in the event of shocks that disrupt the movements to and from the Lake (such as in case of COVID-19 and floods). While these market disruptions impact all VC actors, they increase women's vulnerability by exacerbating existing constraints. Floods due to heavy rain were not a frequent occurrence in the Lake Tanganyika area in the past, but the floods experienced in the past 2-3 years were unprecedented and are expected to continue in the future. Flooding results in damaged and/or submerged landing sites, processing sites and marketplaces where VC actors operate (process and trade the fish), which in turn leads to reduced supply of fish products and increased prices. For processors particularly, their revenues are reduced due to difficulties in sun-drying sprat and sardine and properly storing fish products to maintain quality and this has a direct impact on the workers employed by them (Sendall et al., 2022). Similarly, climate change, characterized by stronger wind and changing conditions in the lake, has resulted in reduced fish catches, which in turn result in reduced revenues for fishers. As a result of this effect, the revenues for processors and traders are also reduced due to the reduced supply of fish, thus directly impacting the revenues of women. Environmental shocks cut off physical access to markets, to land, and to fish, jeopardizing women's limited incomes and reproducing conditions of poverty and inequality that perpetuate gender constraints.

The connections between VC actors and input and output markets are relatively weak, mainly characterized by spot market transactions and verbal arrangements and thus, are susceptible to collapse when a shock disrupts the VC. This partially explains why these markets and the

profits/livelihoods of the VC actors can be defined as vulnerable, when exposed to shocks of different kind. During interviews, some VC actors indicated that they tried several ways to cope with the impacts of shocks, for instance processors and traders reduced the quantity of the fish they purchased to minimize loss or tried to find alternative markets/locations to do business. However, none of these actions was effective in helping them recover from shocks and still most actors claimed they either could “do nothing” in the event of shocks, or could just try to accept the situation imposed by shocks (e.g. losing customers, making loss), or quit their businesses in the VC to change to other income-generating activities (such as agriculture or running small shops for food or clothes). Livelihood shocks expose women and other disadvantaged groups vulnerability, as without sufficient access to resources and social protection, marginalized actors can become entrapped in cycles of poverty and inequality.

## 2.9 Recommendations (Following the 4 objectives of the FAO Policy on Gender Equality 2020-2030)

### 2.10 Step 4: Opportunities and potential actions to address the gender-based constraints and to redress gender inequality and discrimination along the value chain

#### 2.10.1 Support value chain actors adopting improved processing and cold chain techniques

Increasing women’s access to high quality product starts from the harvesting phase, as fishing boats do not have sufficient storage facilities for ensuring proper fish transport. Similarly, women’s access to improved processing technologies such as drying racks and high-efficiency stoves can be supported, either through direct provisioning or financial services. Access to higher quality fish could increase women’s incomes, particularly if accompanied by access to improved processing methods and technologies, which could also reduce risks to women’s health and the environmental impact of the activity. Programs to increase access to improved processing and storage equipment should consider women’s intersecting constraints such as access to capital (for purchase and for maintenance), access to land, and women’s time burden.



### 2.10.2 Support VC actors adopting improved business models to supply high value markets

Ensure training and direct support of women (and women's cooperatives) to be key players in the selling to high value markets to improve their livelihoods and negotiating power. Since over 80 percent of processors are not involved in any association, there is an opportunity to support their access to technical training and market information through supporting women's organizing efforts and providing targeted assistance to these groups. Where access to the right contacts and social networks is a barrier to high-value markets, these groups can be supported to develop appropriate marketing and networking strategies to increase women's negotiating power.

Also, training could be offered to business owners, entrepreneurs, and waged workers in the VC regarding workers' rights (including the minimum wage). Waged workers could further be supported to increase their income through skills development training in order to diversify income-generating activities, thus reducing their dependence on low-wage employment.

### 2.10.3. Coordinate gender sensitization to increase women's participation and opportunities in the value chain so that women can capture a fair share of the value added generated

Platforms for gender sensitization and awareness raising should be developed to work across the different groups operating in the VC in order to address gender norms that perpetuate women's subordinate positioning. Gender sensitization efforts should include both men and women to promote shifts in notions of masculinity and gender relations as well, thus prompting increased awareness within communities and paving the way for a more gender equitable division of labour in the VC, but also at household level.

### 2.10.4 Support improved access to savings, credit, and social protection schemes

Suitable financing mechanisms with conditions reflective of the fisheries context (including women's roles and resources in the fishery) could enable women to invest in their businesses,

including value-addition processes and diversified income-generating activities that would significantly reduce their economic vulnerability. Given processors low return on sales, access to credit should be implemented in tandem with the other recommendations in this section to ensure that women have sufficient incomes and opportunities to repay loans. Similarly, all actors in the VC, including women, should be supported to enrol in applicable social protection schemes, and special measures and platforms/organizations should be created, established, or strengthened to cater for challenges faced by women in the fishery and build resiliency to shocks of any kind.

2.10.5 Involve women in decision-making about project activities, including the timing, location, format, and content of training and other service delivery outputs.

The voices of marginalized women are often excluded from decision-making spaces, which obscures how strategies can be designed to meet their needs and wants. While trainings, resources, and other service delivery activities can be designed with a gender-sensitive lens, women from various backgrounds (including boat owners, processors and retailers, and waged workers of varying ages) should be consulted at every stage to ensure that activities and products support women's rights and do not exacerbate existing gender inequities, thus perpetuating a participatory approach.

### 3.0 Conclusion

In recent years, the United Republic of Tanzania has taken significant steps to advance gender equality and women's opportunities in the fisheries sector, including establishing the United Republic of Tanzania Women in Fisheries Association (TAWFA) and explicitly calling for actions that support women in the National Plan of Action for implementation of the Voluntary guidelines for securing sustainable small-scale fisheries in the context of food security and poverty eradication. Although these actions demonstrate a political commitment to strengthening women's participation and access to resources in fisheries, gender-based constraints caused and perpetuated by gender data gaps, gender norms, and ongoing social and ecological shocks continue to undermine women's ability to access the benefits and value derived from the industry. With opportunities to support the sustainable development of Lake

Tanganyika to build resilient livelihoods, local, national, and international actors can strengthen their policies and strategies by incorporating gender-sensitive and gender-transformative approaches.

