# Negotiating Scarcity: The effects of unsustainable fisheries on women's livelihoods in Gambia

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# Negotiating Scarcity: The effects of unsustainable fisheries on women's livelihoods in Gambia.

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## Abstract

Extensive scholarly research exists on the impact of IUU fishing and Industrial fishmeal production on the environment, local food systems, labour markets, as well as on the socio-economic well-being of artisanal fisherfolk in general. However, there exist minimal scholarly work on the gendered impact of these industries and how they microscopically affect the socio-economic wellbeing of women within the SSF sector

The aim of this study was to explore how IUU (Illegal, Unregular and Unreported) fishing and Industrial fishmeal processing affect the livelihood and socioeconomic wellbeing of women fish processors and traders in the Gambia. Using ethnographic studies, I collected data through semi-structured individual interviews, group interviews and field observation in three coastal towns to 1) understand what changes have occurred to women's access to fish due to IUU fishing and Industrial Fishmeal processing, 2) To understand how these changes affect women's livelihoods, wellbeing and social reproductive roles, 3) To highlight different strategies adopted by women to adapt to these changes and 4)To highlight existing structural inequalities and understand how this influences the impact the fishmeal factories and IUU fishing have on women.

The results suggest that women's access to fish has been restricted as a result of IUU fishing and this has significantly affected and deteriorated women's socio-economic wellbeing. However, the findings also highlighted that in the face of these changes, changing fish sourcing locations, joining collective saving groups and the most interesting finding of the thesis, depending on the fishmeal factories to access fish. The findings also suggest that women are marginalised and disproportionately disadvantaged by norms, patriarchal structures as well as gender-insensitive policies that hinder their participation in the fisheries sector. This reinforces their suffering and leaves them vulnerable to shocks.

The research concludes that IUU fishing and industrial fishmeal production should not be viewed as just environmental issues but political and also deeply gendered social justice concerns. Without targeted interventions that address both environmental sustainability and gender inequality, women's livelihoods and community food systems will continue to face significant threats. Future research is needed to produce empirical evidence that showcase the need for more inclusive policies for a sustainable and inclusive fisheries sector. Expanding research in this area would help policymakers better understand women's realities and design interventions that are both environmentally sustainable and socially equitable, ensuring that fisheries governance addresses not only ecological conservation but also the gendered dimensions of livelihood security and community resilience.



*Keywords: Gendered access to resources, small-scale Fisheries, Women fish traders and processors, IUU fishing, Industrial fishmeal production*

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# Abbreviations

| Abbreviations | Description |
|---|---|
| EEZ | Environmental Economic zone |
| EJF | Environmental Justice Foundation |
| FAO | The United Nations Food and Agriculture Organisation |
| FMFO | Fishmeal and Fish Oil |
| FPE | Feminist Political Ecology |
| IUU fishing | Illegal, Unregulated and Unreported fishing |
| SLF | Sustainable Livelihood Framework |
| SSF | Small-Scale Fisheries |
| SLU | Swedish University of Agricultural Sciences |
| UNCTAD | United Nations Conference on Trade and Development |

# 1 Introduction

The rise and expansion of industrial fishmeal and fishoil(FMFO) factories in the Gambia is in response to the global demand for FMFO for aquafeed.According to Changing market foundation in 2019, one-fifth of the world's annual catch of wild fish was used as an ingredient for feed in both the aquaculture and Agriculture sector (Greenpeace,2021). However, in the last decades, aquaculture has become dominant in converting fish resources into feed for farmed fish. The expansion of this sector is as a result of the fact that it is seen as an alternative to wild-caught fisheries and that it has the potential to address the gap between aquatic food demand and supply (FAO,2018). Its advocates are optimistic that it can provide a unique transformative approach to shift the world to a sustainable and resilient path that leaves no one behind (Nasr-Allah et al., 2020). Every year, approximately 17-20 million tonnes of fish is converted into FMFO to meet the increasingly growing demand from the aquaculture sector (Greenpeace,2021). By 2016, 69% of fishmeal and 75% of fish-oil production went to seafood farming (Greenpeace,2021).This has seen the over-exploitation of small-pelagic fish resources for non-human consumption; diverting food from plates of locals to feed farmed fish intended for the plates of a few elites in the global north (cashion et al,2017; Greenpeace 2021). For example, Fréon et al. (2014) highlighted that a major amount of peru's fish is processed into fishmeal for feed for export. He argued that this fish could've been used to feed millions of people in a country where malnutrition is still a key issue.Other key issues have also been raised regarding the industry's negative environmental, social, economic, and political impacts (Froehlich et al., 2018; Shannon & Waller 2021).

Despite all these negative impacts, in West Africa, fishmeal industries have grown tremendously in the past few years (Greenpeace, 2021) as West African governments view fishmeal processing as a good source of foreign direct investment (FDI). West Africa's production of fishmeal, in particular that of Mauritania, Senegal, and The Gambia, grew more than ten-fold in the past decade. From around 13,000 tons in 2010 to over 170,000 tons in 2019 (Greenpeace, 2021).

In the Gambia, the first chinese FMFO factory,Golden lead factory, started its operations in 2017. After being granted a 99-year lease to build its FMFO factory as well as a license that gives it complete right to fish in Gambian waters. Even though this goes against the Gambian law which states that no foreign national should be allowed to lease land for more than 26 years (constitution Of The Republic Of The Gambia,2020).This was followed suit by the establishment of two other factories- JXYG, and Nessim; all owned by chinese investors.The Gambia government through its ministry of fisheries, continues to promote FMFO industries as sources of foreign investment, infrastructural development, job

creation as well as contributors to economic growth (Gorez & Saine,2021).The companies are granted a special investment certificate from their inception which avails them the privilege of not paying taxes despite being involved in so many controversies regarding causing environmental pollution, contributing to food insecurity as well as affeecting small-scale fisheries livelihood (Greenpeace,2021; Darboe,2018).

The presence of the Chinese fishmeal factories have brought about so much of controversy and conflict in the coastal towns of Gunjur, Sanyang and Kartong(figure 3:showcasing map;also my empirical study sites) where they are located and carry out their operations on the fish landing sites. The companies have been accused of over-exploitation of fish resources leading to depletion of fish stock and directly disposing off waste from their factories into the water thus causing environmental pollution. For many years, these fishmeal industries have raised questions about their sustainability. They use vast quantities of fish, such as sardinella and bonga (Ethmalosa Fimbriata), which make up at least half of The Gambia's total protein intake (Manneh,2019). According to the Dutch non-governmental organization, changing market foundation, 40% of the Gambia annual fish is caught by the fishmeal factories who process into fishmeal and export it to China or other European companies to feed animals and farmed fish (Koiji,2023). In 2018, the golden lead factory in Gunjur alone produced 1969 tonnes of fishmeal and 823 tonnes of fish oil. This is alarmingly high considering the fact that it takes about 4.5kg-5kg of fish to make 1kg of fishmeal (Amnesty International,2023).

FMFO factories have also been strongly linked to IUU fishing to meet the demand of raw fish needed for their operations (Greenpeace 2021; EJF 2023).Berner (2024) highlighted that the increasing European and Chinese demand for fishmeal and fish oil raises concerns about unsustainable fishing practices and its potential to drive further IUU fishing.

According to the International Maritime Organisation (2026), IUU fishing is one of the biggest threat affecting global marine ecosystems and sustainable fisheries.Driven by the increasing demand for seaford globally, IUU fishing affects biodiversity,livelihoods,intensifies poverty and undermines food security (Greenpeace 2021).The IUU Fishing Risk Index, highlighted that around 40 million livelihoods are threatened globally by IUU fishing and close to 26 million tonnes of fish are catch anually (Global Initiative, 2025).This has led to $30 billion in global economic losses (FAO 2026). IUU fishing includes activities that violate national or international laws, such as fishing that is not reported to relevant authorities and operations conducted outside regulatory frameworks (Greenpeace 2021; Berner 2024; FAO 2026). It exploits and takes advantage of weak and currupt management systems; particular in countries

lacking the capacity and resources for effective monitoring, control, and surveillance (MCS) (International Maritime Organisation, 2026).

In west Africa, IUU fishing remains one of the biggest challenge contributing towards eroding fish stock and marginalising the SSF sector (Liddick 2014; Doumbouya et al. 2017; Zoppi 2019; Song et al. 2020; Berner 2024). Six W.African countries which include Senegal,The Gambia, Sierra Leone,Guinea Bissau, Guinea and Mauritania account for 20% of fish caught through IUU fishing (ADF 2023; Berner 2024b; FAO 2026). Recent figures show that west African countries alone lose up to $9.4 billion annually as a result of IUU fishing; with countries like the Gambia and Sierra Leone losing the most (Zoppi 2019; ADF 2025; FAO 2026).Approximately 300,000 livelihoods have been lost across W.Africa whilst it continues undermining local food systems and food security (Berner 2024a; FAO 2026; International Maritime Organisation 2026). The long-distance fleets of the European Union (EU), along with major fishing nations such as China and Russia have been implicated for causing IUU fishing in many W.African countries (Berner 2024a).These fleets exploit and take advantage of the limited enforcment capacity and weak monitoring systems of these countries to carryout activities that violate national or international laws, such as fishing that is not reported to relevant authorities and operations conducted outside regulatory frameworks (Berner 2024).

The Gambia's weak marine monitoring system,inadequate enforcement capacity and corruption make her waters susceptible to IUU fishing (Traore 2022). IUU fishing is one of the biggest problems facing the Gambia's fisheries industry (EJF,2023). It significantly contributes to the depletion of fish populations. Althogh the exact amount of fish caught by illegal fishing is not known in the Gambia, experts estimate that W.African countries of which Gambia is included, account for around 40% of the total illegal annual catches (Zoppi 2019; Berner 2024).Thus showcasing its contribution to exacerbating overexploitation in Gambian waters. Around 30,000 livelihoods have so far been lost as result of the activities of industrial trawlers (ADF, 2025).The Gambia's coastline is infested by illegal fishing, particularly industrial trawlers that breach the country's regulations by fishing within zones reserved for artisanal fishers (Zoppi 2019; EJF 2023; foroya newspaper 2026). Oloko et al. (2025) highlighted that these foreign industrial trawlers often compete directly with artisanal fisheries for fish species that are essential for local consumption and women's fish processing activities. They clash with local fishermen,destroying their boats and nets thus affecting access to fish (Drammeh,2019).This has seen the number of conflicts increase at sea between these two actors (ADF, 2025). In most cases,these industrial trawlers are not held responsible due to corruption and poor enforcement regulations. In general, IUU fishing has contributed to restricting artisanal folks access to fish,increasing poverty among fishing communities,

threatening food security, causing economic losses, and damaging marine ecosystems.

Extensive research can be found on the impact of IUU fishing and Industrial fishmeal production on the environment, local food systems, labour markets, as well as on the socio-economic well-being of artisanal fisherfolk in general. According to Greenpeace (2021), industrial fishmeal production and IUU fishing and their activities have huge impacts on women. Gustavsson (2020) in her paper, "Women's changing productive practices, gender relations and identities in fishing through a critical feminisation perspective", has established a few unique research to highlight how changing fisheries systems shape gender relations and women's experiences. Her work has called out that this topic receives "little attention" in research and policy sphere. This alignes with the fact that there exist minimal scholarly work on the gendered impact of these industries and how they microscopically affect the socio-economic wellbeing of women within the small scale fisheries (SSF) sector (Jobe, 2023). This is the gap that this thesis will contribute to.

## 1.1 Aim

The aim of the study is to explore how IUU (Illegal, Unregular and Unreported) fishing and Industrial fishmeal processing affect the livelihood and socioeconomic wellbeing of women fish processors and traders in the Gambia

## 1.2 Objectives

1) To understand what changes have occurred to women's access to fish due to IUU fishing and Industrial Fishmeal processing.

2) To understand how these changes affect women's livelihoods, wellbeing and social reproductive roles.

3) To highlight different strategies adopted by women to adapt to these changes.

4) To highlight existing structural inequalities and understand how this influences the impact the fishmeal factories and IUU have on women.

## 1.3 Research questions

Overall Research Question:
What impact does Illegal, Unreported and Unregulated fishing (IUU) and industrial fishmeal production have on the socio-economic wellbeing of female fish traders and processors in the Gambia?

Sub-questions: Together, these sub-questions provide a comprehensive framework for answering the main research question by examining the problem from resource access, economic, social impacts and structural barriers contributing to women's marginalisation.

- What are the perceived impacts of IUU fishing and Industrial fishmeal production on fish availability for women fish processors and traders?

- How have these changes affected women's livelihood, wellbeing and social reproductive roles?

- How are women able to adapt to the changes?

- What structural inequities and challenges make women vulnerable to the changes?

## 1.4 Thesis outline

The structure of this thesis is as follows: Chapter 1 provides an introduction of the topic, as well as aims, objectives and research questions. Chapter 2 is a background chapter providing contextual information about The Gambia fisheries, its importance, sectors, actors as well as key challenges. Chapter 3 outlines key frameworks and concepts which I use to interpret my empirical data. Chapter 4 details my methodology. I then present my empirical findings in Chapter 5 and Chapter 6 provides detailed discussion on my findings and interpretations that emerged. Chapter 7 comprises my conclusions including a summary of my major findings, contributions my study makes to existing knowledge, implications of my findings as well as future research needs

# 2 Background

## 2.1 Overview of the Gambia fisheries

The fishery sector is one of the most crucial industries in the Gambia; critically significant for poverty alleviation, source of employment and contributing to the National GDP. With 80km of coastline and a continental shelf area of 4,000km2, it provides revenue and foreign exchange for the country from both the artisanal and industrial sub-sectors (GiEPA,2013). According to Kerr Fatou news (2024), in 2024 alone, the industry made around $2 million in revenue from fishing licenses, fines, landing fees, and permits whilst FAO estimated in 2022 that fisheries generate about US $55.5 million to the economy, of which production accounts for US $38 million—with industrial processing making up the remainder (roughly US $ 16.1 million) (Saine,2025). 12% of the country's GDP is contributed by the sector currently; significantly higher than the 6.2% and 2% that was reported in 2018 and 2014 respectively (Wabnitz et al.2023; The Point,2026). Around 32,000 people are employed in the Gambia fisheries (Wabnitz et al.2023; ministry of fisheries and water resources 2026). Thus, providing employment for 7% of the population; both Gambians and foreign nationals (Wabnitz et al.2023). 60% of the 7% highlighted are foreign nationals from Senegal, Mali, Ghana and Guinea. It is also estimated that almost 300,000 livelihoods are supported by the sector and critically dependent on it thus highlighting its role in sustaining coastal communities (Wabnitz et al.2023; ministry of fisheries and water resources 2026). Approximately 13,868 women work within the fisheries sector in the Gambia mainly as traders and processors (Wabnitz et al.2023). After Agriculture and Livestock, Fisheries is the third highest food production sector. However, it remains the largest source of animal protein in most Gambian diets thus signifying its importance to food security. The Gambian waters are diverse and rich with over 500 fish species, mostly demersal and pelagic species (European Commission, 2021). The most common ones include Sole, Grunts, Sea-breams, Carangids and Cephalopods Bonga, Sardinella Red Mullet Shads Catfish and Jacks Snappers (GiEPA,2013).

