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MAKING THE AFRICAN CONTINENTAL FREE TRADE AREA WORK FOR WOMEN

Understanding women's roles and trade potential along the fisheries and aquaculture value chains: Case studies from Ghana and Nigeria

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About the paper

This qualitative study assesses gender dynamics along the fisheries and aquaculture value chains in Ghana and Nigeria, focusing particularly on women's roles, barriers and trade potential. This report also provides gender-specific recommendations to address the identified challenges and enhance women's trade potential in the selected regional value chain. It should be read alongside the complementary Issue Brief 'Mapping of the fisheries and aquaculture value chain in Ghana and Nigeria from a trade potential perspective - Making the African Continental Free Trade Area work for women' which offers a quantitative mapping of the regional fisheries and aquaculture value chains and their potential in the context of the AfCFTA.

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Abbreviations

Unless otherwise specified, all references to dollars (\$) are to United States dollars, and all references to tonnes are to metric tonnes.

AfCFTA	Continental Free Trade Area
AWFISHNET	African Women Fish Processors and Traders Network
CAFAN	Catfish Farmers Association of Nigeria
ECOWAS	Economic Community of West African States
FAO	Food and Agriculture Organization of the United Nations
FCWC	Fisheries Committee for the West Central Gulf of Guinea
FDF	Federal Department of Fisheries
FDA	Food and Drugs Authority
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GHC	Ghanaian Cedi
ITC	International Trade Centre
MoFAD	Ministry of Fisheries and Aquaculture Development
NAFPTA	National Fish Processors and Traders Association
NAWORG	Nigeria Association of Chambers of Commerce, Industry, Mines and Agriculture Business Women Group
NGO	Non-Governmental Organization
SFMP	Sustainable Fisheries Management Project
UN	United Nations
USAID	United States Agency for International Development



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INTRODUCTION

The African Continental Free Trade Area (AfCFTA) Agreement was signed in 2018 by 54 African countries and entered into force in 2019. The agreement is poised to play a key role in boosting intra-African trade. The AfCFTA is expected to expand manufacturing, increase export volume, create employment opportunities and reduce poverty (Abrego *et al.*, 2019).

By facilitating free trade, the AfCFTA aims to create a single market that liberalizes trade and improves local livelihoods, a goal which aligns with the provisions of the 1995 FAO Code of Conduct for Responsible Fisheries and subsequent Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication (FAO, 2015). This non-binding policy document, developed with the support of FAO and endorsed by the Committee on

World Food Security, provides a framework for sustainable small-scale fisheries management. One of the guiding principles explicitly addresses gender equality and recognizes women's contributions to small-scale fisheries, calling for policies and actions that support women's participation and address gender-specific constraints. These calls align with the United Nations Sustainable Development Goals (SDGs), in particular SDG1, SDG2 and SDG5, and aim to promote gender equality by empowering women and girls. The SDGs recognize women's important role in the fisheries and aquaculture sector and call for policies and actions that promote their participation and support their livelihoods (OECD, 2021).

The AfCFTA is expected to bolster intraregional trade – including fisheries and aquaculture businesses – by eliminating non-tariff barriers,

duties and quotas. In 2019, intra-African trade of fish accounted for USD 430 million of the continent's exports and the trade potential for the sector is estimated to be worth USD 4 billion (Oirere, 2019). These figures could be much higher as data on informal trade in the continent is scant.

Implementing the AfCFTA could help women-led businesses unlock their potential and facilitate their growth from micro to macro enterprises (African Union, 2021). Available data indicate that small and medium-sized enterprises (SMEs) run by women account for almost 60 percent of Africa's GDP, creating an estimated 450 million jobs (Ighobor, 2022). The AfCFTA may also address the informal nature of women's engagement in businesses. As it stands, 70 percent of the informal cross-border trade on the continent is conducted by women (African Union, 2021). The AfCFTA will create opportunities for women to tap into regional export market opportunities and expand their reach through more formal avenues.

Agricultural products such as vegetables, cereals, fish, meat and dairy products make up the bulk of the most traded commodities by women in small-scale informal cross-border trade. However, women's contributions in agrifood systems and trade are undermined by constraints including, but not limited to, the lack of access to finance, technologies, information and networks, which jeopardizes their capacity to grow and develop their businesses (Brenton, Gamberoni and Sear, 2013). Such hindrances prevent women from taking full advantage of the opportunities created by the agrifood sector and related trade. The AfCFTA provides an opportunity to create a conducive environment for small-scale agripreneurs and traders, many of whom are women (FAO and ITC, 2023b).

Implementing AfCFTA provisions could offer West African countries the chance to tap into their unexploited export potential in fisheries, enhance intra-African trade and, in the long term, improve the socioeconomic well-being of their populations. In implementing these provisions, recognizing and enhancing women's roles and their access to different nodes of the value chain will bolster the performance of the sector in both West Africa and the broader continent. To unlock this potential, it is necessary to have a clearer understanding of the



barriers that hinder intra-African trade for women in the fisheries and aquaculture sector as well as the opportunities to be seized.

This report evaluates women's engagement in fisheries and aquaculture value chains in West Africa through a qualitative investigation with key stakeholders in Ghana and Nigeria. The study is meant to be read in conjunction with the complementary quantitative mapping of the fisheries and aquaculture value chain in Ghana and Nigeria from a trade potential perspective, which is published separately.¹ This case study report presents an overview of women's participation in fisheries and aquaculture value chains in West Africa and describes the specific experiences of women in the value chain in Ghana and Nigeria, also looking at their trade potential along the chain. It then highlights insights and implications for implementation of the AfCFTA and concludes with recommendations to unlock the potential that the AfCFTA presents. ●

1. FAO & ITC. 2023. *Mapping of the fisheries and aquaculture value chain in Ghana and Nigeria from a trade potential perspective*. Rome.

METHODOLOGY

To understand how women in fisheries can take advantage of the opportunities provided by the AfCFTA, this report analyses two countries in West Africa – Ghana and Nigeria – to assess the opportunities for broadening women’s inclusion and participation in the region’s fisheries value chains. Ghana and Nigeria are suitable case studies because they are two of the top three fish producers (including aquaculture) in West Africa (ECOWAS Commission, 2020).

The report relies on an extensive literature review and a review of policy documents in addition to key informant interviews and focus group discussions (FGDs) with business owners, government agencies and organizations in the value chain.² Data were collected between November 2022 and January 2023 and follow-up interviews were conducted to clarify specific points with participants. Two online round-table sessions were held via Zoom in November and December 2022. The first round table introduced participants to the aims and objectives of the project, while the second shared preliminary findings.