#### 4.0 Gender mainstreaming strategy

FISH4ACP project is intending to enhance productivity and competitiveness of the Sprat, Sardine and Perch value chains along Lake Tanganyika and making sure that economic improvements of actors in these value chains go hand in hand with environmental sustainability and social inclusion. The project implements four outputs including the adoption of improved processing and cold chain techniques by VC actors; the adoption of improved business models to supply high-value markets; increasing compliance with fisheries legislations and; increasing women participation.

To increase women's participation, the project conducted a gender mainstreaming study aiming at coming up with the gender-based constraints, their root causes and an implementation strategy to reduce challenges facing women as well as unlocking the potential opportunities for women working in the fisheries value chain. Also, the study identified opportunities/solutions to address them. Specifically, the study focused on the social hotspots identified in the VC analysis, namely, the low level of women's economic involvement in the VC, unequal division of roles between men and women, and women's limited access to land and other productive resources. The study also identified a list of measures/solutions that VC actors and other stakeholders can take to improve gender equity in the VC.

##### Terms of reference

According to the terms of reference, the consultant performed the following activities:

1. Conduct short interviews (up to 35) with women actors and/or key informants to collect data to deepen understanding and clarify the points/gaps in the draft Gender study report.
2. Conduct 20 Focus group discussions (of up to 1.5-hour length) to collect data for the development of the Gender Mainstreaming study and Implementation strategy following GTA methodology as possible.
3. Lead the social sustainability analysis based on gathered data from key informants, actor interview and other means
4. Contribute the development of the gender implementation strategy based on the data gathered

## 4.1 Methodology

### 4.1.1 The study area

The study was conducted in three regions bordering Lake Tanganyika namely: Rukwa (two districts were covered such as Kalambo and Nkasi), Katavi (Tanganyika district was covered) and Kigoma region (three districts of Kigoma district council, Kigoma Ujiji and Uvinza) were covered. In each of the districts, selection of wards and three to four villages was done.

### 4.1.2 Data collection

Primary data was collected through organizing focused group discussions and interviews with different stakeholders along Lake Tanganyika fisheries value chain. Gender transformative approach was used as tools in the data collection to come up with appropriate solutions to address the existing gender related challenges along Lake Tanganyika Fisheries value chain.

### 4.1.3 Tools for data collection

A questionnaire and checklist of questions were developed and used as tools for data collection. These tools were administered to participants during Focus Group Discussion, Key Informants interviews and in-depth discussion.

### 4.1.4 Sample size

In each of the villages, two focus group discussions were conducted comprising of women and men separately. In each of the FGD conducted, 8 to 10 participants (processors, traders, fishers, owner of boats), while key informants were purposively selected depending on their roles in the fish value chain.

Result and discussion

### 4.1.5 Gender related constraints

Gender based Constraints as defined by USAID, 2009 cited by FAO 2016, is the “restrictions on men’s or women’s access to resources or opportunities that are based on their gender roles or responsibilities” Addressing the gender-related constraints will lead to sustainability of the FISH4ACP project interventions in the area. Zooming at the FAO gender sensitive value chain

framework, gender-based constraints inhibits an individual from participating in the value chain and the benefits she/he is expected to receive. In most cases the gender-based constraints appear at individual and household levels and again they may appear at one level while having an underlying cause at another level.

The study on value chain analysis was conducted in January 2021 and finalized in September 2022 to reveal women’s participation in the Sprat, Sardine and Perch value chain along Lake Tanganyika fishing community. Another study was conducted to uncover constraints and their root causes from December 2022 to January 2023. From the findings, the gender-related constraints were as indicated in Table 1.

Table 1. Gender based constraints and their root causes

Constraints	Root causes
Lack of power to own land	<ul style="list-style-type: none"> <li>• Cultural Norms and unequal power relations that exclude women from land ownership</li> </ul>
Lack of capital	<ul style="list-style-type: none"> <li>• Cultural norms and unequal power relations where women are not allowed to own resources</li> </ul>
Women are restricted from participating in the fishing node	<ul style="list-style-type: none"> <li>• Beliefs and traditions (beliefs in superstition)</li> <li>• Social Norms and unequal power relations</li> </ul>
Transactional sex	<ul style="list-style-type: none"> <li>• Cultural norms and unequal power relations</li> <li>• Shocks and climate change leading to low fish catch</li> <li>• Poverty among women as care giver of the family</li> </ul>
High fish prices leading to low profit margins of women processors & traders	<ul style="list-style-type: none"> <li>• High input prices for fishers</li> <li>• Shocks and negative impact of climate change leading to low fish catch</li> </ul>

Informal lending of money to fishers	<ul style="list-style-type: none"> <li>• Lack of formal financial institutions to provide soft loans to fishers/processors</li> </ul>
Lack of modern equipment for processing	<ul style="list-style-type: none"> <li>• Poverty among women</li> <li>• Cultural norms and unequal power relations that exclude women from controlling of resources</li> </ul>
Lack of reliable market	<ul style="list-style-type: none"> <li>• Poor road connectivity to fishing villages</li> <li>• Poverty leading to low capital among women to access to neighbouring countries of DRC, Burundi and Zambia markets</li> <li>• Illiteracy among women</li> <li>• Poor hygienic condition to meet the international standards</li> <li>• Lack of improved processing technology to produce quality products</li> <li>• Lack of Marketing and Branding skills for their fisheries produce</li> </ul>
Lack of storage equipment	<ul style="list-style-type: none"> <li>• Poverty leading to lack of capital to buy storage equipment</li> <li>• Unreliable electricity supply</li> <li>• Unreliable sources of ice supplies and cold storage facilities</li> </ul>
Low profit margins for processed fish	<ul style="list-style-type: none"> <li>• Lack of business skills including record keeping</li> <li>• Lack of knowledge on value addition</li> <li>• Too much government taxes as compared to the size of business</li> </ul>

Lack of formal education	<ul style="list-style-type: none"> <li>• Cultural norms that exclude girls from education</li> <li>• Early pregnancy/marriages among girls</li> </ul>
Lack of decision-making power	<ul style="list-style-type: none"> <li>• Cultural norms excluding women from decision making</li> </ul>
Lack of knowledge on value addition	<ul style="list-style-type: none"> <li>• Few opportunities available for women training</li> <li>• Illiteracy among women</li> </ul>
Low fish catch	<ul style="list-style-type: none"> <li>• Negative impact of climate change</li> <li>• Lack of security in deep water (gangster invading fishers and take their equipment)</li> <li>• Use of gillnets that catches fingerlings</li> </ul>

Source: Author's own elaboration.