The Gambia fisheries face numerous challenges and is in one of its worst critical conditions since the pact 10 years (Gajigo, 2024; Wabnitz et al, 2023). Based on literature studies, there are four threats and drivers of change identified in the Gambia's coastal ecosystem which are having huge impacts on coastal livelihoods and food security at large. First and foremost, the inadequacy of infrastructure for proper fish handling, processing and storage is also a huge challenge. Lack of access to ports, efficient processing technology and techniques, proper transport and distribution systems continues to pose serious barriers to the sustainable progress of the sector in general (Wabnitz et al,2023). The sector experiences very high post-harvest loses (due to spoilage) as high as 20%

especially during peak season before reaching the target markets as well as poor product quality because of this issue (Saine,2025). Even basic electricity supply is unreliable and the cost is the highest in the sub-region (UNCTAD,2014). Secondly, EIF 2022; fao,2023 also highlighted that climate change is also another challenge affecting Gambia fisheries and reported that climate change has and continues to affect marine resources all around the world. In its 2022 report, The Intergovernmental Panel on Climate Change (IPCC) has reported that sea temperature rise, acidification, deoxygenation, salinity and ocean hypoxia will have a huge impact on the marine ecosystem. The government of the Gambia predicted and warned that ocean warming would have a huge impact on marine environment and ecosystem; affecting fish populations and distribution including "emblematic" fish like sardinellas (s. maderensis and s. aurita) and the bonga shad (ethmalosa fimbriata) (ministry of fisheries and water resources 2026).During his research in the Gambia,(Saine,2025) highlighted that fishermen reported that warmer water surfaces and flooding of fish landing sites have made operations more difficult.25% of fishermen mentioned shortages of fish catch and displacement of stocks due to climate change which has increased production costs since they now have to venture further in search of fish. An investigative report on the Gambia's fisheries sector pinpoint that something must be done to curb the negative impacts of climate change or else coastal ecosystems will be obstructed and populations of fish will continue moving to cooler waters, leaving behind the fishing communities and economies that have depended on them for centuries (singateh,2021). Thirdly is industrialization; characterized by the rise of foreign-owned industrial trawlers and fishmeal factories also significantly affect The Gambia's fisheries particularly the small-scale sector (Ragusa 2014a; Traore 2022). These entities promote overexploitation, cause environmental damage, and threatening local food security and artisanal livelihoods. While industrialization is viewed by the government as an economic opportunity for export-led growth, the unsustainable practices used by these industries is currently putting immense pressure on key demersal and pelagic; thereby disrupting the ecosystem and local livelihoods especially those of women (Lentisco & Lee 2015; Avadí & Acosta-Alba 2021; Jobe 2021).These issues can also be attributed to the fact that The Gambia lack adequate institutional structures to create, implement and monitor laws that can keep these industries in check which in itself is a key challenge. Manneh (2023) stated that currently, there are no specific regulation on fishmeal and fish oil production and added that most of the fisheries' laws are outdated-last updated in 2008. Jallow (2023) underlined inadequate human and financial resource as the reason behind this. The absence of a reliable monitoring and evaluation system make it impossible to identify and react to risks and vulnerabilities as well as seen the increase in corruption and unscrupulous behaviour among government official in the fisheries sector.

## 2.2 Gambia fisheries sector

Fisheries in the Gambia constitute three sectors; small-scale/artisanal wild catches fisheries (SSF), industrial fisheries and aquaculture (Jallow et al.2019). However, in this thesis, focus will be on SSF and the Industrial sector since I intend to focus on the lived experiences of women fish traders and processors who mainly work in the SSF sector and how they are affected by the activities of the industrial fishmeal production and foreign-owned industrial vessels. According to Oloko et al. (2025), IUU fishing and industrial fishmeal production mostly affects the SSF communities particularly vulnerable groups.

Small-Scale (Artisanal) fisheries refer to fishermen and women who operate in smaller groups or on individual basis (both Gambians and foreign nationals from Senegal, Mali, Ghana and Guinea); using little equipment and technology (UNCTAD.2014). The artisanal fisheries is characterized by its dependence on both motorized(an estimate of 40% are motorized) and unmotorized canoes(planked and/or dug-out canoes.) as well as the use of traditional, low-capital fishing practices and methods as well as its heavy dependence on family labour (Ragusa 2014b).The small-scale fishers mainly use entangling/surrounding nets, bottom gill nets, hand and long-lines, cast nets and traps (ministry of fisheries and water resources 2026). Artisanal fishing mainly catches small pelagic species such as shad known locally as bonga, sardinella and mackerel as well as demersal species such as snappers, groupers, sea breams, croakers, marine catfish, and flatfish like sole and tonguefish (Avadí & Acosta-Alba 2021). Majority (approximately 25-30 000) of people employed within the fisheries industry work in the small-scale sector, highlighting its great livelihood importance(ministry of fisheries and water resources 2026). It also employs the highest number of women who work as fish traders and processors (Wabnitz et al.2023). The small-sale sector accounts for 80% of the total domestic and official landings in the past decade (European Commission,2021).The sector plays a key role in promoting food security for people in the Gambian, both those residing on the coast and those further inland despite its small-scale operations and dependence on the use of low-cost fishing materials and traditional fishing practices (Wabnitz et al.2023).The Food and Agriculture Organization of the United Nations (FAO) estimated apparent fish consumption at 25.17 kg per person per year in 2020(Wabnitz et al.2023); of which 90% is provided by the sector. According to Gambian law, the first 9 nautical miles from the coast are generally reserved for artisanal (small-scale) fishermen. This protected zone is meant to keep industrial trawlers away from local fishing communities and preserve livelihoods and fish stocks (foroya newspaper, 2026). However, this has been challenging.

The industrial fisheries in the Gambia uses high-cost production system (fish trawlers) as well as advanced processing facilities in its activities. It is mainly responsible for catching, processing and packaging of both fresh and processed fish mainly for export to the EU and China. It is recorded that in 2019, industrial fleets fishing in Gambia's Exclusive Economic Zone accounted for approximately 86,625 tonnes of fish (Wabnitz et al.2023). However, GiEPA (2013) highlight that official statistics often underestimate the real volume of fish extracted by industrial fleets since much of the industrial catch taken from Gambian waters is not landed in The Gambia but in foreign ports (e.g., Senegal). According to the ministry of fisheries and water resources (2026), as of 2018,52 industrial vessels are operating in Gambian waters.90% of these trawlers are owned by Chinese and Egyptian nationals who are registered and licenced to operate only allowed to fish in the Exclusive Economic Zone (EEZ) above the 12-nautical mile (NM) limit from the shore. However, these vessels have been found on many occasions breaking Gambian laws ranging from undeclared/incorrect catches and most importantly; fishing in prohibited exclusive zone which is the 9 nautical mile boundary preserved for Artisanal fisheries. This has led to increased clashes and conflict between these vessels and local artisanal fishermen. Bojang (2025) highlighted that since 2018,32 fishing trawlers were fined for these violations.

## 2.3 Gambia fisheries value chain

The Gambia fisheries value chain is dominated by the small-scale and a very significant processing industry which consists of various activities (Avadí & Acosta-Alba 2021). The value chain is segmented into production, processing and distribution. Understanding the fisheries value chain helps centre and put focus on the different actors in each role and how interconnected they are. It provides a broader understanding of who dominates what and where.

Production

There are approximately 130 fish landing sites spread along the Atlantic coast of the country and the River Gambia (Jallow 2019).These sites usually have little infrastructure which mostly consist of locally made artisanal processing facilities (smokehouses, drying racks etc.). Hygienic conditions in these sites are usually poor due to poor storage and sewage infrastructure, improper disposal of waste as well as little or no inspections or monitoring of sanitary regulations. As seen in the figure below, the yearly average official landings in the country are 65,000t (European commission,2021). The bulk of landings consists of small pelagic — bonga and sardinella (GiEPA,2013). The artisanal marine sector is dominated by men mostly foreigners (majority Senegalese) whilst the majority of Gambians

mostly work within the inland rivers (FAO,2016). Whilst production in the industrial sector is dominated by vessels owned by foreign nationals mainly from China and Egypt.

Processing

Artisanal fish processors,80% of which are women, are mainly concentrated at the fish landing sites (UNCTAD,2014). Fish processors are mainly responsible for fish smoking and sun drying mainly to sell in local markets for human consumption. They use locally made drying racks and smokehouses (fuelled using local wood and palm tree branches) (Avadi et al,2020). The most common finished products are the smoked cat fish and dried salted whitefish which is used in most Gambian cuisines (UNCTAD,2014). The artisanal fish processors usually encounter challenges of high wastage of fish due to inadequate storage facilities and poor processing techniques (Jallow 2019). Industrial processors, usually located closer to the capital city Banjul due to better access to water, electricity and services, mainly freeze high value demersal fish for export to the U.S and EU. Fishmeal plants, who also process fish into fishmeal and oil mainly for export (Vietnam, China and the EU) are located in major landing canters (Jallow et al,2019). Their supply comes mainly from artisanal fishers. An estimate of 10,000tonnes of landed fish is processed by artisanal processors whereas industrial processors and fishmeal factories account for 3700t and 16600t respectively (Avadi et al.2020)

Distribution

The SSF sector is the main supplier of fresh and processed fish for local/domestic markets and, marketing and distribution is done by fish mongers, fish traders; 50% of which are women and other market operators (Avadi et al,2020). At the fish landing sites, the fish is usually bought directly from artisanal fishermen in bulk by fish traders; mainly women locally called `Banabanas'. They then directly sell in the market or resell to smaller intermediaries for further distribution or to processing establishments (UNCTAD,2014). In most cases, the fisherman is related to the "banabana" - or if not related, has invested in the boat, or often provides some form of assistance to the fisherman - and thus holds the fisherman in bondage (Jallow 2019). At some landing sites, women may be the intermediary between fishermen and traders/processors, particularly as regards certain fish species processed and traded by women (e.g., cat fish and spoiled white fish for the production of salted and dried products) (UNCTAD 2014; Jallow 2023).

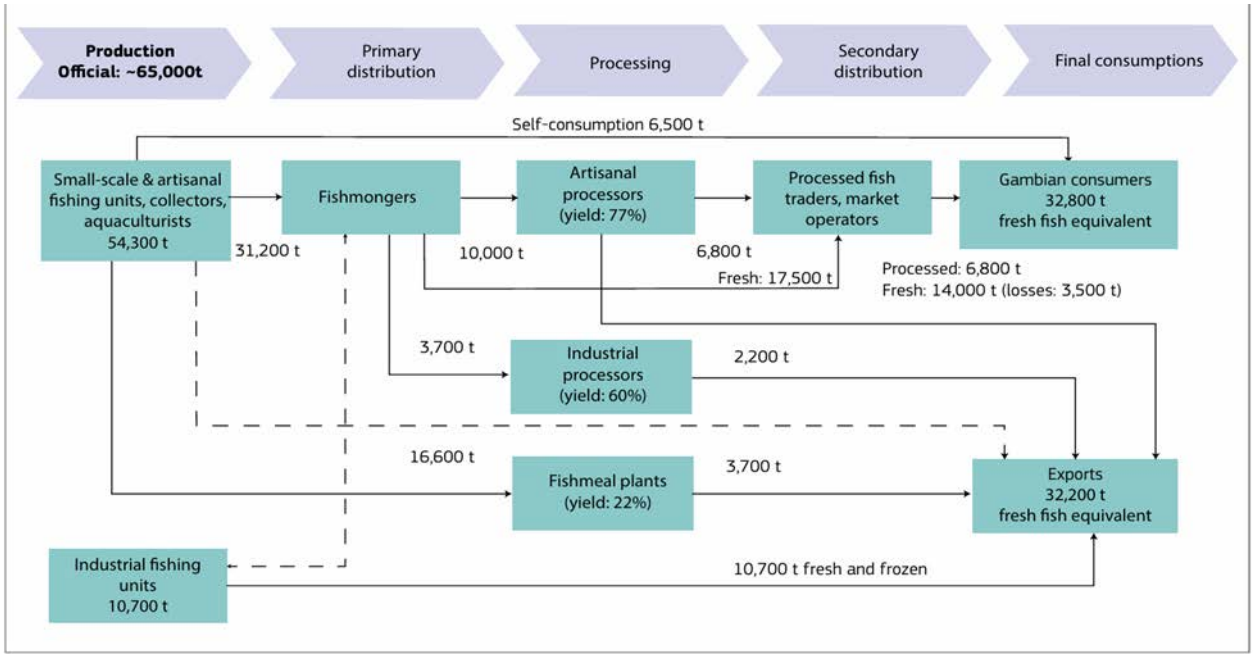


*Figure 1.flow diagram of the fish production, distribution and consumption system in the Gambia. Sourced; European Commission*

## 2.4 Women in the Gambia fisheries (focusing on small-scale sector)

Women play a very huge and critical role in Gambia fisheries(UNCTAD 2014; Jallow 2019; Avadí & Acosta-Alba 2021). They contribute to both the local and national economies through their fish processing and trading roles(Gorez & Saine 2021).Wabnitz et al. (2023) noted that around 13,686 women are actively involved in the SSF sector. Thus, being the highest source of livelihood for women in fisheries.

- **Women involved in Fish Processing (Female fish processors)**

Fish processing which involves preservation of raw fish is one of the crucial sectors women are actively involved in. It provides employment-women constitute about 80% of the fish processing workforce (Avadí & Acosta-Alba 2021; Wabnitz et al.2023), and income opportunities for women with limited formal education or access to salaried work.

Women are heavily engaged in smoking, drying, fermenting, and salting fish to preserve products for domestic consumption and trade (Jallow,2023). Thus, contributing to extending the shelf-life of fish resources particularly in the absence of adequate proper cold storage facilities. Traditional smoking techniques are still commonly use (Avadí & Acosta-Alba 2021). Women often use wood-fired ovens and open smoking racks in smokehouses to process species such as bonga, catfish, and sardinella. These techniques are not only considered labour-intensive but unsustainable as well since they contribute to air pollution, carry high health risk levels and are highly dependent on forest resources (Jallow,2023). In many processing sites, inadequate infrastructure, lack of clean water, and insufficient storage facilities reduce productivity and product quality. Processed fish products are sold in local markets or transported to inland communities (Avadí & Acosta-Alba 2021).

- **Women involved in fish trading and marketing (female fish traders)**

  These women are heavily involved in the marketing and distribution of both raw and processed fish (Jallow,2023; Avadí & Acosta-Alba 2021). Locally known as “Bana Banas”, they buy raw fish in bulk directly from fishermen or processed fish from women fish processors and then transport to urban and inland markets for redistribution or selling it themselves. They sometimes collectively hire a commercial vehicle to transport the fish to the urban markets, or use local taxis (Jallow,2023).

  Despite their work and contributions, women face immense challenges in SSF sector and are often left marginalised (Jallow 2023). They have limited access to financial capital, limited ownership of fishing equipment and remain underrepresented in decision making spaces(Wabnitz et al.2023).

# 3.0 Conceptual Framework

The study combines the feminist political ecology framework and sustainable livelihood approach to analyse and examine the impact of IUU fishing and industrial fishmeal production on women fish traders and processors in the Gambia. The feminist political ecology framework provides the lens for understanding power relations, gendered access to fisheries resources and women's exclusion from environmental governance. It also helps to understand how these affect women's wellbeing and social reproductive roles

The sustainable livelihood approach on the other hand helps to analyse and understand how political-economic processes which affect women's access to resource and livelihood opportunities. It also helps to understand vulnerabilities as well as coping strategies adopted by women.

Together, they complement and provide the perfect analytical framework for my research. The FPE is limited in a way since it cannot provide analysis and understanding of the livelihood impact, how shocks affect people's livelihood assets and how the inaccessibility to assets create vulnerability. This is where SLF steps in. The SLF's limitation is that it does not pay enough attention to power inequalities and gender(Serrat 2017; Krantz 2003.) thus where FPE steps in.

## 3.1 Feminist Political Ecology Framework (FPE)

The study is grounded in feminist political ecology theory, an epistemology derived from political ecology, which emphasizes on the importance of understanding that gender and the intersectionality of class, race and ethnicity are critical in shaping access and control over natural resources (Nunan et al. 2022).

The political ecology approach frames as stated by (Robbins,2012, p3) "that politics is inevitably ecological and that ecology is inherently political." Environmental changes and ecological conditions cannot be rendered as neutral, technical or outside politics. It has less or little to do with inappropriate technology, poor management or over-population as stipulated by supporters of modernity. These changes are in fact as a result of power and political economy. Environmental scientists such as Graham Beakhurst eluded that in order to understand environmental degradation and resource exploitation, it is essential to highlight and think over questions of access and control of resources as well as power dynamics (Peet,2004).

However, weaknesses and limitations of the political ecology approach began to pop up in the late 1970's and the early 1980's. One of which was the fact that the approach ignored gender relations which created mischaracterization and misdiagnoses of realities in the analysis of grounded environmental issues (Nunan et al. 2022). The approach treated resource users or communities as homogenous and overlooked gender differences in environmental experience and resource use. This led to the emergence of the feminist political ecology framework which addresses this gap by making fulcrum gender alongside other multiple forms of intersectionality (e.g., race, class, ethnicity, religion, sexuality, age and geographical location) to better understand access to, and control over natural resources and other assets(Nunan et al. 2022).Inspired by eco-feminism, post-colonial feminist critiques of development and other feminist theories studies, feminist political ecology goes beyond the "traditional" analysis of political ecology and provides a deepened understanding of dispossession and extractivism, conservation as well as access and exclusion by capturing how women and men experience environmental change differently because of socially constructed gender roles, inequalities, and institutional exclusions among other things.(Harcourt et al. 2023).As highlighted by (Hart, 2022),resource extraction may change women's roles and identities in their communities and may not only exclude them from reaping from its benefits, but may further worsen their plight. (Sundberg,2017) notes that FPE advocates for the inclusion of women situated knowledge in resource management and emphasizes on the detrimental effects when women's environmental engagement, knowledge and activism are neglected. The approach decentres men as the primary producers of knowledge and environmental actors whilst engaging women as political actors, agents of environmental change, and bearers/producers of environmental knowledge, thus revolutionizing research in political ecology.