The interview and focus group discussions were split into three groups, namely:

- i. Regulators (national, regional or subregional agencies)
- ii. Fish producers (including artisanal, industrial and fish farmers)
- iii. Fish processors and retailers

The questions were divided into 10 themes and adapted to suit specific stakeholders. These included:

- Background of the organization
- Performance of the organization in the fisheries and aquaculture value chain
- Participation of women in fisheries and aquaculture value chains
- Strategies for addressing factors influencing women’s roles in the regional fisheries and aquaculture value chain
- Barriers to entry and growth faced by women

- Technology and technical skills – innovation and upgrading
- Inputs
- Fisheries and aquaculture value chain network (production/processing/outputs/distribution)
- Role of industries/associations/bodies
- Role of government/industrial policies and implementation

Interviews and FGDs lasted an average of two hours and were conducted in person, online and by phone. One of the most significant constraints to data collection was the difficulty in scheduling meetings with some key informants, particularly those from the formal sector. However, the information obtained from most informants was sufficient for this report to reflect sector practices and requirements. ●



2. See Appendix 1 for a full list of participants in interviews and FGDs in Ghana and Nigeria.



OVERVIEW: FISHERIES AND AQUACULTURE INDUSTRY IN WEST AFRICA

THE FISHERIES and aquaculture sector – particularly small-scale fisheries – is a major source of employment, income, food and revenue for stakeholders globally. In Africa, the sector plays a vital role in supporting the livelihoods of approximately 12.3 million individuals and holds significant potential for growth (FAO and ITC, 2023a). The sector creates employment opportunities, especially in coastal and fishing communities,

and can stimulate related industries, such as fish processing, transportation and trade. With extensive coastlines, inland water bodies and a rich aquatic biodiversity, the continent has abundant resources that can contribute to both local food security and economic development.

In the West Africa region, fish contributes to the food and nutrition security of millions of people.

It accounts for between 10 percent and 75 percent of animal protein consumed in countries throughout the region and, in some cases, it is the only source of animal protein available to local populations (Okafor-Yarwood, 2019; FAO, 2020a).

Fisheries also make a substantial contribution to the revenue of many developing countries. Countries across the region profit from their fisheries resources through the export of high-value fish and aquaculture products. The sector is also a source of non-traditional export earnings. However, the pervasiveness of unsustainable practices that are harmful to the marine environment, such as pollution, overfishing and illegal, remain unreported and unregulated.

Key features of the West African fisheries and aquaculture sector

Fish production in West Africa is mostly through marine and inland fishing and aquaculture. The fisheries and aquaculture sector is characterized by both the artisanal and industrial sectors. However, fish production by the artisanal sector accounts for more than 80 percent of the fish produced and consumed in West Africa (Cox, 2013). In Benin, Côte d'Ivoire, Ghana, Liberia, Nigeria and Togo, the artisanal sector accounts for over 75 percent of local fish production (FCWC, 2020). In Senegal, 80 percent of fish production is by artisanal fishers and the figure is 70 percent in Sierra Leone (Cox, 2013). At the artisanal level, fishers use mainly wooden structures and traditional methods to catch fish. Small-scale or artisanal fisheries in West Africa mostly serve domestic markets to meet local demand and supply needs in addition to intraregional markets that attract fish traders and processors from neighbouring countries. The industrial sector comprises trawlers with authorization to fish commercially through licences or agreements, with most industrial vessels operating in West Africa linked to distant water nations (De Graaf and Garibaldi, 2014). Fish caught by the industrial sector is mostly destined for the export market (Okafor-Yarwood *et al.*, 2022)

The aquaculture sector is nascent in the region and has been led by Ghana and Nigeria, which together accounted for 96 percent of



the 389 302 tonnes of fish produced through aquaculture in 2016 (ECOWAS Commission, 2020). There is a growing interest in capturing ornamental fish in countries in the West African region, including Cameroon, Gabon, Ghana, Guinea-Bissau, Nigeria, Senegal and the Democratic Republic of the Congo (Monticini, 2015).

In recent years, there has been an increase in fish production in West Africa. Between 2013 and 2018, fish production increased from 2 636 574 tonnes to 3 038 646 tonnes. Ghana, Nigeria and Senegal are the main fish producers in the region, with a combined production of 67.55 percent of the region's total fish production in 2016 (ECOWAS Commission, 2020). While fish production increased, consumption per capita in the region reduced from 12.96kg to 12.25kg in the same period. Most of the catches were destined for exports, thereby reducing the availability of fish for domestic consumption (ECOWAS Commission, 2020). Many countries in West Africa do not meet the consumption needs of their people and are net importers of fish, relying on low-value frozen fish imports to supplement domestic production.

Regional governance of the fisheries and aquaculture sector in West Africa

At the regional level, efforts are underway to harmonize fisheries regulations and laws to facilitate intraregional trade in the context of the AfCFTA and to improve fisheries governance. In April 2022, ECOWAS signed a memorandum of understanding with the two West African regional

fisheries advisory bodies – the Fisheries Committee for the West Central Gulf of Guinea (FCWC) and the Sub-regional Fisheries Commission. The memorandum of understanding seeks to establish a framework for collaboration, partnership and cooperation in implementing ECOWAS agricultural policy and will also ensure progress towards the SDGs through coordinating the implementation of regional fisheries and aquaculture policies (FCWC, 2022). Furthermore, the ECOWAS Directorate of Agriculture and Rural Development has developed a factsheet on fish and aquaculture products from member states. The aim is to support in strategically harnessing fish resources in the regional economic bloc to strengthen its contribution to food security, nutrition and foreign exchange (ECOWAS Commission, 2020).

As part of the operationalization of the memorandum of understanding, a joint action plan between FCWC and the Sub-regional Fisheries Commission has been developed aimed at promoting food sovereignty and economic development of the West African states in their regions. The joint plan aims to improve the regional and national legal frameworks to combat illegal, unreported and unregulated fishing and ensure sustainable fisheries management. Other goals include the improvement of value chains of fisheries products at the subregional level, with an explicit focus on gender inclusivity in fisheries (FCWC, 2023).