Based on the identified constraints the following are the strategies/activities to address them:

#### 4.1.6 Lack of land ownership among women in the fishing community

From the study, it was noted that women do not own land as one of the important production resources. FISH4ACP is advised to address the cultural norms that perpetuate these discriminatory asset/inheritance and ownership practices. Lack of land ownership constraint women from having a place to dry their fish along the landing sites, hence they are obliged to pay for that piece of land on daily basis, hence, reducing their profit margins. It is advised that FISH4ACP to:

- i. Apply the GTA to address cultural norms through engaging both men and women, traditional and local leaders and religious leaders as indicated in the gender mainstreaming matrix



- ii. Awareness creation to women, youth and other vulnerable groups on their rights to land ownership and other productive resources. Although the United Republic of Tanzania enacted the Village Land Act No.5 of 1999, giving rights to all, over land ownership, still its implementation at the grass root level is difficult. Inheritance of land for girls and women either from their biological parents or after the death of their spouses has been difficult.
- iii. Fish4ACP to engage both men and women in all stages of the project cycle (design of the project activities, implementation, monitoring, and evaluation of the project activities that address asset/resource ownership issues).

#### 4.1.7 Lack of capital

Lack of access to and control over resources was mentioned by almost all participants during focus group discussion. This in a way reduces the size of their business (fish processing and trading). It is difficult for women to access financial support from the formal banks due to lack of collaterals in the form of immovable assets such as houses and land. The only source of capital is from the informal sector. Majority of the women are not members of any association apart from the famous Village Community Bank (VICOBA) where few of the women obtain capital for their businesses.

In so doing their capital is always limited and therefore, members cannot get big loans for their businesses. It is advised that FISH4ACP to do the following:

- i. To establish a revolving fund scheme that will be operated by formal Banks for women to borrow and return according to the existing guidelines (Siles, J., et al. 2019)
- ii. To encourage women and men to establish other associations such as Saving and Internal Lending Community (SILC) for easy access to loan (World Fish 2021)
- iii. Women also to be encouraged to join the social protection scheme
- iv. Use of cost sharing to purchase processing equipment for women processors
- v. Conduct training on financial literacy, essentials of running a business, marketing, communication technology and developing new products for instance selling of fried fish

#### 4.1.8 Cultural norms and beliefs that exclude women from participation in some of the nodes

It was noted that women are not allowed to participate in the fishing node. During focus group discussion, participants revealed that it is difficult for women to participate in fishing. Through probing, participants contended that majority of fishers believe in superstition. They believe that if a woman touches the fishing nets or enters into the fishing boat, then there will be no fish catch. To eliminate such cultural norms, Fish4ACP project is advised the following:

- i. Using participatory GTA through engagement of both men and women in addressing cultural barriers
- ii. Apply the Gender Action Learning System (GALS), to empower women economically, socially and politically (Blue Action Gender guide 2020)
- iii. Awareness creation among school children, religious leaders, health staff and the community. This will be done through visiting them at their working places, in any gathering such as exhibitors during farmers week commonly known as *nane nane* exhibition, trade fair and during Village Community Bank (VICOBA) meeting
- iv. Use of technologies to increase fish catch

#### 4.1.9 Lack of reliable market, market information

Participants in almost all landing sites visited complained about poor road infrastructure leading to lack of market for fish. Bearing in mind that fish is one of the perishable products, it is necessary to access market immediately after fishing. Even though women add value on fish by smoking or sun drying, still easy access to market is important to maintain the quality of fish. Lack of storage facilities such as cold rooms and ice bars coupled with poor road infrastructure reduces fish quality and hence fetches low prices in the market.

Limited mobility of women processors and traders is another obstacle towards accessing market, therefore, improving road infrastructure will automatically improve their profit margins. Fish4ACP is advised to solve market related challenges as indicated below:

- i. Build capacity of processor and traders (women and men) to strengthen their bargaining power through establishment of clusters and networks of actors in the value chain
- ii. Strengthen women's capacity through training on business skills
- iii. Ensure access to information communication technology (ICT) to provide information on markets and pricing to enable women set competitive price for more profit. Use of ICT coupled with training on good hygiene and quality of well processed fish will in-turn reduce post-harvest losses through improved pricing system and reduced marketing costs and transportation
- iv. Increased quantity of fish for international market.
- v. Having good packaging materials
- vi. Purchase airtime in local TV, Radios and other mass media to increase visibility of stakeholders in the fishing value chain
- vii. The Ministry and other development partners to prepare strategic marketing plans for instance having big markets at the borders
- viii. Liaise with ambassadors from different countries to link VC actors to the markets in their respective countries

#### 4.1.10 Lack of storage and modern processing equipment

During focus group discussion with women processors and traders, it was evident that lack of storage and processing equipment was one of the stumbling blocks towards economic empowerment. Therefore, Fish4ACP is advised the following:

- i. Facilitate fishers to obtain storage facilities at the fishing node
- ii. Facilitate women to obtain cold storage facilities before and during transportation of fish
- iii. Enhance access to improved processing technologies such as drying racks and high efficiency stoves to reduce risks to women's health and the environment

#### 4.1.11 Gender based violence practices

Gender based violence practiced in the fishing communities are of different forms such as physical, economic, psychological, sexual harassment, abusive language to mention just a few. Sexual transactional violence is practiced in almost all landing sites visited. Addressing gender-based violence is not an overnight event since it involves changing behaviour of the perpetrators. Fish4ACP project will be implemented in 5 years period may not be in a position

to see changes, but it will contribute towards elimination of GBV in the fishing communities. Fish4ACP is advised to do the following:

- i. Create awareness among traditional and religious leaders and formal leaders at village, ward, district and regional level about the existence of different forms of gender-based violence including the transaction sex
- ii. Establish women's community associations to resist violence at household level and strengthen men's support groups to eliminate GBV drivers and social norm
- iii. Establish counselling units for HIV positive communities and prevention knowledge to non-positive communities
- iv. Establish men's club where knowledge on the negative effect of GBV and masculinity will be imparted, mentoring and remind men on their responsibilities as husband/fathers