The study draws on several interrelated concepts from the feminist political ecology to guide data analysis and interpretation.

a. Power; One of the most important concepts that the FPE approach puts central is "power". It is conceptualized as the capacity of certain actors to influence and control the practices and ideas of others (Ribot & Peluso 2003.). He further argues that power is not simply something that people possess or exercise deliberately, but the fact that it is relational and produced through social interactions, institutions and everyday practices. According to (Joshi et al.2021), the FPE framework provides a good analytical lens to analyse power dynamics in this case and provides a way to understand and tackle the political and structural nature of inequalities around the ownership and use of natural resources. Harcourt (2024) highlights the fact that gendered power relations determine who has access

and control over resources across scales influenced by interactions with nature and political-economic processes. She criticizes the objective or realist approach to environmental problems and notes that human-nature relation is deeply rooted in the ideologies of domination, exploitation, patriarchy and colonialism. For the purpose of this study, I will focus on the concept of power beyond state control and economic dominance to include everyday practices, social norms, gender roles and unpaid labour through which environmental inequalities are produced and sustained. The unequal power differences that exist within the fisheries are the result of gendered division of labour, patriarchal norms, exclusion from participation as well as controlled access to assets by men. In turn, these reshape who can and cannot access fisheries resources (Ouko,2023; Campling et al,2012; Boucquey,2020).

The power dynamics also determines whose environmental knowledge is accepted, recognized or used (Raghuram et al. 1998; Robbins,2012). According to Rocheleau et al. (1996), environmental discourses centre men as the producers of environmental knowledge and decision makers whilst excluding women's local ecological knowledge, which is rooted in analytical framing of the everyday practices of resource use and care. Fisheries governance has systematically focused and centred on men's knowledge and participation while overlooking women's experiences, contributions, and leadership roles (Galappaththi et al., 2022; Oloko et al., 2024) highlights that this not only leaves women vulnerable, but continuously produces unequal power dynamics. The FPE framework helps to analyse how power is used to support and uphold policies and discourses that support industrialization, commodification of resources and export among others which may benefit men more than women due to differential gender roles. Thus, this unequal power dynamics between actors influences or determines who benefits and who bears the brunt of environmental degradation of resource extractivism.

b. Gendered access to and control over resources; The term "access" is most often used in the property and natural resource studies without proper definition. However, (Ribot & Peluso 2003) defined access as quoted "the ability to benefit from things—including material objects, persons, institutions, and symbols." The authors use ability instead of rights in order to bring into perspective the different social interactions that may hinder or enable people to access resources without focusing on property relations alone. According to (Pritchard et al., 2013 as cited by Nunan et al. 2022), livelihood aspirations cannot be based solely on access alone because actor's agency might be constrained by the structural context

within which decisions and choices regarding livelihoods are made (Pritchard et al., 2013; Sakdapolrak, 2014). For example, in certain societies women may not be able to pursue certain dreams or livelihoods due to norms that make it inappropriate for them. Women in the fisheries sector's access to resources is limited as a result of social norms which restrict women from accessing assets, governance participation which leads to their exclusion from using and deriving benefits from fisheries resources (Ouku,2023).According to (Ribot & Peluso 2003), the concept of access provides a deep analysis of who benefits from resources (whether or not they have rights to the resource), why, how and when. They further put into focus and explore the ranges of power within the social and political-economic contexts that shape people's abilities to benefit from resources.

Control over resources however, also means having the authority to make decisions on how to use, distribute or dispose of a resource. Livelihood, gender and environmental studies showcase how women can access and use resources but may not be able to make decisions in regards to the resource which limits the benefits they can derive from that resource (Nunan et al. 2022).

One of the categories that (Ribot & Peluso, 2003) used to illustrate the kinds of power relations that can affect rights-based mechanisms of access is social identity and relations. The feminist political ecology approach provides a critical analysis of how access to resources is gendered and based on different dimensions of identity such as race, ethnicity, caste, class or disability; shaped by gendered norms, roles and power. It provides understanding of the transformation and reproduction of nature by capitalism, and how these changes reduce women's access to resources due to gendered division of labour (Elmhirst,2018). In this way, feminist political ecology reveals that capitalist transformations of nature are not gender-neutral. Instead, they reproduce and intensify gender inequalities by redistributing access, labour, and responsibility in ways that systematically disadvantage women while privileging market-oriented actors such as men and corporate companies.

c. Social Reproduction; The concept has been central in feminists' theories for an extended period of time, recognizing the role of women as providers of unpaid and underpaid care labour including food provisioning, caregiving, and maintaining social relations and the economy at large (Bhattacharya 2017). Despite its immense role and importance in sustaining societies, social reproduction is ignored or undervalued in the capitalist world where labour that brings in wages is termed as productive.

Even though without social reproduction, no economy could function (Harcourt et al. 2023).

Feminist political ecology places social reproduction at the centre of environmental analysis and argues that it is deeply gendered. Due to gendered division of labour, social reproduction has historically fallen disproportionately on women, especially within families where unpaid care work is expected. But it's not just about gender, the intersections of race and class play key roles too (Bauhardt, 2014). In the book "Feminist Political Ecology and the Economics of Care" by (Christine & Wendy 2018), Floro and Poyatzis highlight that ecological degradation and resource inaccessibility contribute to the crisis of social reproduction; magnifying women's unpaid labour in food provisioning, household maintenance, and community care. Thus, women suffer not only livelihood losses but increased burden of care work as well as difficulties in carrying out their various reproductive roles. By increasing women's access to natural resources, there is a greater chance that this will contribute to household food security and general family wellbeing (Lentisco & Lee 2015)

d. Agency And Adaptation; Nunan et al. (2022), defines agency as "The ability to make choices; that is to exercise freedom to pursue the goals and aspirations that a person has reason to value". Kabeer (1999) also states that Agency is "the ability to define one's goals and act upon them". It is the power people have within them, motivation, purpose to want to achieve their goals. She argues that although agency has been operationalized as "decision making" in most social science literature, it is more than that. She asserts: "It can take the form of bargaining and negotiation, deception and manipulation, subversion and resistance as well as more intangible, cognitive processes of reflection and analysis. It can be exercised by individuals as well as by collectives (Kabeer,1999).

The use of the FPE approach in analysis of the case helps to understand how women's agency may be constrained by norms, power relations, gendered division of labour, institutional rules or exclusion from resource use. The approach also argues that women are not passive victims of environmental change but actively develop strategies to cope with and resist marginalization (Raghuram et al. 1998). These concepts guide the analysis of how women adapt to reduced fish access through livelihood diversification, collective action, or negotiation within markets and households.

## 3.2 Sustainable Livelihood Framework

The FPE framework can only provide the lens for understanding power relations, gendered access to fisheries resources and women's exclusion from environmental governance. Thus, the SLF is needed to unpack and understand the livelihood impact, how shocks affect people's livelihood assets and how the inaccessibility to assets create vulnerability.

Over the years, several livelihoods' frameworks and adaptations of the SLF emerged(Nunan et al. 2022a). For this research, I will be focusing and using the DFID SLF to analyse my empirical findings on section 5.3.

The sustainable livelihood framework provides a comprehensive understanding of how people can draw from a combination of the various livelihood assets/capital (natural, economic, human and social capitals) within a vulnerability context to develop a range of livelihoods strategies and achieve desired livelihood outcomes (Serrat 2017). A key part in the framework is the institutional processes (formal and informal institutions and organizations) that influence whether or not people have the ability to use such assets base to achieve desired outcomes. According to the DFID (2000), a livelihood is sustainable when it can advance or maintain its capabilities and asset or, cope and recover through stresses and shock without depleting the resource base.

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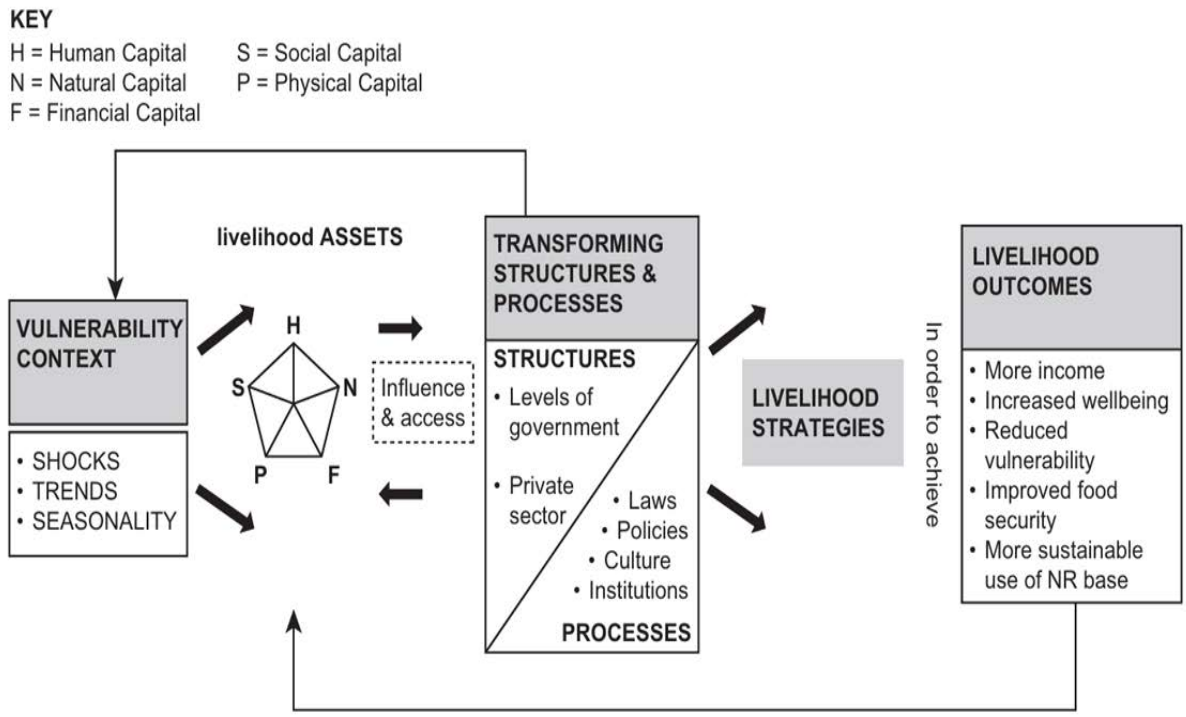


*Figure 2.Conceptual Diagram of the Sustainable livelihood framework (SLF).Sourced; The Routledge handbook on livelihoods in the global south (2022)*

a. Vulnerability Context: According to Serrat (2017), vulnerability features an insecurity that people face when changes occur in their environment. These changes (internal or external) could be shocks, seasonal changes, economic instability, environmental degradation, climate variability, and political uncertainty) which people have little or no control over that affects their livelihoods and influences the availability of assets and resources as well(Nunan et al. 2022b). However, vulnerability is often felt different by men and women often reflecting the gendered division of roles within the agricultural activities as well as the gendered access to assets and the patriarchal nature of policies, institutions and processes (Nunan et al. 2022).

b. Livelihood asset; referred to as 'livelihood resources' by Scoones (1998) and 'building blocks' by DFID (2001) are grouped in 5 types or categories which include social, financial, human, natural and physical assets according to (Serrat 2017; Nunan et al. 2022a; Krantz n.d.).Serrat (2017) further highlighted that these assets have very huge impacts on livelihood opportunities. Bebbington (1999; Nunan et al. 2022) however suggested that these assets should not just be seen as tools for making a living but should also help people create meaningful lives with better well-being.

c. Structures and processes; (Serrat 2017) noted that livelihood opportunities and outcomes are not just decided by having or accessing assets, but that there are structures and processes that influence how people use or benefit from the assets they have. This element of the SLF recognizes that the existence or ownership of assets does not automatically translate to the ability to utilize and benefit from those assets, whether that's education, land or social networks(Nunan et al. 2022b). There are many factors that influence the potential to use and benefit from assets; from government policies, societal norms, laws and institutions and, these are embedded within different levels; from the household to international level. Numerous gender studies showcase that although women often have meaningful assets, these assets are not put to use due to influences by these structures and processes. As argued by Lentisco & Lee (2015), even though women gain productive tools or participate in markets, entrenched gender norms continue to marginalize them in decision-making and resource control.

d. Livelihood strategies; These strategies are dependent on asset status and the policies, institutions and processes. For the purpose of this study, more focus would be on the coping strategies (which is a subset of livelihood

strategies) women use to adapt to changes. Allison & Ellis (2001) in their research “The Livelihoods Approach and Management of Small-Scale Fisheries” pointed out that fishers in the face of seasonal variations in fish stocks and fluctuating prices of fish often resort to diversifying their income sources or they may move from one place to another in search of better catches, prices as well as income as also reported by(Marquette et al. 2002.).According to Ellis ( 2000) ,having access to multiple source of livelihood and having the option of diversification is crucial for livelihood security; even though some deem it a necessity whilst others believe it a choice.

# 4 Methodology

This chapter discusses the approaches and methods used to collect the data needed to answer the thesis research questions. It highlights and discusses details and justification on how and why sites, research participant as well as methods are selected and used.

## 4.1 Epistemology and Research Design

The case was studied using the qualitative research approach to better understand the lived experiences of women fish traders and processors. As highlighted by Creswell & Creswell (2018), this approach helps in investigating and understanding how people attach meaning to a social or human problem. Using the ethnographic study design, I collected detailed information needed to answer my research question by using a variety of data collection procedures. These include individual interviews, focus group discussion as well as participant observation over a sustained period of time **8 weeks**; starting from the 9th of February to the 30th of March 2026

This thesis was informed by the transformative philosophical worldview. This approach highlights the fact that it is not enough to understand perspectives or how people create meaning of their lived experiences but that research should also help better marginalized people’s situation, understand power dynamics, structural inequalities as well as driving social change (Cresswell & Creswell,2018).This will help me understand how women experience changes, how meanings and realities are socially constructed, how power relations shape perceptions and access as well as how local norms influence fisheries governance and livelihoods. The qualitative methods I chose to use were; group interviews,

individual in-depth interviews and observations. As highlighted by Cresswell & Creswell (2018), the use of more than one method of data collection also helps to increase the validity and credibility of the research data, as it helps to compensate for the shortcomings of each method alone.

## 4.2 Selection of study topic

I was inspired to define my research topic in a course on governance of natural resources course in my master's program. During the exams, I wrote a paper on how industrial fishmeal factories exploited fish resources and also caused environment degradation in the coastal town of Gunjur in my home country The Gambia. From then on, my interest in this area grew and I decided to explore the gendered impacts of these industries. After months of preparations, I embarked on the fieldwork to research on how industrial fishmeal production affects women fish traders and processors in the Gambia. The first strategy was to first do interviews with a broad questionnaire guide to see what's on the ground and see what participants would point towards or be most interested in. However, on getting to the ground and asking women, they were very interested in talking about IUU fishing and the impact it having on them. Although Fishmeal factories had and still have an impact on them, women were more concerned and pressed about the underlying issue affecting their access to fish and livelihood which was IUU fishing. Thus, a mention of the fishmeal factories generated little or no interest from my supposed participants at all. So, it was required for me to also include IUU fishing into my research focus together with industrial fishmeal factories and explore what impact they have on women fish traders and processors.

## 4.3 Selection study site

The Gambia is a very small country in the western part of Africa with a population of just over 2.4 million people (Gbos,2024) and a total area of 11,300 square kilometres. She is surrounded by Senegal on all three sides except the West, where one finds the Atlantic coastline stretching 80km (IFAD,2019).On this coastline, one can find up to 13 main coastal towns and villages(Jallow 2019).The fishery sector is one of the most crucial industries in the Gambia; serving as a source of livelihood and food to thousands of Gambians. The country has opulent biodiversity with a rich array of birdlife (500 different species), over 500 fish species found in its marine and aquatic environment as well as many different wildlife (Burrington,2024).