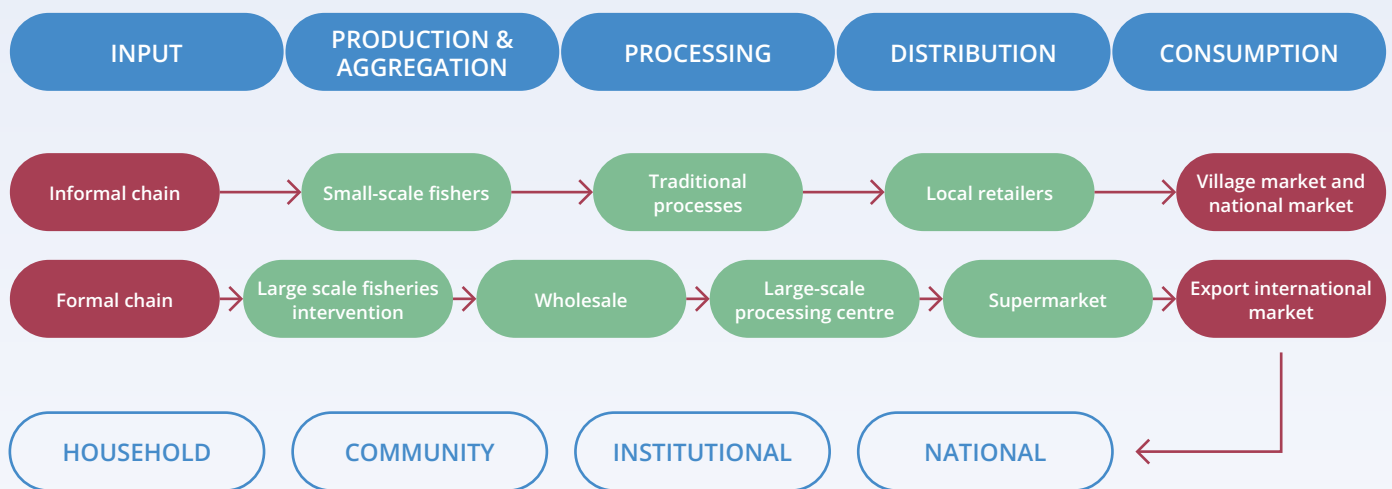
In addition, each regional fisheries advisory body facilitates cooperation among member states on fisheries management. This cooperation seeks to ensure sustainable fisheries, improve food security and enhance livelihoods for populations in member states. ●

FISHERIES AND AQUACULTURE VALUE CHAIN

A VALUE CHAIN encompasses the full range of farms and firms and their successive coordinated value-adding activities that produce raw agricultural materials and transform them into particular food products that are sold to final consumers and disposed of after use. Ideally, this is in a manner that is profitable throughout, has broad-based benefits for society and does not permanently deplete

natural resources (Kaplinsky and Morris, 2001; Failler, Beyens and Asiedu, 2014; FAO, 2014; Rosales *et al.*, 2017). In the fisheries and aquaculture sector, a value chain is composed of several economic agents that include individuals, government agencies and companies. Its existence is predicated on the premise that all agents involved in the chain can optimize the generation of value along that chain (FAO, 2014; Gleadall *et al.*, 2024).

Figure 1: Normative representation of the fisheries and aquaculture value chain



Interventions: access to land for land-based fish farming, access to resources, agricultural inputs and training leadership

Actors and service providers: transporters and other logistics services, inputs, financial services, advisory and business development services.

Enabling environment (national and international): policies, laws, regulations and standards

SOURCE: Adapted from: FAO. 2014. *Developing sustainable food value chains – Guiding principles*. Rome; FAO. 2016. *Developing gender-sensitive value chains – A guiding framework*. Rome; FAO. 2018. *Developing gender-sensitive value chains – Guidelines for practitioners*. Rome; Mangubhai et al. 2022. *Progressing gender equality in fisheries by building strategic partnerships with development organisations*. *World Development*, 158(105975).

Gender-sensitive value chain analyses provide a framework for understanding the roles and opportunities available to men and women within a specific economic activity. The purpose is to identify disparities based on gender, and devise interventions to reduce inequalities. For this analysis, we will be utilizing the gender value chain framework developed by FAO,

which includes six key components: inputs, production, aggregation, processing, distribution and consumption (FAO, 2016, 2018). Figure 1 provides a visual representation of the typical components and actors along fisheries and aquaculture value chains and Table 1 gives a brief description of each main node in the value chain. ●

Table 1. Description of value chain components in the fisheries and aquaculture industry

Component	Description
Inputs	<ul style="list-style-type: none"> • Tangible assets such as fishing equipment, boats and technology • Intangible assets such as funding and accessibility to prime fishing grounds (Kruijssen <i>et al.</i>, 2021; Komi <i>et al.</i>, 2024)
Production	<ul style="list-style-type: none"> • Activities related to fish capture (fishing) and aquaculture (fish farming) (Kruijssen, McDougall and van Asseldonk, 2018) • Characterized by expertise and knowledge: fishing techniques, gear handling and farm management
Aggregation	<ul style="list-style-type: none"> • Collection and consolidation of fish from various sources or fisherfolk • Sorting, grading and storing fish before further processing or distribution (FAO, 2018, Purcell <i>et al.</i>, 2017)
Processing	<ul style="list-style-type: none"> • Transformation of raw fish into value-added products such as fillets and fishmeal; smoked, dried, frozen and fried fish; and other fish and aquaculture products • Smoking, salting, drying, curing and spicing products that can be marketed, purchased and consumed (Akintola and Fakoya, 2017; FAO, 2018; Nunoo <i>et al.</i>, 2015) • Skills and knowledge: handling, cleaning and preparing fish and aquaculture products
Distribution	<ul style="list-style-type: none"> • Moving processed fish and aquaculture products from producers to consumers • Logistics, transportation, storage and marketing of fish and aquaculture products (Tsolakis <i>et al.</i>, 2021; Grema <i>et al.</i>, 2020; Akintola <i>et al.</i>, 2022)
Consumption	<ul style="list-style-type: none"> • Final use of fish and aquaculture products by individuals or households (Bevilacqua <i>et al.</i>, 2019; Bjørndal <i>et al.</i>, 2015)





WOMEN IN FISHERIES AND AQUACULTURE VALUE CHAINS IN WEST AFRICA: AN OVERVIEW

OF THE 12.3 MILLION PEOPLE in Africa who rely on the fisheries and aquaculture industry to support livelihoods, more than a quarter are women (Chan *et al.*, 2019). In West Africa, women make up half of the inland fisheries workforce, which includes fish capture, processing and marketing (Du Preez, 2018). The proportion may be even higher but the informal nature and remote locations of fishing communities

means that women's participation is often not captured in statistics and the true picture is not always evident. Women across the region are involved in all nodes along the fisheries and aquaculture value chain to varying degrees – predominantly in small-scale fisheries and in pre-harvest activities (such as net mending) and post-harvest work (including processing, marketing and trade).