#### 4.1.12 Lack of decision-making power and community leadership

There is unequal power relations and ability to make decisions in the fishing community. All important decisions are made by men at household to community levels. Women's concerns are not always included in the decision-making organs. Low morale for work and poor adoption of technology are believed to be caused by lack of decision-making power among women, hence, leading to low sustainability of the project activities. Therefore, Fish4ACP project is advised to:

- i. Conduct training on leadership for the marginalized group including women, men and youth
- ii. Strengthen women's led associations at local and the National association (TAWFA) to utilize their leadership potentials for sustainable management of the value chain

#### 4.1.13 Lack of gender disaggregated data

Gender disaggregated data are crucial because they provide valuable information on the complex realities, differences and interdependent roles of actors in fishing communities. Such information is required for planning and project interventions.

The Ministry of Livestock and Fish should conduct sensa to come up with gender disaggregated data regarding to number of fishers, processors, traders, transporters and owners of fishing equipment. Such data is very crucial in planning for various development interventions. During validation workshop, the Fisheries Director from the Ministry informed that currently the Ministry is working hard to collect those data

#### 4.1.14 Low fish catch

Low fish catch was reported as one of the constraints affecting all actors in the value chain. While there are many factors contributing to low fish catch, Fish4ACP is advised to collaborate with other development partners including government institutions to:

- i. Burn use of illegal fishing gadgets that deplete fingerlings in the lake
- ii. BMU to enact laws and by-laws on how to protect the environment around beaches
- iii. Use of paramilitary guard to protect the environment
- iv. Avoid cultivation along water sources and shore
- v. Closing of the Lake for some months

#### 4.1.15 Environmental shock due climate variability and change

Negative impact of climate variability and change was reported to be one of the reasons for low fish catch. The project is advised to collaborate with the Ministry to:

- i. Avoid cultivation near water sources
- ii. Avoid use of firewood in fish processing through use of Use of alternative technology on fish processing
- iii. Closing of the Lake for 3 to 4 months

Closing of the Lake for a while to allow multiplication of fish was suggested by fisheries officers. However, during validation workshop, many stakeholders complained that, this will bring a lot of chaos in the community because majority of community members depend on the Lake for their survival. During validation workshop, the Director of Livestock and Fisheries testified that the approach of closing the lake was practiced in other areas and it was successful. It was further, advised that although closing of the lake is recommended, it needs an area specific management plan, where the technical advisers make a participatory plan with actors in the chain to come up with an agreement of where to start and ends. There is a say that *"management without a plan is a plan to fail"* therefore successful management of the lake requires an area specific management plan

During validation workshop, participants also discussed on how to ensure availability of cold rooms and processing equipment to increase the shelf life of fish during and after fishing. One of the participants suggested that the Fish4ACP project under collaboration with stakeholders to provide equipment such as cold rooms, solar tent driers, drying racks and many others. However, in the past such equipment were provided, but it did not last long, hence use of private sector as an alternative option was suggested.

#### 4.1.16 SWOT analysis

During validation workshop, SWOT analysis was conducted to assess the Strengths, Weaknesses, Opportunity and Threats facing actors in the value chain. This can be used to identify strategic areas for integrating gender in FISH4ACP project area.

Table 2. SWOT analysis

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Presence of human resources (both men and women)</li> <li>• Women are willing to actively participate in empowerment programs offered by the project</li> <li>• Presence of few women owning fishing gears</li> <li>• Women with vast experience in processing of fish and trading</li> <li>• Women are indirectly participating in almost all nodes of the value chain</li> <li>• Women are the majority in the processing node of the value chain</li> <li>• Women have local knowledge and experience in processing</li> <li>• Women are capable of organizing themselves in groups of Village Community Banks (VICOBA) for accessing loans as capital for their activities</li> <li>• Women finance men in the fishing node which is dominated by men</li> <li>• Women can interact well with men in all nodes along the value chain</li> <li>• Availability of national and international market for fish</li> </ul>	<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Men and women willingly working together in the value chain</li> <li>• There is a political will to support women empowerment programs to participate in development activities and decision making at all levels of the value chain</li> <li>• Women owning fishing gears working as role models for others to learn</li> <li>• Capacity building among women through development projects such as FISH4ACP to enhance their knowledge</li> <li>• Interventions by Fish4ACP in changing of cultural norms that exclude women from participating in all nodes of the fish value chain</li> <li>• Availability of technologies in processing to enhance their knowledge on processing and trading</li> <li>• Presence of Tanzania Fisheries Research Institutions (TAFIRI) and FETA to come up with new technologies to enhance women's knowledge</li> <li>• The possibility of acquiring soft loans from formal financial institutions as capital to run their activities</li> <li>• Presence of formal financial institutions to offer loans to all actors along the fish value chain</li> <li>• There is a possibility of working together (women and men) as equal partners in the value chain</li> </ul>
<p><b>Weakness</b></p> <ul style="list-style-type: none"> <li>• Women and men abiding to cultural norms and traditions with negative connotation to VC actors</li> <li>• Lack of confidence and trust among women themselves</li> <li>• Processing and trading of fish may add more workload among women</li> <li>• Women regarded as weak player in the value chain</li> <li>• Inadequate/lack of access to formal financial institutions for provision of loans</li> <li>• Limited access and control over resources and fishing gadgets</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Unequal power relations leading to transactional sex for fish</li> <li>• Gender based violence practiced in the fishing communities</li> <li>• Deep rooted cultural norms undermining women and excluding them from participating in decision making at all levels</li> <li>• Access to technologies and market might be difficult</li> <li>• Continued male domination in the value chain and increased possibility of transactional sex</li> <li>• Lack of collaterals to access formal loans</li> <li>• Continued belief in superstition, unequal power relation between men and women</li> </ul>

Source: Authors own elaboration.