Three fish landing sites in the Gambian coastal towns of Gunjur, Sanyang and Kartong were selected for this study, for the following reasons: 1) they are key fishing towns for small-scale fishing, all grappling with IUU fishing from industrial vessels (singateh,2021) and 2) they are the sites of the country's fishmeal factories (Jobe 2021).This is important since the research also investigates how these factories affect women fish traders and processors' access to fish. However, another site was also visited during fieldwork which is the Banjul Jetty. This was totally unplanned but had been mentioned by participants numerous times during both individual and group interviews. Thus, I deemed it a place necessary to visit and carry-out interviews with women fish traders found there.

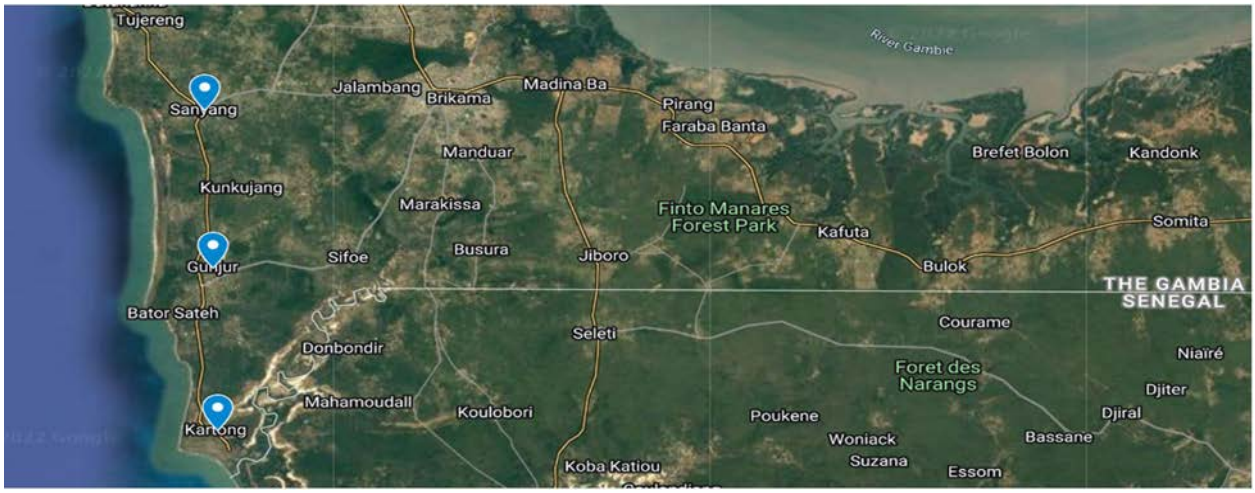


*Figure 3.Map of the Gambia showcasing the location of the three coastal towns of Gunjur, Sanyang and Kartong where fieldwork was conducted between Feb 2026 and March 2026. Sourced; Google map*

*Figure 4.Banjul Jetty, a key fish landing site for industrial vessels. Women fish traders usually visit to source fish (Taken during fieldwork,23rd/02/26)*

## 4.4 Access to, sampling and selection of participants

Before starting my fieldwork, a familiarization tour was carried out. I was accompanied by my onsite supervisor who is very familiar with the locations and has a very good network there; having worked with the fishermen and women in numerous environment activists' campaigns and other social events. This affiliation made contact and cooperation with participants easier. He also advised on protocols I should follow. However, after this introduction, I carried on alone during all stages of data collection as I was already familiar with the locations (being a native) and also fluently speak the local languages which made things easier for me.

Purposive sampling was used to identify women who are fish traders and processors at the fish landing sites. This was mainly for the individual interviews whilst for the focus group discussions, fisheries officers posted at each of the sites aided in recruiting women. Women selected include those active in the sector as well as former fish traders and processor who used to be active. They also had to be aged 18 and above. It is important to note that all women involved in the value chain are either fish traders, fish processors or both. This made selection much easier. Using the snowball method, I was also able to reach out to women (through the president of the Processors and Traders association) particularly those who had already left the small-scale fisheries to venture into something completely different. Fishermen were also selected to take part.

For access to key informants from the Department of fisheries, a letter requesting for assistance for my research was submitted which was then approved by the director. The rest were contacted through snowball method from contacts I previously had.

Consent forms were typed and printed for field use. Before the start of each interview, Verbal or written consent was sought from the participants. Participants either signed or provided thumb-print signatures on consent forms. The respondents were assured of confidentiality, anonymity and stopping whenever they feel uncomfortable or skipping questions that they would rather not answer.

## 4.5 Data collection Methods

### 4.5.1 Semi-structured Interview

4.4.1 Semi-structured Interview

I started with individual Interviews which were done face-to face and questions were posed to women fish traders and processors as well as artisanal fishermen at the fish landing sites in the various coastal areas. I believe this was best as one -on one interview help to explore, uncover as well as get in-depth understanding of the situation (Robson,2016). It also provides the opportunity to probe, ask follow-up questions and clarify meanings that are not clear (Creswell & Creswell,2018). Feminist researchers also highlight the fact that the conversational nature of semi-structured interviews help to create rapport between the researcher and interviewee, build trust as well as create reciprocity (Doucet & Mauthner,2008)This exploratory phase helped a lot and guided the questions I asked during focus group discussions and key informant interviews to gain more clarity and connect the dots on few key information that were not clear or making sense. In many cases, interviews were done during various activities such as net fixing, fish processing or whilst waiting for fish to be delivered. A total of 33 women fish traders and processors were interviewed. This included 28 that are active and 5 former fish traders.6 Local fishermen were also interviewed. The interviews usually lasted from 40 mins to an hour and were done using the two main local languages (wollof and Mandinka) which I fluently speak and understand. The interview guide had a mix of closed, survey-style questions to collect metadata such as age, marital status, level of education as well as open questions to yield flexibility to respondents to dive into topics or areas that they see as important to them. The guide was adapted throughout the interviews as it became clear which questions yielded more useful information (Rubin and Rubin, 2005). The focus was on gathering detailed individual accounts from women fish traders and processors on what changes they have observed in the SSF sector, the cause of these changes from their perspective, how these changes have affected them and what they are doing to adapt to new conditions.

4 key informants were also interviewed. The interviews were again semi-structured and guided by a question framework designed to gather respondents' expert knowledge, but also to explore their personal perspectives. The interviews lasted approximately one hour and a half and were done in English. The key informants included two fisheries government officials whom I was assigned to after reaching out to the fisheries department for participation in my research. These officials have vast experience with IUU fishing in the Gambia with one of

them working for the MSCU (monitoring, surveillance and control unit) whilst the other is the head of research and development at the fisheries department. An investigative journalist as well as an environmental activist were also contacted through the snowball method from contacts I already made and interviewed as well.

All interviews were recorded and I always had a hardcopy of the interview guide for each respondent to jot down notes or specific observation during interviews. Table below shows details of all interviewed participants.

| Identity in Text | Location | Gender | Age | Level of Education | Status | Date of interview |
|---|---|---|---|---|---|---|
| Female fish processor 1 | Gunjur | F | 32 | Primary school | Married | 9/02/26 |
| Female fish trader 2 | Gunjur | F | 28 | Primary school | Married | 9/02/26 |
| Female fish trader 3 | Gunjur | F | 42 | Junior secondary | Single mother | 9/02/26 |
| Female fish processor 4 | Kartong | F | 32 | Primary school | Married | 9/02/26 |
| Female fish trader 5 | Kartong | F | 27 | Primary school | Married | 10/02/26 |
| Female fish processor 6 | Gunjur | F | 21 | Primary school | Single | 10/02/26 |
| Female fish processor 7 | Sanyang | F | 30 | None | Married | 10/02/26 |
| Female fish trader 8 | Gunjur | F | 36 | Primary school | Single mother | 11/02/26 |
| Female fish processor 9 | Sanyang | F | 31 | none | Married | 11/02/26 |
| Female fish processor 10 | Kartong | F | 25 | Primary school | Single | 11/02/26 |
| Female fish processor 11 | Gunjur | F | 39 | none | Divorced | 13/02/26 |
| Female fish trader 12 | Sanyang | F | 31 | Primary school | Married | 13/02/26 |
| Female fish trader 13 | Sanyang | F | 35 | Arabic education | Single mother | 13/02/26 |
| Female fish trader 14 | Kartong | F | 30 | Primary school | Married | 16/02/26 |
| Female fish proessor15 | Kartong | F | 24 | Senior secondary | Married | 16/02/26 |
| Female fish processor 16 | Gunjur | F | 28 | Junior secondary | Married | 16/02/26 |
| Female fish trader 17 | Gunjur | F | 43 | None | Married | 17/02/26 |
| Female fish processor 18 | Gunjur | F | 49 | Primary school | Married | 17/02/26 |
| Female fish processor 19 | Sanyang | F | 55 | none | Widow | 17/02/26 |
| Female fish trader 20 | Sanyang | F | 40 | Primary school | Married | 17/02/26 |
| Female fish processor 21 | Gunjur | F | 44 | none | Married | 20/02/26 |
| Female fish trader 22 | Gunjur | F | 33 | Primary school | Married | 20/02/26 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Female fish trader 23 | Kartong | F | 36 | Arabic education | Married | 20/02/26 |
| Female fish processor 24 | Kartong | F | 60 | none | Widow | 20/02/26 |
| Female fish trader 25 | Kartong | F | 44 | Senior secondary | Married | 20/02/26 |
| Female fish trader 26 | Banjul | F | 38 | none | Married | 23/02/26 |
| Female fish trader 27 | Banjul | F | 33 | Arabic education | Married | 23/02/26 |
| Female fish trader 28 | Banjul | F | 47 | none | Married | 23/02/26 |
| Former fish trader 1 | Gunjur | F | 66 | none | Widow | 17/02/26 |
| Former fish trader 2 | Gunjur | F | 54 | Primary school | Single mother | 17/02/26 |
| Former fish trader 3 | Gunjur | F | 60 | none | Widow | 02/03/26 |
| Former fish trader 4 | Sanyang | F | 40 | none | Married | 02/03/26 |
| Former fish trader 5 | Sanyang | F | 57 | None | Widow | 5/03/26 |
| Local fisherman 1 | Gunjur | M | 31 | none | Single | 8/02/26 |
| Local fisherman 2 | Gunjur | M | 43 | None | Married | 8/02/26 |
| Local fisherman 3 | Sanyang | M | 48 | Primary school | Married | 17/02/26 |
| Local fisherman 4 | Sanyang | M | 35 | None | Married | 17/02/26 |
| Local fisherman 5 | Kartong | M | 27 | Primary school | Single | 10/02/26 |
| Local fisherman 6 | Kartong | M | 36 | None | Divorced | 10/02/26 |
| Government fisheries officer 1 | Banjul | M | - | - | - | 15/03/26 |
| Government fisheries officer 2 | Zoom | M | - | - | - | 17/03/26 |
| Investigative journalist | Zoom | M | - | - | - | 4/03/26 |
| Environmental activist 1 | Gunjur | M | - | - | - | 11/3/26 |

*Table 1.Showcases details of all interviewed Respondents*

## 4.5.2Focus group discussion

For group interviews, fisheries officers stationed at the fish landing sites were asked to select 8-10 fish traders and processors and 2 local fishermen. The only sampling criterion was that the participants should be fish traders, processors or fishermen as well as those who used to be in these roles. Although in the beginning I tried very hard to get a mix of backgrounds for the participants, this proved to be difficult since it was already hard to gather women in one place particularly women fish traders who were always on the move. Four (4) group discussions were held from 21st of march- 26th of March. The first of the four group discussions took place unplanned during fieldwork whilst women fish traders and processors were attending an “osusu” savings meeting at the landing site in Gunjur. The timely intervention of the president of the women association also aided quite immensely in acquiring the numbers as well as the diversity needed to carry out the remaining 3 group discussions. The groups were generally a mix of ages, experience levels as well as occupation. Incentives such as the provision of food, drinks as well as transport compensation were provided. I was assisted by the fisheries officer posted at each of the fish landing sites Interms of facilitation and other logistics that were needed for the success of the group interviews.

*Figure 5.pictures taken during group discussions in Gunjur and Sanyang on 22nd and 23rd March respectively*

### 4.5.3 Observation

Throughout data collection (2 months), I kept a field diary of observations. I also always had a hardcopy of the interview guide to write down specific observations about each and every interview; their emotions, reactions, what was happening in their surroundings etc. I particularly focused on women's interaction with local fishermen as well the relationship they have with Senegalese fishermen working for the fishmeal factory in Gunjur. I also observed how women waited around on the beach for fish as well as how they negotiated with fishermen and fellow women for fish. I spent hours at fish landing sites to understand how women are able to get fish from Senegalese fishermen working for the fishmeal as well as observing illegal industrial vessels that come close to the shore as narrated by fisherfolk. One of the justified reasons for using this method is because people may say one thing (in interviews or focus group discussions) but do the opposite in their behaviours and interaction (Robsin,2016)

## 4.6 Data Analysis

I used the Thematic coding approach for my data analysis (Creswell & Cresswell ,2018). The analysis combined deductive coding, informed by the theoretical framework, and inductive coding, emerging directly from the data. Analysis started in the field; directly after interviews I made notes on the main points from the discussion. The recordings of interviews (in local language) were first translated to English and then transcribed immediately after fieldwork using vibe. Vibe is a transcription software introduced to us in the methods course in my masters program. Deductive codes, drawn from feminist political ecology included: gendered division of labour, resource scarcity, exclusion from decision-making etc. as well as Inductive codes captured from issues raised by participants themselves, such as: coping and adaptation strategies, conflicts, negotiations, cooperations were then grouped into broader analytical themes that speak directly to the research questions (Robson,2016).

## 4.7 Ethical consideration

Informed consent was used where participants were informed of the purpose of the study and the importance of their participation verbally and also written in the two main local languages. No participant was forced or coerced to take part in the research. All participants were also assured of their anonymity and the confidentiality of all they say throughout the research just so to create a safe

environment for them to express themselves as highlighted by Robson (2016). They were also informed that they would be recorded for data analysis purposes.

I conducted the study in full compliance with the ethical guidelines of SLU's General Data Protection Regulation (GDPR).

## 4.8 Reflexivity and positionality as a researcher

The research was conducted in my country and the participants are people I identify with and I see them as myself. The research topic is something am very emotional about and one way or the other affects me as a Gambian. This positionality of mine as a researcher I believe makes me very vulnerable to bias in my data as well as in my interpretation of the data (Robsin,2016). I may unintentionally shape research questions, interview questions, the design and interpretation in a way that reproduces and represents my own view and shaping/influencing participants view in a way. During the proposal making stage, my supervisor highlighted key changes that should be made to my research question because they dictated a view or notion or view of the whole topic before I even conducted the research itself and I was completely blind to this fact. This served as a wake-up call and key warning to be reflexive and to be as open as possible to accommodate whatever data I found on the ground; expected as well as unexpected.

Being a young Gambian woman, gave me a position of an insider and this in my opinion was a key advantage and may allow participants to be open and free with me thus balancing the power dynamics between myself and the participants(Long et al. 2016). However, from an early stage, I also realized that being highly educated in the context of my participants' setting, studying and living in Europe could put me in a position of an outsider. All these factors could arguably affect how freely participants expressed themselves in my presence. Nevertheless, I argue that I had an advantage being an insider because I was able to understand participants' contexts, and as I had the language skills, I did not need an interpreter. Hence, I escaped among others the problem of having views or meanings changing through another person since our discussions were more direct, without any intermediary. However, I also realized that having this sort of view could easily make me vulnerable to accept responses and views without scrutiny since I believe that I understand what was implicitly meant by participants whereas an outsider may take their time to scrutinize and dissect answers to find hidden meanings and so would gather more information from participants than I could do.

With all this in mind, I decided to be as reflexive as possible to ensure the validity of my research. I kept a journal of all emotions, judgments that may corrupt my data (Robson,2016). After every field visit, I made sure to go through my journal and data to see where my judgement could've been clouded as well as

scrutinize answers to see what other meanings could've unfolded so that during my next visits, I could probe more. I also always took my analysis back to the participants to verify if analysis fits their view or not.