The growing interest in the role of women in the global fisheries and aquaculture industry is informed by the recognition of the gendered disparities in the value chain and the implications on performance in the sector. Discrimination against women based on cultural and social norms prevents women from realizing their full potential in the value chain. Despite women's primary roles as the bridge between fishers and consumers, their contributions are often overlooked (FAO, 2016; Harper *et al.*, 2020; Okafor-Yarwood *et al.*, 2022) and women face various challenges in accessing key resources and services, which limits if and how they benefit from market and trade opportunities. A review of existing literature reveals that these challenges for women globally and regionally include limited access to capital, credit and technologies as well as limited access to and control over assets (Kruijssen, McDougall and van Asseldonk, 2018). Low literacy levels, financial illiteracy and exclusion from decision-making processes also contribute to reduced opportunities for women (Morsy, 2020; Finkbeiner, Fitzpatrick and Yadao-Evans, 2021).

Women's work is often undervalued and underpaid (Kleiber, Harris and Vincent, 2015). In addition, involvement in key tasks that go unpaid (such as cleaning nets and preparing bait) means that women's contribution to the sector is vastly underestimated (FAO, 2023). Post-harvest activities (such as traditional smoking processes) often use techniques that expose women to hazardous working conditions that pose health and safety risks and can lead to respiratory or eye illnesses, for example (Asiedu, Failler and Beygens, 2018).

Despite these challenges, women in West Africa remain critical to the survival and sustainability of the region's fisheries and aquaculture sector. To break this cycle of gender inequality and discrimination – including by adopting gender-transformative approaches – it is first necessary to understand underlying social and gender norms, the roles men and women play in the sector, the specific challenges they face and how these can be addressed equitably.

Women's roles along the fisheries and aquaculture value chain in West Africa

Women perform a variety of roles along the fisheries and aquaculture value chain but are

mostly involved in post-harvest and less lucrative activities (FAO, 2023).

Inputs

Historically, the domain of supplying inputs has seen a significant gender disparity, with men dominating this node in the value chain. Available information indicates that women in West Africa are regularly active in this node – some women own boats and gear and may also prefinance fishing trips, purchasing outboard engines, crew food and fuel (Cox, 2013; Lentisco and Lee, 2015).

Production: capture fisheries and aquaculture

Fish and aquaculture production in Africa is mostly dominated by men, and women's contributions are frequently overlooked. Available data show that women catch over 260 000 tonnes of marine capture fish in Africa each year (Harper *et al.*, 2020). Women are also present in aquaculture or fish farming, engaging in activities such as hatchery and grow-out production. While women are not actively present in ornamental fish production, they have been identified as having the skills needed to succeed in the business (Ibim, 2020; Nwosu *et al.*, 2021). Women's involvement in fish production in West Africa varies by location and includes gleaning, nearshore fishing, estuary fishing and harvesting.

In some locations, cultural norms prohibit females from the active extraction of fish or going to sea. This may be related to safety concerns or beliefs around restricting women from performing certain tasks or engaging in certain social activities when menstruating, for example (Thorpe *et al.*, 2014; Okafor-Yarwood *et al.*, 2022).

Aggregation

The aggregation component of the value chain recognizes the social interactions, collaborations and coordination required for effective aggregation (Mangubhai *et al.*, 2022). Intermediaries control this part of the value chain and the level of involvement by women or men varies by location. Sierra Leone is one example where women dominate this subsector as agents (sometimes also boat owners) and make prior arrangements with fishers. In

Table 2: Women’s Engagement in Fishing Across Selected West and Central African States

Activity	Location
Oyster divers in the lagoons	Benin and Togo
Harvesting oysters in the mangroves	Senegal and Gambia
Shrimp-catching business	Guinea-Bissau
Catch fin fish	Select communities in Côte d’Ivoire and Cameroon
Operate fishing canoes	Estuary of the River Gabon
Farming oysters	Densu River estuary in Ghana

SOURCE: Data compiled by authors, with findings adapted from Trottier, B. (1987). *Women in aquaculture in West Africa*. FAO, Rome. Available: <https://www.fao.org/3/s4863e/s4863e05.htm>. Accessed: 19/04/2024.

return for advance payment to fuel their boats, the fishers sell the catch of the day exclusively to the agents (Kassam *et al.*, 2017). In contrast, in the Gambia, large-scale intermediaries are mostly men, who consolidate the individual landings of artisanal fishers. The products are then destined for export to Ghana, Guinea Conakry, Nigeria and Senegal, among others. Processing factories also source their fresh fish supply for exports to the European Union from these large-scale intermediaries (UNCTAD, 2014), who wield significant influence in determining access to fish and controlling specific areas. In an increasingly competitive market, the exploitative practice of “sex for fish” is becoming more prevalent, where women are pressured

into providing sexual services to secure a steady supply of fish or to pay for their supply of fish (FAO Regional Office for Africa, 2015; Okafor-Yarwood *et al.*, 2022).

Processing

Women dominate processing in the fisheries and aquaculture sector in West Africa (UNCTAD, 2014). The proportion of women in the post-harvest workforce varies across the region. In Côte d’Ivoire, women make up 60 percent of the workforce in the post-harvest sector (processing and marketing); in Cabo Verde, the figure is 75 percent; in Sierra Leone, women comprise 75 percent of the post-harvest labour force and 85 percent of the fish processing labour force; and in Gambia, 80 percent of the fish processors are women (Thorpe *et al.*, 2014; UNCTAD, 2014). Senegal has one of the lowest figures in the region at 30 percent (FAO, 2020a).

Distribution

In West Africa, women also generally dominate the distribution value chain. Women are the primary wholesalers who purchase from the landing sites and then distribute to workers (both male and female) for processing or retailing to consumers. Women wholesalers are often better funded than retailers, making them key players in the value chain (Failler *et al.*, 2014). As much as 80 percent of seafood in the region is marketed by women (Greenpeace, 2020). The reality seems to be different in the Gambia where men dominate fish marketing as intermediaries (UNCTAD, 2014).