## Implementation strategy to reduce gender related challenges facing women

Women participation in the fishery sector cannot be overemphasized. However, their participation in the profitable nodes of the fish value is limited. Evidence from research indicate that majority of women are concentrated in the less productive nodes of the value chain due to existing gender disparities among them (FAO 2011, Siles, *et al.* 2019). Women are constrained in access to productive resources such as land, finance, knowledge, information, markets and social networks. High illiteracy level among women in fishing community is also a stumbling block towards economic advancement (ILRI 2013). Being resource constrained, women are unable to access and utilize improved technologies in processing and other resource intensive enterprises of the value chain.

The study conducted by FISH4ACP used Qualitative data collection through the adoption of a gender transformative approach (GTA). The GTA aimed at uncovering the underlying factors leading to gender inequalities governed by the social norms and unequal power relations that limit poor women's participation in the productive nodes of the chain. As described by Kabeer (1994), the GTA uses the social relations framework to assess the roles played by institutions such as the family and communities in reinforcing gender inequalities in the society. The study was interested in uncovering the root causes of low level of women's economic participation in fish value chain, unequal division of gender roles between women and men and limited access to land by women.

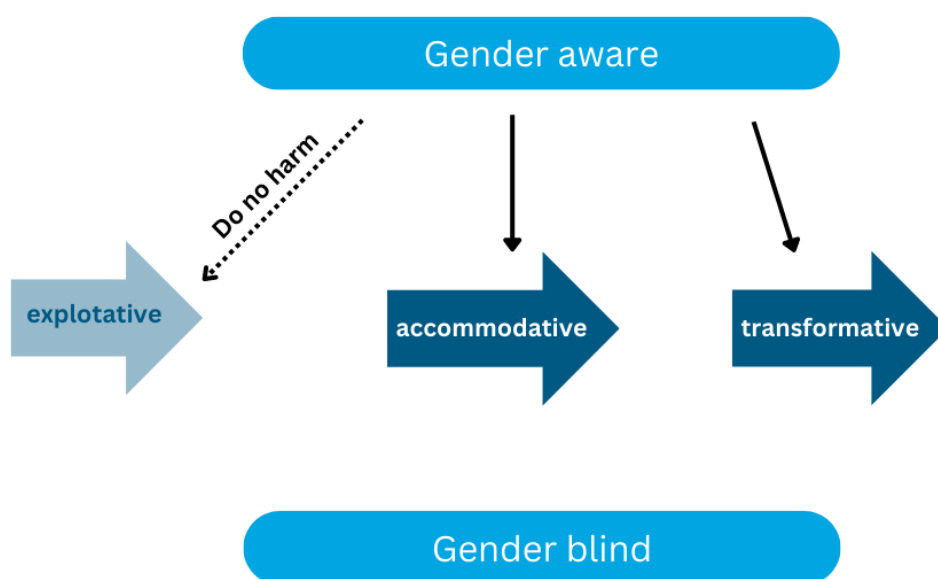
The GTA is informed by the Social Relations Framework developed by Kabeer, (1994) was applied to comprehend the complex ways in which institutions and their related formal and informal rules influence power relations between social groups among fishing communities. The existing power relations disproportionately governs the available livelihood choices and wellbeing outcomes within and across groups. The social relation framework aims at analysing the existing gender inequalities in-terms of resources distribution, responsibilities and power. The social relations also analyses how people in the value chain relate to one another, how they



are linked to the available resources and transform within the institution. The ultimate goal of the social relations framework is to equitably improve human wellbeing (March et al. 1999)

To fulfil the need for integrating gender in the fish value chain, FISH4ACP is advised to use both the accommodative and transformative approaches informed by the gender awareness of the gendered context in which the acquired knowledge will be used to design interventions that has no harm to women but leading to a more equitable fishing community. Accommodative and transformative approaches are capable of adding value to interventions related to fish value chain in different ways. Accommodative approaches partially bridge gender gaps such as access to resources, technologies and information skills (ILRI 2013), accommodative approaches are simple to implement and do not address the root causes of the gender inequalities. On the other hand, transformative approaches address the underlying causes of the gender disparities through analysis of the system, norms and attitudes that makes gender disparities as ordinary practices in the fishing communities. In view of this, FISH4ACP implementation strategy will operate from the range of accommodative to the gender transformative approaches, since the latter is capable of analysing the characteristics of the communities leading to the existing gender disparities and how to address them as illustrated in figure 1.

Figure 2. Approaches to Gender Integration in the FISH4ACP project



Source: Adapted from ILRI 2013

#### 4.1.17 Gender accommodating approaches

Gender accommodating approaches mainly deals with needs and realities of men and women based on their existing roles and responsibilities in the society. Gender accommodative approaches tend to improve the availability of credit, technologies, information and other resources to reduce gender differences between men and women. They do not address the subordinate position of women in the society. Such approaches focus on integrating women into the existing social and economic context, but do not question the barriers put up by that context. Addressing gender norms and beliefs, requires the use of gender transformative approaches (FAO 2006, FAO 2011)

#### 4.1.18 Gender transformative approaches

Gender transformative approaches aim at changing norms and unequitable power relations between men and women, it questions the existing barriers to gender equality. For instance, the GTA tend to improve women's access to productive resources and technologies. Such approaches tend to alter the existing rigid institutional structures that perpetuate gender inequalities (Kabeer and Subrahmanian 1996). The GTA address the root causes of problem not just the symptoms.