# 5. Empirical findings

This section focuses on highlighting the insights from the semi-structured individual interviews, focus group discussions as well as participant observation. The analysis of data collected through these methods revealed 4 key themes:

## 5.1 Women fish traders and processors access to fish

This section details out findings on women fish traders and processors access to fish. This is mainly based on responses from individual, group interviews as well as participant observation. I focus on Objective 1 and detail my findings on if or how women's access to fish has changed, when these changes occurred and what they think or believe is the main cause of these changes.

### 5.1.1 Scarcity of fish due to IUU fishing (Industrial vessels clash with local artisanal fishermen)

All the respondents who took part in the research stated that it has become very difficult to get fish and this has gotten increasingly hard since the past 5-10 years. This was the first point of mention throughout the fieldwork and every interviewee lamented about this issue. They consistently mentioned that the irregular supply of fish and decline in the volume has become the order of the day in the fisheries sector. One of the women fish traders described; "***To be honest, now fish is very difficult to have. Fish is not available. Right now, everyone knows that fish is not available compared to let's say 10 years ago."*** (female fish trader 3, Gunjur) whilst another stated ***"you can see, this is all I get now. You saw that the boat arrived just now and this is all what the fisherman came with. What am I going to do with few pieces of fish.? It isn't much to be honest."*** (female fish processor 6, Gunjur).

The women fish traders and processors highlighted that the reduction in the volume of fish and irregular supply of fish is as a result of IUU (illegal, Unregulated and Unreported fishing). Women did not directly use the term IUU fishing but always use the Wolof or Mandinka (local languages) word ***"Batong"*** or ***"Batongue"*** which directly translate to "an industrial trawler". They described

IUU fishing as the source of their suffering with some referring to it as a ***"headache"*** that refuses to subside or go away. They explained that illegal trawlers intrude into the 9 nautical mile zone which is a fishing area specifically preserved for artisanal fishermen only. This leads to industrial trawlers clashing with local artisanal fishermen and in most cases destroying their nets resulting in the loss of fish. According to a fisheries government official;

***"We have different forms of IUU but in Our (Gambia's)case, we have vessels that are licensed in the Gambia and the highest amount of infringement that you may assume they will cause is fishing in the wrong zone. Because our waters are demarcated into different zones; you have the one from the two nautical miles to the nine nautical miles. This is strictly reserved for the artisanal fishing canoes. Then from nine nautical miles to twelve nautical miles, there is another category of vessels that are allowed to fish there. And from twelve nautical miles upward, that's where you have the bigger industrial fishing vessels. But the vessels that are supposed to fish in this zone can encroach into this zone, which is IUU, it's illegal fishing. It's against Gambian laws."*** (male fisheries government official 2, Banjul).

One artisanal fisherman noted; ***"I'm used to the vessels ruining my nets. I then have to fix it or buy a new one. It's so painful and not fair. (Local fisherman 5, Sanyang)"*** Local fishermen and women highlighted that these trawlers come close to the shore because fish populations are highest around that end. When asked, majority of respondents could not tell where these vessels come from or their origin. However, some participants hinted that some of these vessels are from abroad, specifically mentioning the EU whilst some say the vessels are registered, operate and land in the Gambia itself. A fisheries expert however clarified that these boats are registered, licensed and land at the Banjul port in the Gambia. He further described;

***"These vessels are said to be Gambian-owned but technically, to my understanding, there are no Gambian vessels. Because these vessels are owned by foreigners, captained by foreigners and engineered by foreigners. Most of the owners are Chinese and Egyptians. See the point? What they do is they come to your country and register as a national vessel. They do this by getting a Gambian citizen as a partner or co-owner of the vessel only on paper to qualify them and have them registered as national vessels. This helps them escape higher licensing fees and higher fines in case they are caught doing illegal things. According to Gambian law, foreign vessels are charged higher rates than national vessels, and their payment has to be in dollars. It is just like when you get to European airports; they have EU lanes and they have African or others lanes and each pay different prices."*** (male fisheries government officer 1, Banjul)

Local fishermen interviewed reported that incidences with illegal trawlers have become very frequent in the past decade; narrating that it worsened after the

end of the second regime* (who were much stricter in terms of monitoring, enforcing laws and serving punishments to law breakers). Participants noted that up to 7-10 vessels can be spotted along the shores compared to maybe 2 or 3 vessels 10 years ago. Conflicts and tensions at sea have reportedly also increased between local fishermen and the illegal trawlers. A fisherman I spoke to in Gunjur expressed;

***"…. Last year there was a huge accident that happened. The local fishermen were doing their routine fishing when out of nowhere a big vessel came out of nowhere and cut across them. It was a big accident. The nets were dragged and the boat capsized. It was really a huge accident. Even one of the fishermen ended up injured and died. Who's going to take care of his family now? Everything he had he earned here to take care of his family. Now that he's gone, who's going to take care of the family?"*** (local fisherman 3, Gunjur)

They also reported that they have now taken things into their own hands since the government is not doing anything about the whole IUU issue and they cannot sit still and watch their lives get ruined. They now follow, track down and confront illegal trawlers who destroy their nets; seeking compensation for their losses. This has increased the number of conflicts at sea. One of the local fishermen narrated;

***"I followed a trawler all the way to Banjul because they destroyed my nets. However, upon reaching there (Banjul port), I lost sight of the crew members. They hid somewhere and I could not find them. They have to pay, someone must pay."*** (local fisherman 2, Kartong)

Local fishermen highlighted that almost 80% of their catches are lost due to these trawlers. This has had a huge impact on women who highlighted that they depend on these fishermen for fish supply and most of them have arrangements or informal contracts with fishermen for fish. As one of them described ***"If the fishermen have fish, then we also have fish. But if they are facing difficulties, obviously we are also going to face difficulties. If they don't have fish, we also won't be able to have fish"*** (Female fish trader 8, Gunjur). In many instances during interviews, I heard women say ***"nna kuluwo"*** which directly translates to ***"my boat"*** and insinuates some form of co-ownership or consensual agreement between the women and fisherman/men for the supply of fish. Women reported that their boats now frequently come back empty handed or with small number of fish that isn't sufficient for their work. Women were seen scrambling around when these boats arrived and tried to get as much as possible of the little fish caught by the fishermen. A significant majority of the women who participated in the data collection noted that the availability of the demersal fish species has been the most affected by IUU. They made mention of mostly lady fish and catfish which are commonly salted and/smoked by women fish processors and also sold by women in major markets across the country.

Women and Artisanal fishermen frustratingly admitted that the government has not done anything to help them in their plight. Majority of respondents

highlighted that they need better protection through the enforcement and monitoring of fisheries laws that would protect the artisanal fisheries sector and those who derive their livelihood from the sector. One of the women stated;
***"Let there be a boundary and let it be respected. The ocean is big enough for all of us. Let the local fishermen be in one zone while the trawlers in another zone. I mean everyone is looking for sources of livelihood. They are trying to survive just like we are. But you cannot ruin somebody's livelihood for your own benefit. We know that everyone is looking for our way of surviving. Everyone is looking for money, everyone is looking for a way of surviving. That's how the world works. But you cannot benefit from someone's suffering, or you cannot earn your living from destroying someone else's. So, if the government cannot help us or do anything about it, let them just put a boundary between us and these vessels. That's what I'm begging of. That's what I'm begging from the government.***" (female fish trader, Gunjur FGD 1)
Another also stated;
***"We need the government to help us. Gambians are crying and they are not doing anything about it. Our livelihood is at stake and everyone is just watching"*** (female fish processor, Gunjur FGD 2)

Women highlighted that they have on numerous occasions visited government offices such as the Ministry of fisheries and ministry of Gender to voice out their frustrations and concerns. They have been to several community and national-level organized meetings but they expressed that they haven't seen any positive outcomes from their efforts. During field visits, respondents mistook me for a fisheries employer and at most times made derogatory remarks about the ministry of fisheries like "that place is a joke" or "they are useless, they only know how to sleep".

However, the fisheries expert at the Department of fisheries pointed out that the government is doing their level best to combat IUU fishing. He highlighted that the government of the Gambia has opened a new unit at the department of fisheries called the Fisheries Monitoring centre which would be responsible for monitoring all vessels in Gambian waters. He stated;
***"Every vessel that is going to fish in our waters must have a VMS, vessel monitoring system. Based on this vessel monitoring system, our MCS will be tracking the vessels movement in our waters. So, when they (vessels) fish in the wrong zone, we will be able to detect it and fine them. So, whatever, when that is done, the MCS will print out their report, submit it. It will be submitted to the Consultative Committee. And then the Consultative Committee will sit on it, advise the minister, and then the charges are applied accordingly."*** (male fisheries government official 2, Banjul)

*Figure 6.Image of fish being accumulated by female fish processor at the Gunjur fish landing site(21st/02/26).*

## 5.1.2 Increase in the price of fish

Women fish traders and processors as well as Gambian artisanal fishermen reported that the reduction in the volume of fish and the irregular supply of fish has led to the increase in prices in the past years. This issue also emerged strongly throughout all the discussions. They highlighted that as the scarcity of fish worsens due to the problem of IUU, so has the price increased. A female fish processor expressed;

***"That's logic for every commodity. Whether its cooking oil, firewood or rice. When its scarce or difficult to get, of course the price increases. Thats exactly what has happened in the case of fish also" (female fish processor 4, Kartong).*** ***According to the women, a basket of fish now costs more than double the price compared to 5 years ago. They reported that a basket of fish that used to cost D600 now costs D1800-D2500 depending on the season***. One of the female fish traders also stated;

***"Even with a thousand Dalasi, I am not able to get a lot of fish compared to back then. Back then, I am able to buy a lot of fish with it".*** (female fish trader 5, Gunjur). A Gambian artisanal fishermen asserted;

***"We are forced to increase the price of fish because we have no choice. We buy fuel, we fix our nets, go into the sea and we can't get a lot of fish because of the clashes we have with the illegal vessels. So, I have to price it in a way that covers my cost. I then sell it to the fish trader at an expensive price who also has to sell it at a high price to get a profit. This then increases the price of fish at the market"***. (Local Gambian Fisherman 2, Kartong).

## 5.2 Impact of changes on women fish traders' and fish processors' income, work, wellbeing and social reproductive roles

This section highlights findings on how the changes in women's access to fish has affected women fish traders and processors. I focus on Objective 2 and detail my findings on the impact the changes highlighted in section 5.1 have on women's income, work, wellbeing and social reproductive roles.

### 5.2.1 Impact on work and income

Participants consistently expressed that scarcity and increase in the price of fish has a huge impact on their income and affected their work. Majority of the women and Gambian artisanal fishermen who were interviewed asserted that the fish trading and processing work is their main and only source of income; and they are highly dependent on it. They highlighted that these changes in the artisanal sub-sector have led to a huge reduction in their earnings. Women made mentioned that they barely get by with what they earn now. One of the women expressed this by saying ***"If back then I used to earn 100, now it's just at 10. That is how bad it has gotten*** "(female fish trader 20,Kartong).It emerged during discussions that fish traders income were the most affected and the reason mentioned was that because they have to deal with the burden of transportation cost to major markets whilst female fish processors carryout all their operations at the fish landing sites and use locally cheap available materials which incur little or no cost. Fish processors also highlighted that not only do they find it difficult to get fish or that the prices of fish have increased, but they also face another problem which is the poor quality of fish they have to do with.

One of the fish processors reports and explains this by saying that the problem of IUU has created a situation of ***"nga nye ming soto dorong"*** for women in the artisanal processing industry. This basically means doing with whatever fish one can land their hands on. One of the women expressed ***"we now usually get only the smallest of fish. It's either that or nothing, we are left with no choice"*** (female fish processor 19, Sanyang) whilst gesturing towards a basket filled with catfish (visibly very small ones in size).

Women highlighted that their profit margins continue shrinking no matter how hard they try due to these issues and expressed frustratingly that their incomes have now become unstable and unpredictable. One of them stated;

***"I go(travel) everywhere looking for fish and buy at a high price, and then I have to take it to the market. I spend so much but don't make that much in return"*** (female fish trader 17, Sanyang).

Women described that they are no longer able to keep any savings in case of future emergencies or during urgent need for cash. A small number of women and fishermen interviewed who solely depend on the artisanal sub sector for their livelihood mentioned that they now resort to taking depts to cater to theirs' and their families' needs. One stated ***"You know, things haven't been going so well, so I take debts here and there. when I get fish and sell them, I'm able to repay those debts. That's how I'm able to live and survive."*** (female fish trader 17, Sanyang). Another highlighted ***"Sometimes I take debts from the shop owner in the form of cash or even food items at times, sometimes I call family members for help. It has really been difficult."*** (female fish processor 6, Gunjur). Majority of those who collect depts to survive pointed out the fact that they don't find it sustainable at all; elaborating that they rather go do something else than being in this cycle of dept and payment throughout their lives.

The detrimental impact of the changes in the fisheries sector on women's earnings has forced a considerable number of fish traders and processors into exiting the fisheries sector completely and transitioning into other sectors or staying at home. Although both fish traders and processors seem to be leaving, it was however observed that a significant majority of these women are fish traders particularly older women around the age bracket of 50's towards mid-60's. They reported that they used to work as fish traders and majority of them had been in the sector for over 30 years with some even referencing that they worked in the artisanal fisheries sector even before I was born.

Due to difficulties in the fisheries sector (emphasizing on the unavailability of fish and high prices of fish), they had no other choice but to leave and look for better options. Sectors that were pointed out during discussions include; the Horticultural sector, retailing of food stuff/clothes, as well as operating local food stalls. One of the women expressed ***"I now buy vegetables in bulk from the big market and then sell them Infront of my house"*** (former female fish trader 2, Gunjur). During my visits at the fish landing sites, many of them were seen usually waiting around for fishermen to collect fish; stating ***"mben nna kuluwo leh batu kang"*** which directly translates to ***'am waiting for my boat'***. However, they specifically mentioned that they are getting fish for family consumption and not for reselling. When put forward to a fisherman for clarification, he made mention that some of these former fish traders had pre-financed boats for years and still have co-ownership/contracts with local fishermen. They therefore still get some form of compensation (in the form of fish or money) from the fishermen. One of the former fish traders I interviewed happened to be the president of the women Fisheries Association who shared insights of her struggles, challenges and why exactly she left. She stated;

***"I used to be a banabana (fish trader) but now I no longer do that work. At the moment I am into horticulture. I left because it became hard. I had been in the business of fish trading since in my teens. I used to follow my mother. She also was a fish trader. Back then things weren't this bad and its only getting worse. Fish has gotten scarcer and the price keeps going up. I can't be running around looking for fish because that's what it has gotten to now. I do not have the energy or strength. I just couldn't keep up and had to leave"*** (female former fish trader 3, Gunjur).

These insights correlated with what many of the participants interviewed mentioned about how many of their colleagues have left and ventured into other businesses outside the fisheries sector. One of the women pointed out;

***"A lot of my colleagues left, some sitting home whilst others are doing something entirely different"*** (female fish trader 23, Kartong).

In addition, when asked why they stay when so many are leaving, women provided an array of answers. Some women reported that their work as fish traders and processors is the only kind of work they know and have no other choice but to stick to it. Although this was mentioned by a lot of women, a difference in the meaning of the statement emerged when talking to women. I understood that for some, saying this statement meant the fisheries work they do is like some form of heritage; passed down from their mothers to them and it's the only thing they know how to do and have been doing all throughout their lives. This was clearly stated by one of the participants who mentioned;

***"…..My grandmother, mother did this work and I was born into it. I have been doing this work for as long as I can remember, it's all I know how to do. So, I have no choice but to stay and find ways of making things work"*** (female fish processor 10, kartong).