Consumption

In West Africa, women are the direct contact between the producers and the end users due to their dominant role in the distribution/marketing value chain (Okafor-Yarwood, 2021). ●



TRADE POTENTIAL OF WOMEN IN WEST AFRICA: CASE STUDIES FROM GHANA AND NIGERIA

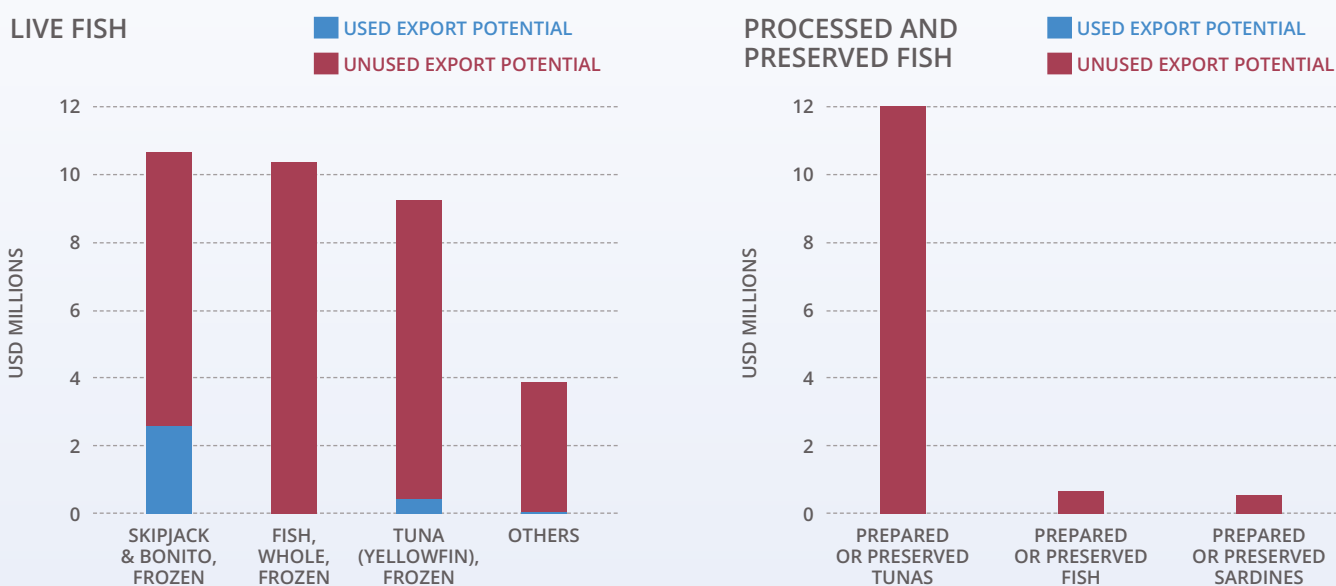
THIS STUDY selected Ghana and Nigeria as case studies to demonstrate the social realities for women in the fisheries and aquaculture value chain in West Africa. Ghana and Nigeria were selected because both countries are top contributors to the fisheries and aquaculture sector in the West Africa region. This section explores the contexts in the two countries, outlines the potential of the sector, women's contribution to that potential and the challenges that women face in the fisheries and aquaculture value chain. The country profiles conclude with strategies and initiatives that have supported women in addressing these challenges

and provide specific cases where women have been able to grow their businesses.

GHANA

The fisheries and aquaculture sector is a source of livelihood, food and revenue for millions of people in Ghana (Akpalu, Eriksen and Vondolia, 2018; Hasselberg *et al.*, 2020). More than 2.6 million people – over 10 percent of the population – rely on fisheries for subsistence, many

Figure 2: Ghana's export potential in Africa for key fisheries and aquaculture products, selected segments



SOURCE: FAO & ITC. 2023a. *Mapping of the fisheries and aquaculture value chain in Ghana and Nigeria from a trade potential perspective*. Rome.

of whom are women (Hasselberg *et al.*, 2020). The average per capita annual fish consumption in Ghana is much higher than the global average and is estimated to be 25kg, accounting for 60 percent of animal protein consumption in the country (USDA, 2022). To meet the fish requirements of Ghanaians, Ghana needs to produce 1 268 800 tonnes. As of December 2021, Ghana only produced an estimated 628 617 tonnes, with the gap met through imports (Ghana Fisheries Commission, 2021).

The sector contributes about 1 percent to Ghana's total GDP and 7 percent to agricultural GDP (Ghana Fisheries Commission, 2021). Fish and aquaculture products from Ghana are often exported informally to neighbouring Benin, Côte D'Ivoire, Nigeria and Togo, with an estimated 6 000 tonnes of fish and aquaculture products worth USD 18.6 million exported annually through informal routes to Benin and Togo (Ayilu and Appia, 2020).

Ghana has an export potential of USD 34.3 million for live fish in Africa, but over 90 percent remains unrealized (see Figure 2). For prepared or preserved fish, almost 100 percent of the export potential of USD 13.3 million is yet to be realized.