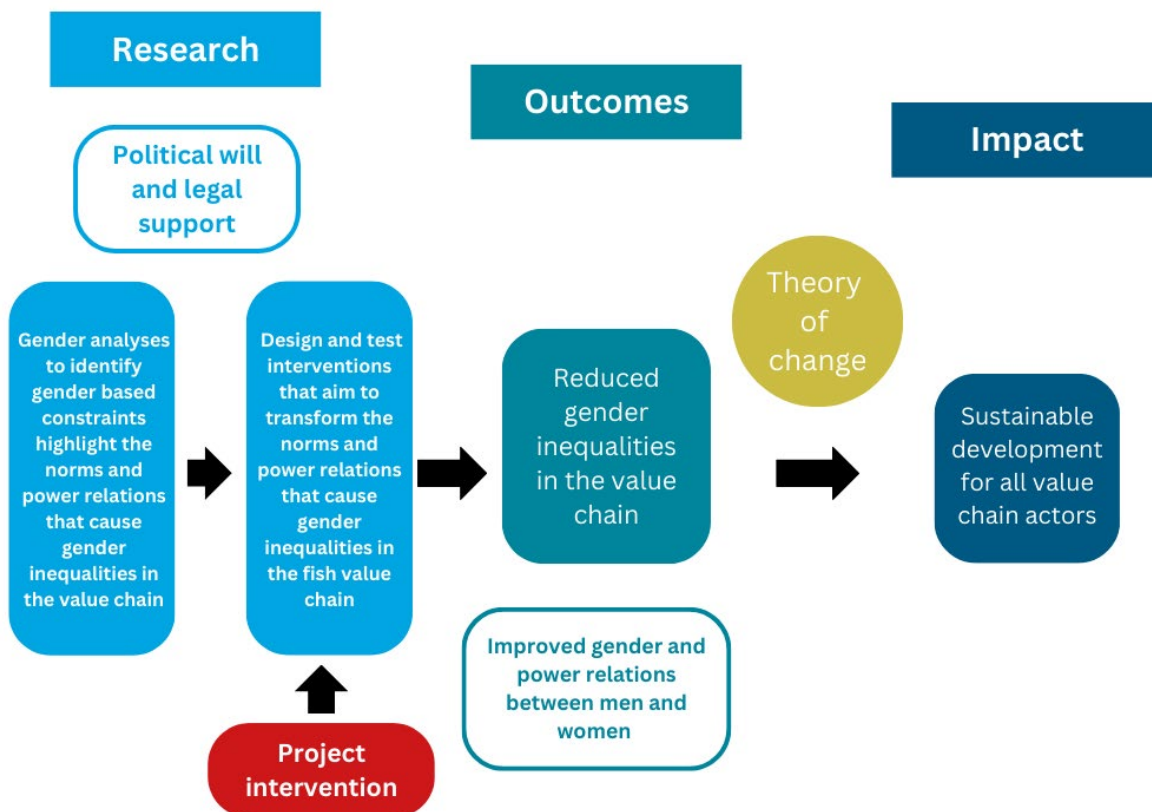
#### 4.1.19 Theory of change

Knowing the gender-based constraints and their root causes in fish value chain, pave a way towards choosing approaches and technologies to be introduced in value chain so as to attain the desired goal. Using various technologies, business development and social interventions, will enable women and girls to improve their access to and control over production resources including land, participate in decision making, improving their working conditions, and reduces the work burden among women. Fish4ACP project interventions will also enhance women's perceptions towards accessing markets and market information. All these interventions will lead to an equitable intra-household gender relation, hence sustainable fishery management. All of these changes together will contribute to the achievement of food and nutritional security as well as poverty reduction. Use of gender transformative approaches will lead to a more sustainable pathway.

#### 4.1.20 Gender transformative impact pathway

Using Gender Transformative Approaches to explore gender-based constraints and their root causes, project implementers and actors in the fishing communities will design and test interventions relevant in addressing constraints affecting both women and men in the value chain (see Fig. 2). It is believed that the designed interventions will transform the existing norms and power relations that exacerbate gender inequalities in the fishing communities. Carefully implementation of intervention such as provision of storage and processing equipment, capacity building on leadership and financial management, connecting processors to the market and microfinancing institutions/loan institutions and insurance companies will empower women economically through improved income. Engaging men in all stages of the project cycle (from design to evaluation) of the project activities will lead to sustainability of the project activities

Figure 3. Gender Transformative Impact Pathway (Simplified)



Source: Authors own elaboration.

From the findings, a list of gender-based constraints listed in Table 1 above, their root causes are mainly imbedded in the cultural norms and power relations that create gender inequalities in the fishing community, a gender mainstreaming strategy was developed.

By definition, gender mainstreaming is a strategy towards achieving gender equality through ensuring that women's and men's needs, challenges and experiences are addressed in the design, implementation, monitoring and evaluation of policies and programmes at all levels including political, economic and society so that both women and men can benefit equally, and inequality is not perpetuated (FAO 2011). Gender mainstreaming also involves the process of integrating gender into policies, programmes, culture and administrative functions of an institution or organization.

#### Key areas for intervention for the gender mainstreaming strategy

Based on the value chain analysis, constraints listed above and their root causes and SWOT analysis, the following key strategic areas are listed

- Strategies to enhance the level of women's economic involvement in the value chain,
- Strategies to minimize the unequal gender role division between men and women,
- Strategies to enhance women's limited access to land and other production resources
- Strategies to minimize the cultural norms and unequal power relations among men and women

Opportunities and potential actions to address the gender-based constraints and to redress gender inequality and discrimination along the VC as described in section (d) above are listed hereunder and

The FISH4ACP Project will:

1. Support VC actors adopting improved processing and cold chain techniques
2. Support VC actors adopting improved business models to supply high-value markets
3. Coordinate gender sensitization to increase women's participation and opportunities in the VC so that women can capture a fair share of the value added generated
4. Support improved access to savings, credit, and social protection schemes
5. Involve women in decision-making about project activities, including the timing, location, format, and content of training and other service delivery outputs.

The gender mainstreaming strategy under FISH4ACP project is implemented from 2020 to 2025 within the project period. It is also worth to note that the project has set aside budget for GM activities

Table 3. Gender Mainstreaming Matrix

Strategic objective	Specific objective	Measures	Indicators
<p>The overall goal: To empower actors in the fishing communities specifically women through unlocking potential opportunities to enhance their active participation in all nodes of the value chain, enhancing their decision making, reducing workload and facilitating their access to and control of resources for an equitable and sustainable development along Lake Tanganyika.</p>			
<p>1.0 Ensure elimination of negative cultural norms among fishing communities</p>	<p>1.1-Apply gender transformative approaches to overcome the invisible barriers (cultural norms) to gender equality to different actors (men and women) more specifically women</p> <p>1.2-Ensure participation of women in</p>	<p>1.1 Create awareness on all harmful cultural norms such as early marriage and pregnancy and gender-based violence</p> <p>1.2 Enhance leadership skills of both men and women but with special emphasis on women</p>	<p>Reduced cultural norms within the fishing communities</p> <p>Percentage/Number of both men and women more specifically women whose leadership skill has been enhanced</p> <p>Number/percentage of women leaders in the fishing value chain bodies</p>