For the other set of women, saying this statement implied the lack of opportunities out there for them. One pointed out; ***"…I have no choice. I am uneducated, there's no way I can find a job"*** (female fish processor 19, Sanyang) whilst another described "I am not educated so I can't work in the office and there are not much opportunities out there" (female fish processor 4, Kartong). This point was shared by many women who believe that opportunities are scarce for them out there and they have no other choice but to stay in the fisheries sector even though things have become gruesomely hard. They explained that had there been opportunities for them, they would gladly take it and leave. Some even mentioned being house helps, cleaners or even waitresses in restaurants; highlighting that at least with these kinds of jobs a pay is guaranteed at the end of the month unlike the work they do now. Where the uncertainty is always glooming around; if one earns today there's no guarantee you will earn tomorrow. One noted ***"……the uncertainty in our work now keeps me up all night, But I only trust in God"*** (female fish trader 13, Sanyang)

### 5.2.2 Impact on women's household and social reproductive roles

One factor that emerged strongly throughout discussions was how the difficulties that have risen in the fisheries sector have automatically created barriers and difficulties for women to take care of their homes and families. Overall, throughout interviews and FGD's, women as well as fishermen kept on emphasizing how important their work and the income they earn is to them and their families. One noted; ***"The earning that I have from this work is very important to me. It's what I use to take care of my family, my kids. Ranging from their school fees, their lunch and clothes"*** (female fish processor 6, Gunjur) Another also described; ***"…As Gambians, this is where we find our sources of income. This is where we find our livelihood. This is where we get everything that we have to take care of our families."*** (fisherman 4, Gunjur). A significant majority of women highlighted that even though they are married, the income from their work is quite significant and comes a long way in maintaining and contributing towards the family's upkeep and wellbeing. They further alluded that despite the fact that their husbands do work, the men's income or earnings alone is not enough to sustain the family. So, they have to take up more responsibilities and help out as much as they can. One described;
***"The income I get from this work is very important to me. It's what I use to take care of my family, my kids; ranging from their school fees, giving them lunch money for school, buying clothes, medications and so much more. The kind of work that my husband does is not that very strong.so most of the time he is not able to carry out his responsibilities and so, I have to step up and help him out. Even with the household expenses, like when it comes to buying foodstuff for the cooking, buying cash power for electricity, I take it all up at times. At least we should help each other out. With my husband I see that we have to work together so we can move the family forward. But to be honest, it hasn't been easy now. It's really not easy here."*** (female fish processor, Gunjur FGD 2)

They highlighted that majority of their men mostly work in the manual and construction industry as daily waged labourers or do 'Hustle work'. These kinds of jobs pay meagre wages which are way below the average pay scale of the Gambia. One of the women stated; ***"…I have to help. My husband earns D300 a day doing odd jobs. Thats not enough in this Gambian economy where the prices of foodstuff are going up every day. So, I must help, if not the kids will suffer"*** (female fish processor 19, Sanyang). Although the research did not go deep into investigating the difference in who is the worst affected among the categories of women (married, single mothers, divorced and widowed).
In addition, women stressfully expressed that the difficulties in the fisheries sector and its impact on their work and income has affected and touched on every aspect

of theirs and their families' lives. Majority of the women did not seem comfortable discussing about their family situations or what personal hardships they may be facing. They mostly generalized, kept answers short and only acknowledged that things are really hard. Only a few women were willing to share snippets of their struggles with me. One of them described;

***"It has been really difficult for me. It has made things difficult because sometimes we will eat breakfast, sometimes we will not. At times we will eat lunch, sometimes we will not eat lunch, sometimes we will eat dinner, sometimes we will not eat dinner. You know, the kids also have to go to school, so you have to give them money. So as parents, we have to see how to do it. It has really been difficult. The issue of IUU has really been difficult and has really affected us a lot."*** (female fish trader 25, Kartong)

Whist another lamented;

***"I don't have fish. It has really been difficult. I want to have money to buy food for my house. I want to have money to take my kids to school and give them a much brighter future than we have. They (illegal trawlers) have restricted our availability of fish and if I don't have fish, won't I stay at home? If I don't have fish, won't it be difficult for me to survive? It will be difficult for me to live of course. It will be difficult for me to take care of my family. If I have fish, I am able to sell fish, then I can have money. If I don't have fish, then there is no money. Then I can't take care of my family. If one doesn't have money, you cannot go anywhere. It's the little that you have that you will manage with."*** (female fish trader 17, Sanyang).

During interviews and group discussions, local fishermen also shared their fair share of struggles. However, majority of them also mentioned that no matter what, they are more resilient and better off than women. One of them expressed;

***"I always say this. No matter how the ocean is, or no matter how difficult things get, no matter how the ocean becomes depleted, no matter what, I will always get fish. Whether it's to feed my family or even if I have a small number of fish, I can sell it even at a higher price. Even if I have one fish, I can sell it to you Fatou maybe for one thousand. Then if you have to sell it to someone else, the person may have to buy it for two thousand. So that's why fish get expensive."*** (Local fisherman 1, Gunjur).

Fishermen explained that this is entirely different for women who do not know how to fish or operate boats. Which is why they are hit the hardest during crises and suffer the most. In addressing this topic of why men are more resilient than women in the fisheries sector, the fisheries government official indicated

***"…….So, if you look at it, when you talk about the fisheries sector in general, at the administrative level, there is no discrimination. But when you go to the field, there exists so many cultural norms that are seen as normal in society. women already know that they cannot be fisherwomen. They just have to be processors and traders but who says a woman cannot be a fisherwoman? Who***

***says that? But of course, gender norms. This means now they are completely excluded from that aspect. That is one. And then you also have the industrial sector. Women are not allowed be observers on board. It's men. Almost 100 percent men dominated. The deckhands working on board industrial vessels are men. Because the concept is that no, it's not safe to put a woman on board the vessels with a bunch of men. They may be abused or the work is difficult. Some cultures will also tell you when you have a woman on your boat it's bad luck. So, these are norms people are not saying them but they are there. They are not written like a constitution but are strictly followed and respected. So, it's like even our cultural norms are kind of hindering women from participating and it leaves them in a disadvantaged position of course. It means you are restricted. The men are not restricted. You see them in the processing, smoking, drying but women cannot do the fishing. So, it means women are restricted here. But men are not restricted. They can be anywhere."*** (fisheries official 2, Banjul)

It also emerged during discussion that women's failure to take up leadership roles and society's narrative that women are not supposed to be leaders has resulted to women's lack of representation in many key areas. A fisheries official noted;

***"…. even if you recommend them(women) to leadership roles, their responses are usually no, and that their husbands and other men are there. Now when you go to the associations you have the men as the representative in most of these associations. So, even if the women are there, they kind of stay in the background. But even if in some cases a woman says she wants to take up a leadership role, heads start turning. And really there is no black and white pen and paper saying a woman cannot be the head of this association or others. Yeah, so that's it. Gender norms are deeply rooted in the fisheries sector"*** (Fisheries official 1, Banjul)

## 5.3 Women and the fishmeal; a paradoxical story

This section details out findings on the impact of the fishmeal factories on women fish traders and processors. It focuses on Objective 1 which tries to understand what changes have occurred to women's access to fish due to Industrial Fishmeal processing.

### 5.3.1 Women's dependence on the fishmeal factory for fish

***"….. Just right now If you were to ask 100 women, they will tell you that this factory has been the one helping us. If you asked 1,000 women, they will all***

***tell you the same thing. If it weren't for the factory, all the women here (landing site) would have been home"*** (female fish processor 16, Gunjur)

This mirrors the response of every woman I interacted with at the landing site in Gunjur and was a major discussion point during FGD's. In Gunjur, I understood from discussions with women, Local fishermen and fisheries Department officials that the golden lead fishmeal factory initially worked with Gambian artisanal fishermen for the supply of fish. However, the contract ended due to the local fishermen's inability to meet the factory's demand which prompted the factory to outsource Senegalese artisanal fishermen from the Senegalese regions of Sine, Saloum and M'bour who now supply them with fish. It is unclear whether or not the factory has formal contracts with these fishermen from Senegal. However, majority of respondents highlighted that it is the Golden lead factory that brought the Senegalese fishermen to Gunjur to work for them. According to an investigative journalist;

***"…from my previous case, I found out that approximately 500 or sometimes 300 of these Senegalese boats are registered in the Gambia here and work for the Golden lead fishmeal factory. This is according to Data I got from the Gambia Maritime office who is responsible for licensing them"*** (male investigative journalist, Zoom meeting)

These fishermen have bigger and better boats, stronger nets and cover longer distances. One of the fisheries officers assigned at the Gunjur landing site noted ***"They (Senegalese contracted fishermen) have the "Fila Trulé" boats. These are bigger in size and can't compare to the ones our own local fishermen use. They can take up to around 500 trays of fish. So that's a lot. And I think each tray carries, I think around 50 kg of fish. So, they can carry that in one go. With just one trip to the sea, they can provide much more than what our fishermen can"*** (male fisheries government officer 2, Gunjur).

According to some of the women and an investigative journalist, the fishmeal factory were the ones who provided these boats, fishing nets and working gears for the fishermen. The Senegalese fishermen supply the Golden lead fishmeal factory with pelagic fish particularly the Bonga and Sardinella fish species. They usually work for only six months in a year and then go home during the "Grace period" which lasts for six months.


*Figure 7.fisrt image shows the "fila trule" boat used by the Senegalese contracted fishermen and the second image shows a typical canoe used by local artisanal fishermen.(Taken during fieldwork in Gunjur 15/02/26)*

*Figure 8. Senegalese contracted fishermen in green overalls at the fish landing site in Gunjur. (Taken during fieldwork in Gunjur,16/02/26)*

In the midst of all the difficulties in the fisheries sector, women have been able to find some form of relief from the Golden lead fishmeal factory. Women highlighted that since IUU have made it difficult for them to get fish, they have now turned to the Senegalese fishermen who work for the fishmeal to get fish. It was observed in Gunjur that there are two landing sites at the beach; one for the

local Gambian fishermen and the other for the Senegalese fishermen who work for the fishmeal which is closer to the factory. I noticed that the fishmeal's landing site was buzzing more with life and was full of women, men/boys carrying baskets of fish to the fishmeal factory as the Senegalese boats arrive one by one. The atmosphere was filled with laughter, on-going negotiations and exchange of cash. This was very different from the side of the local Gambian fishermen which was eerily silent with 1-2 boats and not even a single woman was there.

*Figure 9.Informal landing site of the golden lead fishmeal factory in Gunjur. Showcasing the vibrant interaction between the Senegalese fishermen and women fish traders and processors. (Taken during fieldwork in Gunjur,21/02/26).*

*Figure 10.Local fishermen side looking empty with few boats(Taken on the same day with the picture above)*

According to women, these fishermen (Senegalese)with bigger boats and ability to go longer distances for fish also catch the demersal fish species despite their priority and bulk of catches being pelagic fish species needed by the factory. Women are able to buy lady fish, cat fish and other demersal fish species which are key for their fish trading and processing work. One noted

***"…. this catfish am smoking I bought it from the Senegalese fishermen who work for the fishmeal. Honestly when they go to sea, we usually get fish and things become much better and run smoothly. This place is filled with women and buzzing because of the factory"*** (female fish processor 21, Gunjur).

whist another also described;

***"…we depend on the Chinese factory for fish because they have been able to contract Senegalese fishermen who have bigger boats. The factory supplied them with bigger boats and better nets. So we depend on these fishermen because they can go far and they can go anywhere and get bigger supplies. For them their target is the pelagic fish but they are able to also catch these other fish species. Like the catfish, the ladyfish, they also catch those fish. So, when they catch those fish, they sell them to us. That's how we are able to get fish for our work. If it weren't for them, we will not be able to get fish. We will stay at home and that's the end of it for us. So honestly the fishmeal factory hasn't created any problems or if anything they are actually helping us. If it weren't for them, we would be sitting at home."*** (female fish processor 18, Gunjur).

A fisheries government official I spoke to explained that women in Gunjur are always rallying behind the fishmeal factory and hold them in the highest regard. He further highlighted "Even if we close down the factory, women plead with us to have it open. Wherever they see us, they run after us, begging. But when we tell them the negative impacts the factory is causing, they turn a blind eye"
The women noted that the fishmeal not only makes fish available for them, but offers it at a much more reasonable price than the Gambian artisanal fishermen. I also asked women fish processors (particularly those whose main work involves smoking bonga) if they feel that the fishmeal factory affects them since it's taking and converting tonnes of bonga into fishmeal which they could've bought, smoked and sold to earn money. They mentioned that that's not the case and if anything, the fishmeal has made bonga and sardinella much more accessible and cheaper for them. One of the women fish processors stated;
***"….no it doesn't affect us. They actually make things easier for us. The fishmeal doesn't usually take up all the fish that the Senegalese boats catch. So, when that happens, the rest of the fish is sold to us women at very reasonable prices. Sometimes a basket of fish can be sold to us for D250."*** (fish processor 6, Gunjur)

According to them, the fishmeal sells a basket of catfish/lady fish and bonga/sardinella for 600 Dalasi and 250 dalasi respectively whereas the artisanal Gambian fishermen offer prices at 1800-2500 and 600 for a basket of catfish/lady fish and bonga/sardinella respectively. Thus, women prefer buying form the fishmeal/Senegalese contracted fishermen than the Gambian artisanal fishermen stating that's what is convenient for them.

During trips to Gunjur, I also came across a set of women waiting around at the fish landing site who mentioned that they get free fish from the Senegalese fishermen/fishmeal. They reported that they end up selling these fish to earn money. This was also mentioned by a fish processor during group discussions and stated
***"…. Even girls who do not have money but they need fish, they sometimes also give them some. Most of these girls don't have any source of income, they don't have any money. They stay by the beachside so when the Senegalese fishermen who are contracted by the fishmeal factory come, they give them fish for free or sometimes they kind of scavenge for fish that have fallen into the waters."***
(female fish processor, Gunjur FGD 3)

It is important to note that these women are not fish traders or processors. Majority of them mentioned that they are school drop-outs with nothing meaningful going on in their lives. They saw an opportunity to earn money and took it; by getting free fish and selling it. I found it very fishy and when I tried to probe more to understand what kind of relationship exists between them and the Senegalese fishermen, the women insisted that ***"they (Senegalese) are just good***

***people"***. However, when put forward to a fisheries expert, this is what he had to say

***"…. how come they get it for free? fish free from the fishermen? Well, they are not telling you the whole story. Over the years I have been posted to many landing sites and I remember 15 years back; I was at the Bakau fish landing site. I observed the same trend you're explaining; most of the girls, school drop outs, not working, usually come to the beach in the afternoon, dressed nicely and they get free fish or money. It turned out they had intimate relationships with the fishermen at the landing sites. The same thing I observed in Tanji and sanyang as well. Because, okay, most of these fishermen are foreigners and they left their wives in their home countries to come work in The Gambia. So sometimes they would like to have pleasure too. And how are they going to get it? They have fish. They can give you one basket of fish and then they also have what they want. So that's part of it. I have seen a lot of women who are divorced or who moved away from their families and come to Tanji. Fishermen rent houses for them and live with them. Some of them would even have what they call, I don't know, marriage contract. Just marry for a certain period of time."*** (male fisheries government official 2, Banjul)

Since the factory is opened for 6 months only within the year and the Senegalese fishermen go back home the remaining 6months until the next season starts, some of the women also mentioned that they do not come to the fish landing site in Gunjur. They either stay at home doing nothing or do some petty business. When asked what's the reasoning behind this. One of them stated;

***"I rather stay home than come here (landing site). The local fishermen sell fish at a higher price and I would be at a loss if I do business with them. So, I work hard these 6 months and try to save until the next season opens"*** (female fish trader, Gunjur FGD 3)

A lot of the women mirrored this statement and further alluded that it is more economical for them to stay home rather than traveling to and from, and depending on local fishermen for fish. Those who do petty businesses mentioned that it isn't as profitable as selling or processing fish, but still better than coming to Gunjur during the 'Grace period'.

However, a difference emerged in Sanyang and Kartong. During many of my visits, I usually found the landing sites empty with very few women and fishermen around. Majority of the women I interacted insisted that the fishmeal factories do not benefit them in any way. One pointed out "the fishmeal factory here is very useless. Honestly, they are of no use to us. They should also contract fishermen with bigger boats to catch fish for them so we can also get fish" (female fish processor 10, Kartong) whilst another stated; ***"there's nothing here. Can you compare here and Gunjur? No. The fishmeal there brought in fishermen and***

***the women there are benefiting. If they did that here (Sanyang), there will be a lot of people here, a lot of women."*** (female fish processor 24, Sanyang).