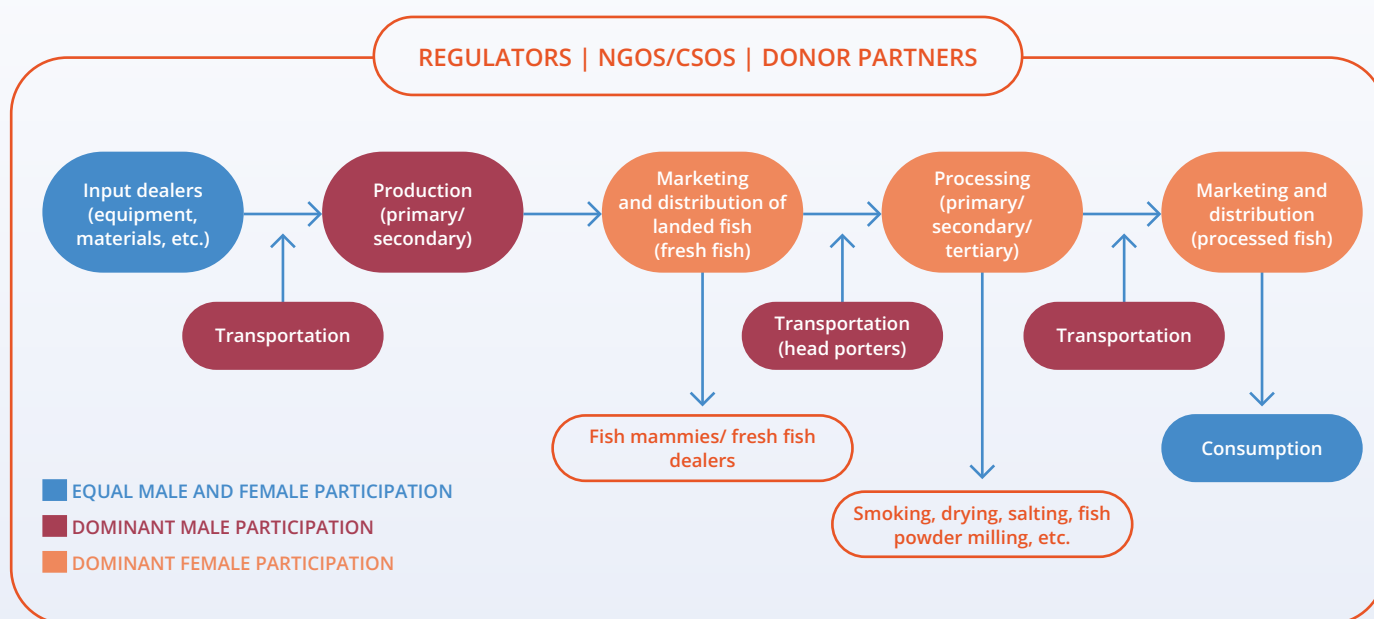
Implementing the AfCFTA could increase Ghana's export potential for live fish by 40 percent and for processed and preserved fish by as much as 260 percent (FAO and ITC, 2023a).

Institutional and regulatory environment

The fisheries and aquaculture sector is governed by the 2002 Fisheries Act (Act 625) and the 2010 Fisheries Regulations (L.I. 1968) (Akpalu, Eriksen and Vondolia, 2019). Two key institutions are responsible for the management of the fisheries resources of Ghana. The Ministry of Fisheries and Aquaculture Development (MoFAD) formulates policies and has oversight responsibility for the sustainable management of fisheries resources and development of the fishing industry. The Fisheries Commission is the implementing agency under the ministry.

The fisheries and aquaculture industry in Ghana is divided into three categories: industrial, semi-industrial and artisanal (small scale), with the artisanal sector producing more than 80 percent of the fish consumed locally (Seidu *et al.*, 2022). The sector is further divided into production and post-harvest subsectors. Aquaculture and capture

Figure 3: Male and female participation along nodes of the fisheries and aquaculture value chain in Ghana



SOURCE: Compiled by authors from interviews and FGDs and regulators, NGOs/CSOs and donor partners.

(including marine and inland fishing) are included in the production category while the post-harvest category includes processing and marketing of fish and aquaculture products.

In Ghana, the segregation of roles in the fisheries and aquaculture industry mirrors global patterns where men dominate the production/capture and transportation nodes while women dominate the processing and distribution of both fresh and processed fish and aquaculture products (see Figure 3). There is almost equal participation of men and women in both the input and consumption nodes. Women could be described as the ‘custodians’ of Ghana’s fisheries and aquaculture because their contributions range from establishing fisheries business enterprises to providing processed fish and aquaculture products for consumption both within and outside the country.

Inputs supply

A number of women own fishing canoes or boats and women normally finance fishing trips by

providing money for fuel. Some women also pay for maintenance and repairs of boats and nets. These roles provide women with some influence in the fisheries sector as any fish caught using these inputs technically belongs to the women. A representative from MoFAD explained that when women finance fishing trips or own boats, the women are guaranteed access to fish when boats land.³ This also implies that women typically bear any loss, particularly when an expedition does not bring a high yield harvest.

While men dominate in the construction of fishing boats, nets, fishponds, cages, farmhouses, offices and fish processing ovens, women are involved in supplies and sales of the necessary equipment and raw materials needed for the construction. In aquaculture, however, some women are involved in constructing fishponds. They carry sand from the excavated area of the pond to be used by the men to construct the pond walls (dykes). Women also sell primary inputs such as thread, needles, unconstructed nets, knives, bowls and firewood. They are either the owners of the shops, suppliers to the shops or sales attendants.

3. Interview with the Director of Policy, Planning, Monitoring and Evaluation Directorate, MoFAD, Ghana, December 2022.

Routes to markets

Women dominate the marketing and trade of fisheries and aquaculture products at different levels and markets. Products are marketed within the community, district and region as well as outside of the region and outside of Ghana. The main domestic markets highlighted during the study are summarized in Table 2. The markets are open to all fish processors and most processed fish is sold in local markets, which have evolved to become important fish markets in Ghana. Other fish traders who are not processors buy fish for onward distribution across the country.

In recent years, sales mechanisms have changed to reflect current realities. In marketing fish and aquaculture products, some processors send their fish and aquaculture products through drivers to their customers. The drivers then return with the proceeds from sales. This system became very prominent at the height of the COVID-19 pandemic. A group of five to ten women can send fisheries

and aquaculture products through one transport operator. Another typical arrangement is that the transporters go ahead with the fish to the markets while the fish processors and traders go by public transport.

Processors are also selling their products online. Both the Development Action Association Fisheries Training Center and Central and Western Fishmongers Association centres use social media to market their products. Some customers pre-order fish and aquaculture products by phone. The fish is then packaged in boxes and sent to the customer's location via public transport. The customer and the driver liaise to get the fish delivered. Exporters also come to various markets to get smoked fish for the export market. While processors might not have the certification for export, their products reach the international market through customers living in the diaspora, such as in Canada, the United Kingdom of Great Britain and Northern Ireland, the United States of America and other destinations. Large businesses have established sales outlets in the aquaculture industry in various locations due to biosecurity reasons. For pond fish farmers, fish is usually sold at the farm gate.

A lack of confidence on the part of the women to exploit cross-border trade was reported, with a number of women advocating for more capacity building to boost their confidence. The gender specialist from the Central and Western Fishmongers Association indicated that the main barriers to cross-border trade for women relate to access to information.