	<p>decision making at all levels in the VC</p> <p>1.3 Ensure equitable representation of youths in the management bodies of the value chain</p>	<p>1.3 Empower women to occupy leadership positions and advocate and/or air out their views in various bodies of the fish value chain</p> <p>1.4-Create awareness among youths in gender equality and equity issues in VC</p>	<p>Percentage/Number of women able to utilize acquired leadership skills to influence decisions</p> <p>Percentage/Number of women empowered and advocacy initiatives undertaken</p>
<p>2.0 Enhance women's organizations to manage their needs using gender responsive organizational and networking processes</p>	<p>2.1 Encourage women processors to formulate and enhance the existing associations</p> <p>2.2 Integrate gender issues in women's association's constitutions and policies</p>	<p>2.1 Identify specific needs for women's organization</p> <p>2.2 Formulate/strengthen the existing groups of women and youth in the chain</p>	<p>Number/Percentage of women associations formulated</p> <p>Number/Percentage of women active members of TAWFA</p>

	<p>2.3 Encourage women to be active members of TAWFA to cater for constraints faced by women through airing out their voices</p>	<p>2.3 Ensure needs-specific skills to support women's organizations</p> <p>2.4 Strengthen women and youth organization's networking under TAWFA umbrella</p>	
<p>3.0 Facilitate VC actor's adoption of improved processing and cold chain techniques through collaboration with the private sector</p>	<p>3.1 Strengthen women's roles in the value chain through improved technologies in all nodes of the value chain</p>	<p>3.1 Facilitate women to obtain and adopt good quality fish through use of storage facilities at the fishing node and transportation</p> <p>3.2 Enhance access to improved processing technologies such as drying</p>	<p>Number/percentage of fishers and processors engaged in the training</p> <p>Number/percentage of processors using improved technologies</p> <p>Number/percentage decrease in health risks due to use of</p>

		<p>racks and high efficiency (FTT) stoves</p> <p>3.3 Reduced risks to women's health and environmental degradation through use of improved technologies</p>	<p>improved technologies</p> <p>Number of Innovative technologies accessible to women, men,</p> <p>Number of ice plants/cold storage accessible to men, women</p>
4.0 Coordinate prevention programme and control on HIV/AIDS and other sexual transmittable diseases	<p>4.1 Promote knowledge and understanding on HIV/AIDS among fishing communities</p> <p>4.2 Promote effective and efficiency preventive services such as mother-to child transmission, bloody safety and condom use</p>	<p>4.1-Cconduct training on understanding and preventive measures</p> <p>4.2-Train and promote use of condoms</p> <p>Promote use of ARV for people living with HIV/AIDS</p>	<p>Number/percentage of women and men participating in the training.</p> <p>Number/percentage of people using condoms and ARVs</p> <p>Changed sexual behaviour of fishing communities</p>



	<p>4.3 Apply GTA to behavioural change</p> <p>4.4 Ensure access to care of people living with HIV/AIDS</p>	<p>4.3-Develop leaflets and promote use of mass media e.g. Radios, TV in awareness creation</p>	
<p>5.0 Ensure improved access to savings, credit, and social protection schemes</p>	<p>5.1 Facilitate women to take loans from microfinance institutions available in the fishing communities.</p>	<p>5.1 Build capacity of women, youth and other marginalized group on the importance of savings and credit</p> <p>5.2 Encourage women to formulate their own Saving and Internal Lending Community (SILC) organization and</p>	<p>Number/percentage of women and other marginalized group receiving training</p> <p>Number of groups/women enrolled/formulated on saving and internal lending formulated</p> <p>Percentage of women enrolled as active members of TAWFA</p>

		encourage women to join 5.3 Encourage women to enrol to social protection schemes	Percentage of women enrolled to social protections
6.0 Support VC actors adopting improved business models to supply high-value markets	6.1 Strengthen women's associations to become champions in the selling of fish products  6.2 Capacitate women's association through training to enable them to have access to market information through their networks  6.3- Impart entrepreneurship knowledge and skills to	6.1 Build capacity through training using participatory approaches on issues related to business and access to both National and International markets to business owners, entrepreneurs and waged workers in VC  6.2 Ensure access of women to information and	Number/Percentage of women having access to information and communication Technologies  Number of women, men using business model brought by FISH4ACP project  Number of businesses able to secure loans to microfinancing institutions

	stakeholders in the VC	communication Technologies 6.3 Create awareness on entrepreneurship skills to stakeholders in the VC	Number of women and men trained and applying entrepreneurial skills
7.0-Ensure sustainable utilization of Natural Resources along Lake Tanganyika beaches using gender responsive approaches	7.1-Impart knowledge on sustainable utilization of natural resources to both men and women in the VC	7.1 Create awareness on various ways of managing beaches to both men and women 7.2 Avoid cultivation near water sources 7.3 Use of an alternative technology on fish processing	Number of men and women trained and applying knowledge

Action Plan 2020 – 2025 for the Gender Mainstreaming Strategy (GMS)

4.1.21 Action Plan of the Gender Mainstreaming Matrix

The action Plan indicates the strategic objectives, related activities, responsible institution(s)

Table 4: Action Plan of the GM Strategy

Specific objective	Strategic objective	Activities	Expected outcome	Responsible institutions	Timeline	Budget
1.1-Ensure elimination of cultural norms with negative impact among fishing communities	1.1-Apply gender transformative approaches to overcome the invisible barriers (cultural norms) to gender equality to VC actors	<p>Conduct training on gender and all harmful cultural norms such as earl marriage and pregnancy and gender-based violence</p> <p>1.2 Impart knowledge and skills on leadership to both men and women but</p>	<p>Reduced incidences of early pregnancy and marriage.</p> <p>Reduced incidences of gender based violence</p>			

	<p>1.2-Ensure participation of women in decision making at all levels in the VC</p> <p>1.4-Ensure equitable representation of women in the management bodies of the value chain</p>	<p>with special emphasis on women and youths</p>	<p>Both men and women becoming active leaders in the fishing management organs</p>			
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	1.5 Ensure equitable representation of youths in the management bodies of the value chain					
2.0 Support women's organizations to manage their needs using gender responsive organizational and networking processes	2.1 Sensitize women processors to formulate and strengthen the existing associations 2.2 Integrate gender issues in women's association's	Formulate/strengthen women's groups///  Revisit constitutions of the women's associations to make it gender sensitive	Gender responsive women's associations actively working in value chain			