*Figure 11.The first picture shows the fish landing site in Kartong whilst the second picture is the XYG fishmeal present at the landing site(Taken during fieldwork in Kartong,10/02.26).*

## 5.3.2 The other side of the story

When put forward to other key informants the insights of women regarding the fishmeal factory, majority of them insinuated that women failed to see the bigger picture. Talking to one of the fishermen in Gunjur, he stated in Mandinka ***"musol la mera lor buka jangfa e sing tete wor tor"***. Which directly translates to ***"women don't think or see beyond the things or issues at the sole of their feet."*** He further explained on what he meant by saying;
***"Women don't see or think about the future or think beyond their 'now' problems. For them, as long as they have fish for their living, they don't care about how or where they get it or the future consequences. They only worry about how to get fish"*** (local fisherman 4, Gunjur).
A fisheries government official I asked concluded ***"for now, they may have immediate economic benefits, but what happens when fish stock gets depleted by the fishmeal. The factory will leave, and then the women will be left to fend for themselves. Women need to understand this"*** (male fisheries official 2, Banjul)
This was also highlighted by an investigative journalist who stated ***"that's why I said the women are not thinking of the broader picture."***. (male investigative journalist 1). He further alluded that the fishmeal factory executed tactics and strategies to eliminate women as 'middle women' even with Senegalese fishermen. Highlighting that women used to approach these fishermen for fish at the fish landing sites and this created stiff competition between women and the fishmeal factory. In order to stop this, the factory paid these fishermen in advance so that even before they go to sea, they are already indebted to the factory. This

leaves the Senegalese fishermen with no choice but to directly supply the factory immediately they land in Gunjur. According to him(journalist), ***"So they(factory) helped them (Senegalese fishermen) build boats, they helped them make nets, okay, they helped them with everything. They even got them fishing overalls (working clothes). So, the only thing they can do is to work for the factory"*** (male investigative journalist)

All the local Gambian fishermen had only negative comments to say about the factory. However, it is hard to say if this was out of concern for the fisheries sector or out of built-up resentment towards the Golden lead factory due to the factory's abandonment of their joint partnership and working with Senegalese fishermen. Most of them complained that the factory is not properly monitored so no one knows exactly how much of fish is being taken from Gambian waters. Local Gambian fishermen accused the factory of over-fishing and targeting juvenile fish which has affected the marine ecosystem. This was also supported by a fisheries expert who explained

***"…they (Senegalese contracted fishermen) fish in the Gambian waters. So that means there is huge concentration of fishermen in one confined space. So, this is encouraging competition with local fishermen for limited fish resources. So that's certainly going to create a problem for Gambian fishermen, right?"*** (male fisheries government official 1, Banjul)

Local fishermen also stated;

***"…. this place was not this crowdy before. It was not like this in the beginning. But the factory brought so many Senegalese fishermen. So many people also left their other jobs. They left a lot of things that they were doing and came here. So, this place has now become overcrowded. Most of these people are foreigners, not part of our community. So now Gunjur has seen a surge in crimes which never used to happen here. Just last week the Gambia immigration post was attacked and no one knows who's responsible. I suspect these new people brought in by the fishmeal"***. (local fisherman 4, Gunjur)

This was also mentioned by two female fish traders who I interviewed whilst they waited for the Senegalese contracted fishermen at the Gunjur landing site. They also protested that since the fishmeal came as well as the Senegalese fishermen, a lot of women from Sanyang, Kartong and other places all now converge in Gunjur. This has led to an over-crowded environment.

It was also mentioned that the fishmeal factories present in Gunjur, Sanyang and Kartong had a hand in offsetting the price of fish. At the beginning of their operations back in 2016/2017, at a time when the fishmeal factories worked with Gambian artisanal fishermen and had contracts with them for the supply of fish, these factories offered higher prices to buy fish due to high competition for fish. According to a fisheries expert and an investigative journalist, the factories weakened the bargaining power of women fish traders and processors as they controlled market structures. They highlighted that this contributed in increasing

the price of fish and making it unaffordable for local customers. Women who normally bought on credit could not match the buying power of the fishmeal factory. During an interview, One noted;

***"And when they started, they worked with Gambian fishermen. The price of fish used to be like 200 to 300 back then. But then the fishmeal factory was like ok I'm going to buy all what you get. Bring it to me. I'll pay you 500. You, see? So that was something that was really crazy. And a lot of people complain about it. There was no price control. There was no sharing. No quota sharing. There was nothing like that. And I think that's contributed for the price of fish to go up"*** (male fisheries official 1, Banjul).

Whilst another also highlighted;

***"Women didn't have the buying power. Like I said, the fishmeal paid the fishermen more than the women did"*** (male Investigative journalist 1, Zoom meeting). The fishermen also preferred selling to the factories since they offered more money, paid upfront, and also bought in bulk. This also soured relationships between women and local fishermen. However, these insights were shared by fisheries experts, investigative journalist and environmental activists and not women per say.

## 5.4 Female fish traders and processors adaptation and resilience strategies to changes in the artisanal fisheries sub-sector

This section highlights and expands on the different strategies that women have taken up in order to adapt to changes that have occurred in the fisheries sector. As highlighted in 5.1, there has been key changes in small-scale fisheries sector in the sense that there is scarcity of fish and the prices have increased as a result of IUU fishing.

### 5.4.1 Diversification of livelihood

During data collection, a significant majority of women reported venturing into other businesses. This became evident during focus groups in which women gave detailed accounts on what businesses they did, why and the challenges they faced. It was also found to be common among the younger women interviewed around the ages of 30 and 40. Women highlighted venturing into businesses such as vegetable gardening, selling fuelwood, ice-cream or buying and reselling food condiments alongside their fish trading and processing work in the artisanal sub-sector. One woman noted;

***"Now that things are slow and not very promising, I go to the garden and then sell the vegetables after harvesting. This helps things a little but its not easy. I come here (landing site) in the morning and then in the afternoon go to the garden to water my crops. I sometimes get home in the night, tired and I don't even know what my kids have been up"*** (female fish processor, Sanyang FGD 2).

Women emphasized that they did this as a result of the difficulties and changes they're facing in the fisheries sector to buffer their income. They highlighted that back then there was no need for such. However, an expert from the department of fisheries mentioned that this is something common in the Gambia's artisanal fisheries sector and women normally venture into other businesses especially during off-seasons or dormant fishing periods. He states ***"the fishery sector is like that. Sometimes women will have alternative livelihoods. It's always been like that."*** (Male, Fisheries official 1). Women also emphasized that these other businesses are not as profitable as the fish trading and processing work; Highlighting that returns are not very promising. One of the women stated; ***"I sell ice-cream but before I can get even D500, it can take a week. Whereas in my fish trading business, if everything is normal, I can get D1000-D1500 in just one day"*** (female fish trader, Gunjur FGD 1). Difficulty in accessing start-up capital emerged as one of the main challenge women face venturing into various businesses.

## 5.4.2 Shift to the Industrial sub-sector by women fish traders

Due to unreliable supply and high cost of fish, women are changing their fish sourcing location. It was reported that a significant minority of the women fish traders who used to be at the fish landing sites in Gunjur, Sanyang and Kartong now make their way to the jetty/port in Banjul where a small fleet of trawlers land their catches to source fish. This new location in Banjul is less competitive and ensures reliable supply of fish at very reasonable prices. This was mentioned during a group interview;

***"These vessels don't come from abroad, like a lot of people speculate. These vessels actually sell fish in the Gambia here at the port in Banjul. Some of the fish traders are able to go there. So, from what I heard, they sell some to these fish traders and export others."*** (female fish processor, Gunjur FGD 1).

Out of all the fish traders I interviewed, only one I met in Gunjur admitted that she goes to the port in Banjul. she stated; ***"I frequently go there. I have connections with some of the Gambians working with the trawlers. When fish is available, they usually give me a call and I rush there"*** I proceeded to ask her if only few women go there. She responded; ***"No, a lot of women from Gunjur, Sanyang and Kartong go there. In fact, those here always remind me to inform***

***them when I receive a call from Banjul. Alot of women go there. They would not tell you because maybe they feel bad"*** (fish trader 3, Gunjur)

The Department of fisheries official also stated;

***"….so, I have seen shifting to the industrial sector by women. If you get to Denton Bridge or the Jetty in Banjul, there are a lot of women that are now involved in the industrial sector. The industrial sector is doing much better than the artisanal sector in terms of catches. These trawlers have better equipment, technology and also get bumper harvests of fish by fishing in the wrong zone without any consequences"*** (male fisheries government official 1, Banjul).

During a visit at the jetty in Banjul, I met women who mentioned coming there rather than at the fish landing sites at the coastal towns or depending on the Gambian artisanal fishermen for fish. One of them mentioned; ***"I come all the way from Brikama. But I don't mind as long as am getting fish and making profit. Its way better than Gunjur or Sanyang. Atleaast things are looking much better for me now"***. (female fish trader 30, Banjul). Upon further investigation, it was revealed that these trawlers are mostly owned by Chinese or Egyptians who are registered and licensed to operate in the Gambia and are mainly exporting fish out of the country. These are the same trawlers allegedly causing havoc for artisanal fishermen. I asked the women if they knew about this, one of them exclaimed; ***"I don't really know and honestly, I don't care. I have a family to look after"*** (female fish trader 26, Banjul). Another with a guilty look highlighted ***"I know but we have to survive. No one is doing anything about this issue (IUU fishing). I can't just sit around and do nothing. Now it's between these trawlers and the government"*** (female fish trader 29, Banjul)

## 5.4.3 Forming and joining 'OSUSU' Savings Groups

"Osusu" is a traditional saving group that is common in the Gambia. It usually involves a group of people who agree to contribute a fixed amount of money regularly (daily, weekly, or monthly). Each time contributions are collected, the total sum is given to one member of the group in support of its members. This continues in rotation until every member has received the lump sum once. A significant majority of fish traders and processors highlighted that they have formed and joined "osusus" to help them through the crises they are facing. Women described that they have formed different osusu groups and one can choose whichever they want to join. One described; ***"I joined one with my fellow fish traders……Yes, the osusu group is for only fish traders. It's easier like this since we know each other already"*** (female fish trader 25, Sanyang) Although women reported that it has become extremely challenging for them to continue Osusu groups due to continued decline in their income, they however, noted that

they need the osusu now more than ever; highlighting its benefits in the challenging times they find themselves in. Another highlighted;
***"….it is with my osusu money that I was able to start my ice-cream business that am doing alongside my fish processing work. Immediately I got the money, I bought a refrigerator. It would have been impossible to save such an amount of money alone"*** (female fish processor 11, Gunjur)
while another noted;
***"A lot of us here were able to revive our businesses with osusu money. For me, it has been a life-saver. I almost closed down my smoking business because I was not earning that much and whatever I earned went to taking care of the family. I had no money to buy fish. However, when I explained this to the women I work with, they decided to help me by giving me the osusu money. That was how I was able to reinvest back in my business; I bought fish and continued working"*** (female fish processor, Sanyang FGD 1)
Women proceeded to explain that they contribute much smaller amounts now and emphasized that it's a way for them to strategies and be economical as well. One of the women in Kartong stated;
***"Every day I contribute D100 to our "osusu". It may not seem much but at the end it's a lot. The first time I got a huge amount of money from the Osusu, I was able to fix my house and get my children much needed new uniforms and shoes. If it weren't because of this osusu, I wouldn't have been able to save such an amount"*** (female fish processor 10, Kartong)
Whilst another expressed;
***D50 in my hand seems insignificant. It's just D50.But imagine 100 women paying D50 every day for a whole month. That's a lot of money. Now I don't earn much. So, if I get D250 from the sales of fish, before going home, I make sure I to give my contribution of D50 to the group treasurer.*** (female fish trader, Sanyang).

The findings have showcased that IUU fishing has caused so much of changes and hardship to women fish traders and processors. It has negatively impacted the socio-economic lives of women. Despite this, women have found ways to cope by adopting different strategies which include depending on fishmeal factories to source fish.

# 6 Discussion

This thesis aimed to explore and understand how Illegal, Unregular and Unreported (IUU) fishing and Industrial fishmeal processing affect the livelihood and socioeconomic wellbeing of women fish processors and Traders in the Gambia. With particular attention to objective; 1)To

understand what changes have occurred to women's access to fish due to IUU fishing and Industrial Fishmeal processing, 2)To understand how these changes affect women's livelihoods, wellbeing and social reproductive roles, 3) To highlight different strategies adopted by women to adapt to these changes and lastly 4) To highlight existing structural inequalities and understand how this influences the impact fishmeal factories and IUU have on women.

The findings highlighted in section 5 revealed 4 themes which emerged from the study. The themes included restriction to women's access to fish as a result of IUU fishing, significant consequences to women's socio-economic wellbeing, coping strategies adopted by women in response to challenges, various structural inequalities that contribute to women's vulnerability and the most interesting result, women's dependence on the fishmeal factories to access fish

This discussion section provides an in-depth analysis of the findings from chapter 5 using the conceptual framework highlighted in chapter 3. I also discuss and centre my findings in relation to scholarly work out there.

## 6.1 Women Fish traders and Processors Exclusion; Gendered access, Norms and Unequal power dynamics

One of the major findings of the study was how women fish traders and processors access to fish resources has been significantly affected. Women throughout data collection narrated that it has become rather difficult to access fish as a result of its scarcity and high prices as highlighted in section 5.1 of the results section. Although both IUU fishing and industrial fishmeal factories have been implicated for restricting women's access to fish, the former was dominantly reported as the main cause. In this section, I will be discussing how my findings in 5.1 and 5.2 of the results align with present literature. I will also use the FPE framework to analyse and understand how power dynamics and gendered access to and control over resources influence who benefits from resources and who is excluded. The sustainable livelihood approach will also be used to analyse and understand the structures and processes that contribute to unequal power dynamics within the fisheries sector.

My findings on women's restricted access to fish strongly align with existing literature which argues that IUU fishing disproportionately marginalize small-scale fishers and women involved in post-harvest fisheries activities. Previous studies have shown that industrial trawlers and foreign fishing fleets often compete directly with artisanal fisheries for fish species that are essential for local consumption and women's fish processing activities.(Oloko et al. 2025) in his

research across Africa and Asia, also argued that IUU fishing contributes significantly to declining fish stocks, undermining the livelihoods of small-scale fishing communities and intensifying inequalities and economic vulnerabilities among women dependent on fisheries value chains. According to my findings, the main form of IUU fishing in the Gambia is violation of the fishing zone. Industrial vessels cross into the 9 nautical mile zone preserved for artisanal fishermen. In the same vein, a report by Drammeh (2019) on IUU fishing in SSF in the Gambia, highlights that there is ample evidence of industrial fishing vessels operating illegally in fishing zones which are exclusively reserved for small-scale fisheries. The report further highlighted that the problem of IUU fishing in the Gambia stems mainly from weak fisheries monitoring, enforcement and control system by government actors.

The data I collected also suggests that institutional structures are inadequate and technical capacity limited. Limited patrol boats, surveillance systems, and trained personnel make it difficult to monitor Gambian waters effectively as also described by (Traore 2022) (Widjaja et al. 2023) as well as (Oloko et al. 2025) in their various global studies. These problems make IUU fishing flourish and its impact extremely severe. These challenges make transparency difficult and promote corruption among government officials (Environmental Justice Foundation,2023).

The study reiterates the fact that IUU fishing affects entire coastal communities especially those involved in the SSF value chain particularly fishermen and also women involved in trading and processing work. However, as showcased in section 5.2.2 of the results, the findings suggest that women were the most affected and left in dire situations when access to fisheries resources became restricted as a result of IUU fishing. This is consistent with various gendered access to resources studies which highlight that when resources become exploited, commodified or unavailable, women in most cases bear the brunt. In their FAO report on women's access to fish, (Lentisco & Lee 2015) found that women lose access first when resources become scarce. They connected this to the fact that men control captured fisheries, licenses, capital, fishing equipment, participate more in marine governance whilst women do not have these privileges. Another study in Japan concluded that ecological stresses and resource restriction intensified existing inequalities particularly for women(Kawarazuka et al. 2017).As understood from the sustainable livelihood framework, when shocks occur(in this case IUU fishing), vulnerability is often felt differently by men and women, with women coming off worst which often reflects the gendered division of roles within the agricultural activities as well as the gendered access to assets and the nature of policies, institutions and processes(Nunan et al. 2022).

My interpretation of the findings in 5.1 and 5.2 of the results implicates social norms and the patriarchal systems deeply embedded in the fisheries sector behind the restriction of roles, access to assets, authority and participation. Which makes

them more susceptible to the jaws of IUU fishing. As highlighted in the findings (5.2.2), these norms are usually not spoken of but are deeply embedded within society and upheld by religious and customary structures. The sustainable livelihood framework highlight that these processes and structures which include norms, policies, influence how people use or benefit from assets (Nunan et al. 2022).