The fear of some women to attempt cross-border trade is due to lack of information and confidence to do so. They prefer to sell their products to middlemen and women rather than move from their comfort zone.⁴

Table 3: Identified markets for fish trade in Ghana

Region	Markets
Greater Accra	Anloga, Denu, Kasseh, Mallam Atta, Mamprobi, Nigeria, Sogakope and Togo
Central	Accra (Agbogbloshie, Mamprobi), Asamang, Assin Foso, Assin Praso, Benin, Bogoso, Bolgatanga, Dabala, Denu, Fumso, Kade, Kasoa, Kpetoe, Kumasi, Mankesim, Sampa, Techiman and Togo
Western	Agona Nkwanta, Akropong, Assin Fosu, Bogoso, Kumasi, Mankesim and Prestea
Volta	Agbogbloshie, Akatsi, Anloga, Dabala, Denu, Ho, Kasseh, Kumasi, Madina, Mamprobi, Nima, Shama and Tema (fishing harbour)
Eastern	Accra (Adabraka Market), Agormanya, Amedzofe, Ashaiman, Anum, Denu, Dzemeni, Ho, Hohoe and Kpando

SOURCE: Compiled by authors from interviews and FGDs.

Partnerships and contractual relationships

Contractual agreements do exist to some extent in the fishing industry at the industrial level. Fishermen, for example, can only give their catch to women who fund their fishing trips or 'fish mummies'⁵ associated

4. FGD with the Central and Western Fishmongers Association, Ghana, December 2022.

5. 'Fish mummies' are women small-scale fishers who manage to make enough money to buy canoes and employ men.

with their canoes. On the other hand, individuals in the aquaculture sector are sole proprietors of their businesses and contract relationships exist between suppliers of key inputs (such as fish feed, fingerlings and firewood) and producers and their customers. Similarly, fish processors usually have clients to whom they supply their processed fish on the markets and have a contractual relationship with transporters. This system creates strong supply chain linkages and strengthens the value chain where these relationships have been built over time.

Every fish processor has her customers to whom she supplies her processed fish. We have built this relationship over time. So even when we have to send our fish products through transport operators, they receive the fish, sell them, take their profit and send our moneys to us through the drivers.⁶

We also have agreements with drivers who transport our products to the markets. This relationship has also been built over the years. When they transport us to Adabraka Market, they wait for us to finish our sales to take us back to our community.⁷

Challenges for women in the fisheries and aquaculture value chain in Ghana

Interviews and FGDs revealed that the challenges facing women in the fisheries and aquaculture value chain in Ghana are primarily related to the social and cultural norms that have an impact on decision-making roles, access to resources and the value of women's work. These challenges are reflected at the household, community and institutional level.

Visibility in policy and decision-making mechanisms

Historically, policy and regulations in the fisheries and aquaculture sector in Ghana have not



comprehensively covered all components of the value chain, particularly nodes where women have the greatest involvement. The 2002 Fisheries Act, for example, focuses on production and not much on the post-harvest sector. However, the inclusion of sections that focus specifically on post-harvest activities is being considered during the revision of the Act.

Discriminatory social norms in Ghana have an impact on women's participation and decision-making power. Although women are financiers and processors in the fisheries and aquaculture value chain, some communities exclude women from decision-making processes in fisheries and aquaculture development. The president of one processors association stated that men take decisions on fisheries in the community because men dominate the canoe council. Although the *Konkohemaa*⁸ is sometimes consulted to make inputs on issues, men take the decisions and all abide by it.⁹

6. FGD with Axim Fish Processors and Traders Association, Ghana, December 2022.

7. FGD with Akateng Fish Processors and Traders Association, Ghana, December 2022.

8. The *Konkohemaa* is the queen of the fish mummies and is recognized as the most influential woman at fish landing sites whose traditional role has been to negotiate fish prices with fishermen and mediate issues related to fish purchase and processing.

9. This is based on the data analysis from the interview with the President of Yehowa Nyepklolanye Fish Processors and Traders Association, Ghana, December 2022.

Women's participation in meetings is often limited and, even when invited, women may not speak as a sign of respect towards men. Women will articulate their views when men are not present but often any engagement with women in a community will also attract the presence of men.¹⁰ Cultural beliefs can prevent women from participating in certain activities along the value chain. For instance, fishing is not permitted for women because it is considered a physical activity, and women are forbidden from entering canoes due to beliefs around menstruation. The representative of the Ghana Canoe Fishermen Council stated that "...culturally, women are considered 'unclean' during menstruation. Women are therefore not allowed to board canoes because one cannot tell whether she is menstruating or not".¹¹

Household and reproductive responsibilities

Work completed at home is not remunerated and women's contributions to the processing of fish from both capture and culture are often viewed as an extension of women's household responsibilities. This assumption may be attributed to the fact that an estimated 98 percent of fish processing sites are located within the homes or compounds of processors.¹² FGD respondents explained that setting up processing sites in their homes gives them the opportunity to carry out both household and fish processing activities and to take care of the children at the same time.¹³

The need to balance reproductive and productive activities makes women time poor, unable to invest more time in developing their businesses and lacking capital to reinvest into their businesses. The domestic setting of such activities makes

it difficult for any major expansion works to be carried out in processing facilities. Women sometimes invest their business capital for household emergencies, which affects their roles in the value chain. In this instance, women are not able to produce more goods for sale and those with larger working capital have a competitive advantage. Typical responses across FGDs emphasized the challenges for women in increasing capital and building their businesses.

Society sees women as homemakers. We pay our children's school fees, provide meals for our families and take care of their medical bills. We sometimes have to use part of our capital when we run out of funds. This reduces our chances of increasing capital to buy more raw materials and even acquire improved processing facilities.¹⁴

Access to facilities and equipment

Artisanal fish processors reported that they need support to acquire improved fish smoking kilns and the necessary inputs, including procurement of large quantities of firewood or alternatives. The use of alternative techniques or modern smoking equipment (such as the FAO-Thiaroye Technique (FTT)¹⁵ and the Ahotor oven¹⁶) are not affordable or accessible to most processors, as noted by one fish processor: "A double unit Ahotor oven is now GHS4 500 while the FTT is over GHS10 000. We don't have the money to afford it. The government should support us to acquire the ovens".¹⁷

Access to cold storage facilities is also reported as a challenge for small-scale processors. The President of the Ghana Aquaculture Association explained that big fish farms transport farmed

10. Interview with Post-harvest Unit, Fisheries Commission, Ghana, December, 2022.

11. Interview with a representative of the Ghana Canoe Fishermen Council, Ghana, December 2022.

12. Interview with Post-harvest Unit, Fisheries Commission, Ghana, December 2022.

13. FGD with Akateng Fish Processors Association, Ghana,

14. FGD with fish processors in Elmina, Ghana, December 2022.

15. The FTT oven is an improved oven developed by FAO. It improves the traditional chorkor oven with separate cooking and smoking chambers. It comprises a kiln, ember furnace, fat collection tray, indirect smoke generation chamber consisting of a metal barrel and pipe fitted with a filter in a metal casing, hot air distributor, smoking trays and a cover. Charcoal is the source of fuel used in processing. It has gone through improvements to merge both cooking and smoking chambers.