	<p>constitutions and policies</p> <p>2.3 Encourage women to be active members of TAWFA to cater for constraints faced by women through airing out their voices</p>	<p>Conduct training women's associations for sustainability of the project activities</p>				
<p>3.0 Facilitate VC actor's adoption of improved processing and cold chain techniques</p>	<p>3.1 Strengthen women's roles in the value chain through improved</p>	<p>Build capacity of women on improved technologies</p>	<p>Women obtaining good quality fish and fetch good</p>			

	technologies in all nodes of the value chain	Through cost sharing, avail processing equipment to women processors	prices in the market  Reduced women's work burden  Reduced health risks among women through use of good quality processing equipment			
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			Reduced risks of environmental degradation due to use of modern processing equipment			
4.0-Coordinate prevention programme and control on HIV/AIDS and other	4.1 Promote knowledge and understanding on HIV/AIDS among fishing communities	4.1-Conduct training on HIV/AIDS awareness and preventive measures	Reduced rate of new HIV/AIDS infection and GBV in the			

<p>communicable diseases</p>	<p>4.2 Promote effective and efficiency preventive services such as mother-to child transmission, bloody safety and condom use</p> <p>4.3 Apply GTA to behavioural change</p> <p>4.4 Ensure access to care of people</p>	<p>4.2-Distribute condoms among fishing VC actors</p> <p>Promote use of ARV for people living with HIV/AIDS</p> <p>4.3-Distribute leaflets through peer groups and promote use of mass media e.g. Radios, TV in</p>	<p>fishing communities</p> <p>Increased use of condoms as preventive measurers</p> <p>Enhanced knowledge and</p>			
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			skills on HIV/AIDS			
			Changed sexual behaviour among VC actors			
5.0 Ensure improved access to savings, credit, and social protection schemes	5.1 Facilitate women and men to take loans from microfinance institutions available in the fishing communities.	5.1 Training on the importance of formulating the saving and credit and to enrol to social protection scheme	Easy availability of loans by women and men processors, traders and fishers			

		5.2 Collaborate with the local financial institutions to offer soft loans to VC actors	Enhanced volume of business			
6.0 Support VC actors adopting improved business models to supply high-value markets	6.1 Strengthen women's associations to become champions in selling of fish products  6.2 Capacitate women's association through training to	Conduct training to actors in the value chain on issues related to market information  Strengthen TAWFA to trickle down to women processors, traders and those waged workers to	Women actors having high negotiation power  Women actors having access to high value markets			

	enable them to have access to market information through their networks	improve their negotiation power				
7.0 Ensure sustainable utilization of Natural Resources along Lake Tanganyika beaches using gender responsive approaches	Impart knowledge on sustainable utilization of natural resources to both men and women in the VC	7.1 Conduct training to VC actors on sustainable utilization of natural resources and beach management  7.2 Formulate and enforce laws Avoid cultivation near water sources  7.3 Encourage use of an alternative technology on fish processing	Enhanced protection of the environment in fishing communities  Reduced incidences of pollution along the beaches			

#### 4.1.22 Monitoring and evaluation

Monitoring and evaluation are crucial because it assist the project implementers and other stakeholders to learn from the project activities. It is mainly aimed at facilitating adaptive learning, improving project outcomes, and directing the project towards its initially planned objective. For gender responsive outputs, outcomes as well as impacts will be monitored at project level guided by the generic gender Theory of Change (ToC) and Impact Pathways. Fish4ACP is advised to develop comprehensive gender-sensitive monitoring and evaluation plan while considering the following:

- i) Ensure that gender sensitive indicators and clear targets are included in the plan to allow easy follow-up of the outputs, outcomes and impacts of the project. The guiding indicators are found in the gender mainstreaming matrix in Table 3.
- ii) The plan should consider the timeline for monitoring and evaluation exercise
- iii) To ensure good outcome of the monitoring and evaluation exercise, it has to be done in a participatory manner involving all stakeholders. Therefore, the role of each stakeholder must be defined. Similarly, the role of women, youths and all the marginalized group must be known too.
- iv) During monitoring and evaluation exercise, gender disaggregated data must be collected
- v) All best practices must be collected and documented in all the important section of the project focus and disseminated for further actions and upscaling purpose
- vi) Conduct midterm and final evaluation of the project

#### 5.0 Conclusions

Gender related constraints within the fishing community vary from one context to another, hence, different strategies are required to address them. The main root cause of the gender-related constraints includes cultural norms and negative impact of climate variability and change. Unequal power relations between men and women leading to unequal decision making and unequal division of gender roles in the fishing communities. Change of behaviour

is not an overnight event, it takes time and therefore, concerted efforts from various actors are required to address the gender related constraints. Working with men will reduce resistance because they are the decision makers.

Closing of the lake for 3 to 4 months of Lake Tanganyika and burning of illegal fishing nets will enhance fish catch.

Availability of modern processing equipment and cold rooms will enhance fish quality and increase shelf life during and after fishing. This is a necessary measure towards improving fish quality, reduce workload among processors and protect the environment

## 6.0 Recommendations

1. It is recommended that the FISH4ACP project to apply various means of addressing gender related constraints including use of technologies as well as changing cultural norms and beliefs. However, the GTA approaches is required towards changing the behaviour of stakeholders in the VC.
2. It is recommended that before closing of the Lake Tanganyika for 3 to 4 months to allow multiplication of fish, an area specific management plan must be conducted
3. It is recommended that to ensure sustainability of processing equipment and other fishing gadgets, the project should collaborate with local financial institutions where fund will be provided through soft loans

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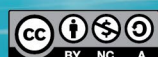
This report presents the results of the value chain analysis of the Lake Tanganyika sprat, sardine and perch value chain in The United Republic of Tanzania conducted from 2021-2022 by the value chain development programme FISH4ACP.

FISH4ACP is an initiative of the Organisation of African, Caribbean and Pacific States (OACPS) aimed at making fisheries and aquaculture value chains in twelve OACPS member countries more sustainable. It contributes to food and nutrition security, economic prosperity and job creation by ensuring the economic, social and environmental sustainability of fisheries and aquaculture in Africa, the Caribbean and the Pacific.

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