Numerous gender studies showcase that although women often have meaningful assets, these assets are not put to use due to the influence of these structures and processes. The findings on section 5.1 suggest that although women do own boats or have some form of co-ownership, they have little or no control over its usage or benefits. Fishermen normally access, operate the boats; leaving women dependent on them to access fish. This directly translates to the fact that women's access is often indirect and insecure leaving them the most vulnerable at all times especially in the face of IUU fishing which affects local fishermen catch. Although fishermen are affected, they (local fishermen) mentioned in 5.2.2 of results section that no matter what, they would always have access to fish and earn even if it's a single fish they caught unlike women who do not have these privileges. Gender norms continue prohibiting women from going onshore boats; citing them as unpure creatures as well as restricting them from leadership positions. Not only are they restricted, but they also face backlash from family members and members of the community when they decide to take up leadership positions. This aligns with what was found by Lentisco & Lee (2015), who argued that even though women gain productive tools or participate in markets, entrenched gender norms continue to marginalize them in decision-making and resource control. The findings are consistent with Ouku (2023) who also points out that women in the fisheries sector's access to resources is limited as a result of social norms which restrict women from accessing assets, governance participation which leads in turn to their exclusion.

The research also discovered that the gendered division of labour commanded by gender norms and patriarchal systems within the SSF sector leaves women vulnerable and prone to exploitation. As highlighted in the finding section (5.2.2), women are only allowed to be involved in fish trading and processing but cannot work as fisherwomen whilst their men counterparts can work in any of the areas mentioned. Also, most literature highlight that fisheries governance often "recognize" only harvesting as the most important work which is carried out by men whilst women's work remains invisible. This leaves Women's work and their associated knowledge seen as domestic, unofficial and informal. This is consistent with what was also reported by Galappaththi et al. (2022) and Oloko et al. (2024) in their respective researches on how environmental policies and development projects 'centre' men's knowledge leaving women underrepresented in fisheries governance bodies, Policy discussions, Resource management committees thus reinforcing inequality and power imbalances. As highlighted by the sustainable

livelihood framework literature, this influences who accesses resources and opportunities as well as who becomes the most vulnerable during crisis (Nunan et al. 2022).

All the above discussed, create and contribute to the unequal power dynamics that exist between women, local fishermen and industrial vessels that cause IUU fishing. These vessels, having better fishing technology, financial capital and performing without proper monitoring or being held responsible, have more power than women fish traders and processors who don't have access and control over fishing equipment and financial capital, are underrepresented and remain absent in decision making and policy discussions, and are restricted by socially-constructed roles.

## 6.2 Women and Industrial Fishmeal Factories: Contradictions of Empowerment and Exploitation

Here, I will be discussing my findings from section 5.3 in the results and relating it to previous research out there. The SLF will be used in the analysis of this section to understand women's dependence on the factories whereas the FPE framework carves out how and why women are also marginalised by these same factories. It provides easy understanding on how the powerful Chinese companies access and have control over fisheries resources whilst women's access is limited

This is the most unexpected and compelling finding of this study. Although fishmeal factories are widely perceived as contributing to fish scarcity and livelihood disruption, some women have become economically dependent on these same factories for survival. Participants explained that they increasingly rely on fishmeal factories either to purchase fish indirectly or access fish leftovers. This dependence illustrates a complex and contradictory relationship between local women and industrial actors. On one hand, fishmeal factories contribute to the depletion and commercialization of fish resources, thereby undermining women's traditional livelihoods. On the other hand, the weakening of artisanal fisheries has forced some women to adapt by integrating themselves into the industrial system they previously viewed as a threat. This finding highlights the complicated realities of economic survival in contexts where local livelihoods are disrupted by industrial expansion. It also reflects how structural inequalities and limited alternatives can compel vulnerable populations to depend on systems that simultaneously contribute to their marginalization.

However, it is important to note that this dependence is indirect since women get fish from the Senegalese fishermen contracted by the fishmeal factories and not the factories directly per se. Due to inaccessibility to the fishmeal factories during fieldwork, I was not able to find out whether the management of the factories are aware of this transaction between their fishermen and the women or

these fishermen act on their own. Getting this data could've provided a different discourse. However, this does not rule out the fact that women fish traders and processors benefit from this kind of arrangement set up by the factories. From the sustainable livelihoods perspective, women's dependence on these industries represents a pragmatic survival strategy shaped by vulnerability, limited livelihood alternatives, and institutional constraints (Allison & Ellis,2001).

These findings from my research completely contradict previous scholarly work out there on the impact of industrial fishmeal production on women. A study previously carried out in the Gambia reported that fishmeal factories negatively impacted and dispossessed women in all aspects by disrupting their fisheries work and livelihood opportunities as well as taking over land meant for women to build their factories (Jobe 2021). The research findings also hint that women may be coerced into "fish for sex" arrangements as many women stated that they get free fish from these fishermen. Further research should be carried out to investigate this issue as numerous studies agree that when women's access to resources is restricted and vulnerability sets in, they easily fall into exploitation (Lentisco & Lee 2015; Nunan et al. 2022; Ouko 2023).

However aside this narrative, other perspectives also arose in my research. The findings in 5.3.2 of the results also suggest that fishmeal factories marginalize women fish traders and processors by eliminating them as competitors. The research found that factories used several strategies such as offering higher bidding prices for fish as well as paying fishermen beforehand so as to be the first to be prioritized in terms of fish supply as also pointed out by Jobe (2021) in her research.

The fishmeal factories backed by government policies supporting industrial investments as well as their great economic prowess, has gained great influence and power (Darboe,2018). This has cemented the company's control over marine resources; to use as it sees fit. Whilst women, faced with the challenges of limited access to financial and fishing assets as well as being marginalised by gender-insensitive policies, have little or no power to compete. This unequal power dynamics sees the unequal distribution of costs and benefits of resource between fishmeal companies and women (Agrawal,2006).

## 6.3 Disruption of women's lives and livelihood

I discuss on the findings on section 5.2 which highlight on how the changes in the fisheries sector impacted women fish traders' and fish processors' income, work, wellbeing and social reproductive roles. Using the Sustainable Livelihoods Framework (SLF), the impacts of IUU fishing on women's work, income, and livelihoods can be analysed through the five livelihood assets: natural, human,

social, physical, and financial capital. Whilst the FPE framework provides the analytical lens to understand how resource inaccessibility contribute to the crisis of social reproduction

The findings suggest that women's limited access to fish resources has had a huge impact on their lives and livelihood. Participants described that the unavailability of fish resources has directly affected women fish traders and processors work which has led to financial insecurity, unemployment, inability to support household needs and, increased economic stress. These findings correspond with previous studies which demonstrate that fisheries decline and industrial exploitation contribute to worsening poverty, food insecurity, and livelihood instability among coastal women. Scholarly research by Oloko et al. (2024) reported that industrial fishing fleets undermine fishing communities' (particularly women) access to fish thus exacerbating their socio-economic challenges. Although the research did not purposefully try to understand how the intersectionality of gender, age or occupation affect resource access, it was found that older female fish traders were the most affected by the unavailability of fish resources. Majority of these women later abandoned the SSF sector to venture into different sectors such as horticulture. The findings suggest that this is as a result of their age which has reduced physical strength and mobility, making it harder for them to travel farther in search of fish supplies or find other ways of adapting to the scarcity of fish resources. Similar studies conducted on river-basin and fisheries resources in Tanzanian fishing communities found that access is not distributed evenly among women; older women and socially marginalized groups are often least-advantaged (Shitima, 2018).

The sustainable livelihood framework (SLF) gives deeper explanation for my findings by analysing how shocks and vulnerabilities affect access to livelihood assets. According to the SLF, livelihoods can be shaped by access to 5 key forms of capital; natural, financial, social, human and physical capital (Serrat, 2017). The findings of the study suggest that IUU fishing significantly weakened women's access to natural capital by declining fish availability. This in turn also affected the financial capital of women who then earn less, have lower profit margins and experience increasing dept and economic hardship. This affected their human capital as women's wellbeing was hit hard. According to the findings, women's labour burdens increased and they suffered psychological stress linked to livelihood insecurity. This coupled with the fact that women lack adequate human capital (low formal education, and fewer opportunities for skills training) and physical capital (Limited ownership of transport, fishing equipment, cold storage, or market infrastructure) as found in the research, intensified women's socio-economic challenges.

The research also suggests that the economic marginalization of women discussed above has major implications on how women take care of their households and families. Participants described that they are no longer able to

cater to the needs of their family; Interms of adequate food provision, paying for school fees of children or looking after old-aged parents. Studies by (Harper et al. 2013; Lentisco & Lee 2015) concluded that women's fisheries work directly supports household nutrition, caregiving, and local economies and any disruption in this work will affect women's household responsibilities particularly food provision. My findings support Feminist Political Ecology arguments on how ecological degradation and resource inaccessibility contribute to the crisis of social reproduction; magnifying women's unpaid labour in food provisioning as well as household maintenance. Women spend more time and energy to keep families healthy and functioning as discovered by the research.

## 6.4 Women's coping strategies and resilience

The research found that in the face of shock, women adopted different strategies to help them with more income, increased well-being, reduce vulnerability or generally sustain their livelihoods as reported by Nunan et al. (2022). These strategies included women diversifying their sources of income by venturing into other areas such as gardening, ice-cream selling, clothes retailing business etc., moving to places with better fish prices and supply, borrowing money and also forming and joining savings groups(osusu). This is consistent with what has been found by (Allison & Ellis 2001; Marquette et al. 2002) who pointed out that fisherfolks in the face of seasonal variations in fish stocks and fluctuating prices of fish often resort to diversifying their income sources or they may move from one place to another in search of better catches, prices as well as income. The findings highlight how women use their different asset base to adapt to changes caused by IUU fishing. Women use their social capital such as saving groups and relationship with the Senegalese contracted fishermen as well as use their human capital (labour capacity) adapt to changes. These adaptive strategies demonstrate women's agency and resilience despite structural constraints. In my research, women deemed it a necessity to undertake these livelihood strategies even though Namwira (2020) highlighted that some see it as a choice. The sustainable livelihood framework highlights that these strategies can only work provided that the environment-assets and favourable laws, policies and norms are provided. The findings concur with this statement as women fish traders and processors highlighted that low access to financial resources and societal gender norms in restrict them from diversifying livelihoods or undergoing other livelihood strategies.

# 7 Conclusion and outlook

In this thesis, I have attempted to answer the question "What impact does Illegal, Unreported and Unregulated (IUU) fishing and industrial fishmeal processing have on the socio-economic wellbeing of female fish traders and processors in the Gambia?". I have done this using ethnographic method and used semi-structured interviews, participant observation and focus group discussions as data collection tools.

I have argued that IUU fishing has significantly contributed to the unavailability of fish for women fish traders and processors who are heavily reliant on the artisanal fisheries sector for their livelihoods. It has disrupted the lives and livelihoods of local fishing communities particularly women that have for decades depended on it for theirs and household's survival (Widjaja et al. 2023; Oloko et al. 2025a).

One of the most significant findings of this study is the extent to which women's socio-economic wellbeing has deteriorated due to restricted access to fish. The reduction in fish availability has translated directly into increased financial insecurity, disruption of women's work as well as affected their social reproductive roles and general wellbeing. Since women in coastal communities often play central roles in supporting household welfare, the decline in their economic activities has broader implications for family wellbeing and community resilience (Lentisco & Lee 2015). The study also highlights the emotional and psychological burden associated with these economic struggles. Women described feelings of stress, uncertainty, frustration, and helplessness as they struggle to maintain livelihoods that have traditionally sustained generations of families.

In response to declining fish access and economic hardship, women have developed various coping and adaptation strategies aimed at sustaining their households and businesses which include depending on the fishmeal factories to source fish, diversifying their livelihoods by engaging in petty trading, vegetable selling, small-scale entrepreneurship, or alternative income-generating activities outside the fisheries sector. Others travel longer distances to access fish or rely on informal borrowing and social networks for financial survival. The findings also suggest that women's adaptive strategies are constrained by broader structural inequalities, limited economic opportunities, and inadequate institutional support.

Beyond the direct economic consequences, the findings further reveal how structural inequalities create or intensify women's vulnerability and marginalisation. The study found that women still remain largely absent within fisheries governance structures and decision-making spaces (Lentisco & Lee 2015; Shitima 2018; Ouko 2023; Oloko et al. 2025b). The absence of their

meaningful participation has left a gap of their knowledge and experiences in fisheries policymaking and resource management and this contributes to their continued marginalization. Despite their critical contribution to the SSF sector and food security, women often lack access to livelihood assets which reduces their ability to adapt to changing conditions within the sector (Ouko 2023).

The study therefore concludes that IUU fishing and industrial fishmeal production should not be viewed as just environmental issues but political and also deeply gendered social justice concerns. Without targeted interventions that address both environmental sustainability and gender inequality, women's livelihoods and community food systems will continue to face significant threats.

Future research is thus needed to produce empirical evidence that showcase the need for more inclusive policies for a sustainable and inclusive fisheries sector(Jobe 2021). Research that highlights the need for policies that recognize women as key stakeholders in fisheries governance, improve women's access to resources, credit, and markets, strengthen protections against exploitative industrial fishing practices, and support sustainable livelihood diversification. Expanding research in this area would help policymakers better understand women's realities and design interventions that are both environmentally sustainable and socially equitable, ensuring that fisheries governance addresses not only ecological conservation but also the gendered dimensions of livelihood security and community resilience (Kawarazuka et al. 2017).

In conclusion, this study contributes to broader discussions on fisheries governance, environmental justice, gender inequality, and sustainability.

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# Popular science summary

Fish is more than food in The Gambia — it is a source of income, nutrition, and survival for thousands of coastal families especially women who play a central role through their fish processing and trading work. However, despite their contributions, women often remain invisible in fisheries policies and development discussions; leaving them marginalised and vulnerable.

But what happens to these very women when two very powerful giants, illegal industrial trawlers and industrial fishmeal factories, compete and control fish resourses to meet global seafood demands? This is what the research sets to find out by trying to understand the changes these giants' effect in the fisheries sector, how do these changes affect women's socio-economic wellbeing, how women are adapting to these changes as well as trying to understand what structural inequalities make women vulnerable to these changes.

The study found that illegal industrial vessels have reduced women's access to fish, which has negatively affected their income and work causing women to abandon the fisheries sector or divert to other sector. These impacts have directly translated into difficulties in households as women are faced with no longer being able to take care of their families in terms of food provision, children's school fees or taking care of medical expenses for elderly parents. Despite these challenges and difficulties, women have stayed in the fisheries sector and have persisted. The study found that women used different coping strategies such as diversifying their sources of income, travelling longer distances to source fish from different places as well as joining saving groups. One of the most surprising findings was how women were relying on fishmeal factories to access fish. The study also found that cultural norms, patriarchal systems, and gender insensitive policies leave women disadvantaged and vulnerable to shock and changes in the fisheries sector.

The study has showcased how women in the small coastal communities of the Gambia carry the brunt just so few actors can have economic gains and millions in the global north can have the luxury of eating seafood.

The study highlights that without targeted interventions that address both environmental sustainability and gender inequality, women's livelihoods and community food systems will continue to face significant threats. The study calls for the formulation of policies that recognises women as key actors and puts them "central" in all policy making and fisheries management discussions. Thus future research is highly needed to produce evidence that showcase the need for more inclusive policies for a sustainable and inclusive fisheries sector.

# Appendix 1; Declaration of AI use

This thesis follows the AI policy of the Division of Rural Development level 2 which allows for limited AI use during preparations but not as part of the submitted thesis document. This means that all material part of the thesis submission including the final thesis presentation need to be the student's work rather than AI-generated.

During preparations the following AI tools have been used:

- Quillbot
  - The purpose of the tool is to corecct language and text
  - The prompt used for the AI tool is available in Appendix XY, or upon request
  - I have revised the output from the tool by going through it myself to check for errors
  - I have verified the accuracy/correctness of the tool by taking the following steps: I have read research reports which recommend this tool for correcting language. I believe it conforms with SLU GDPR legislation.

- VIBE
  - The purpose of the tool is to transcribe interview audio
  - The following documents were translated using Vibe: "Interview audios"
  - I have revised and verified the output from the tool by going through it myself and verifying
  - I have verified the accuracy/correctness of the tool since it was recommended to use during the methoods course in my master program.It conforms with EU GDPR legislation.

- ZOTERO
  - The purpose of the tool is for referencing
  - All my references and in-text citations were inputed using zotero
  - I have verified the accuracy/correctness of the tool since it was recommended to use during the methoods course in my master program.

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