16. The Ahotor oven combines the Chorkor and the FAO FTT oven designs. It consists of a combustion chamber, a metal grate, a fat collection tray, smoking trays and a hood. The combustion chamber is made of burnt bricks. It has primary and secondary air inlets. The main source of fuel is firewood. It is currently being improved to use gas and charcoal for processing. An old Chorkor smoker can be retrofitted with the combustion chamber and the oil collection plate to convert it into an Ahotor oven at a lower cost.

17. Interview with the Secretary of Tema Manhean Fish Processors and Smokers Association, Ghana, December 2022.

tilapia in refrigerated vans to market centres but small-scale fish farms lack the capacity to acquire refrigerated vans to maintain the freshness of the fish. As such, fish are sold at farm gates to avoid wastage.¹⁸

Financing options

In Ghana, poor literacy, numeracy skills and access to information undermine women’s ability to access finance (Golo and Erinosh, 2023). In addition, credit opportunities from financial institutions are scarce due to the small-scale nature of most fish processing and trading businesses in Ghana. Where options are available, representatives from different associations reported that the

cumbersome requirements and high interest rates become a barrier for women. One respondent explained that getting a loan from Anlo Rural Bank in Keta to invest in her fish processing business was very difficult because “the bank was asking for things I did not have and the interest rate was high”.¹⁹ Processors who have obtained financial assistance from financial institutions find repayment difficult and stressful.

Favourable conditions for business growth

Within the context of these challenges, certain measures and strategies have supported women to either overcome or circumvent these difficulties.

18. Interview with the President of Ghana Aquaculture Association, Ghana, December 2022.

19. Interview with the President of West Coast Women’s Ambassadors, December 2022.

Table 4: Selected measures and initiatives at the national level in Ghana that support women to upscale

Timeline	Measure/initiative	Purpose/activities
2013	Establishment of the Post-Harvest Unit within the Fisheries Commission	To give post-harvest activities greater attention at the regulatory level.
2016	Development of the Gender Mainstreaming Strategy for the Fisheries Sector (2017–2022)	The strategy aims to address gender inequalities in the sector and empower actors in the fisheries and aquaculture sector by facilitating their access to and control of resources and opportunities.
2018	Introduction of the Safe Fish Certification and Licensing Scheme	<p>The purpose of the certification scheme is to:</p> <ul style="list-style-type: none"> • ensure adherence of fish processors to hygienic handling of fish (e.g. effective hand washing, use of potable water for washing fish, use of personal protective equipment, etc.) • healthy and clean processing sites/environments to prevent contamination or cross-contamination of processed fish by microorganisms along the entire value chain • encourage the use of improved fish smoking ovens to reduce the polycyclic aromatic hydrocarbon levels in smoked fish <p>The certification scheme was instituted under the USAID Sustainable Fisheries Management Project (SFMP) and the audit team comprises representatives from the Fisheries Commission, NAFPTA, Food and Drugs Authority (FDA), Ghana Standards Authority.</p>

NOTE: The Safe Fish Certification and Licensing Scheme was formerly called the ‘class 1’ recognition scheme.

SOURCE: Interview with Post-Harvest Unit, Fisheries Commission; MoFAD, Ghana. December, 2022

These include institutional initiatives, collective action and innovation.

Institutional and regulatory measures

Since 2013, several measures and initiatives at the national level have served to provide a more favourable environment – whether explicitly or by extension – for women in Ghana to grow their businesses. Table 3 provides an overview of the measures or initiatives and the key purpose/activities related to the roles and contributions of women in the fisheries and aquaculture sector.

The appointment of gender focal points and the development of a gender mainstreaming strategy has enhanced the visibility of women and amplified their voice within the sector. The Gender Mainstreaming Strategy for the Fisheries Sector (2017–2022) is currently under review and operational guidelines are being developed for the sector. Capacity building of fisheries officers and stakeholders is ongoing to ensure gender mainstreaming in all fisheries activities.²⁰ The government has appointed two focal points at the policy level (MoFAD) and implementation level (Fisheries Commission – Post-Harvest Unit). The focal points liaise with other agencies and development partners to ensure gender mainstreaming at all levels of the value chain. Taking inspiration from the Gambia and the United Republic of Tanzania, the Fisheries Commission in Ghana has expressed interest in creating a gender desk with technical support from FAO. The fisheries gender desk would be responsible for mainstreaming gender into programmes and projects under the Fisheries Commission and the ministry.

In Ghana, women occupy leadership roles within the ministry as directors overseeing administrative offices or technical issues from the national to zonal levels. The Minister of Fisheries and Aquaculture Development has consistently been a woman since 2001, save for a brief period between 2009 and 2012 when the ministry was merged with the Ministry of Food and Agriculture.

The ratio of men to women in the Fisheries Commission is nearly 3 to 1, also with women in leadership positions.²¹

Collective action and initiatives

Ghanaian women fish processors and traders have formed many groups and associations, increasing the visibility of women and giving a voice to the previously ‘hidden custodians’ of the fisheries and aquaculture industry at the local, national and regional levels. These collectives have served to support women to overcome financial barriers, improve the quality of products and gain knowledge on business management.

Local level

At the local level, collective action around financing schemes has helped women in the fisheries and aquaculture sector to grow their business and assets. Given the difficulties many women small-scale business owners face in accessing credit from banks, women look into various options for financial support. One such scheme is *susu* or *esusu* – a traditional form of cooperative in West African societies whereby groups of individuals contribute to informal savings and credit associations for their mutual benefit. *Susu* can be run by five to ten women and all participating women contribute a fixed amount for one group member on market days.²² Savings are recorded in membership cards. Traditional practices such as the *susu* scheme continue to provide an opportunity for women to overcome financial barriers.

FGD respondents acknowledged the importance of village savings and loan associations to encourage savings as a group, and the positive impact on investments and asset accumulation. One respondent also recounted that the benefits accrued from the savings group had attracted more members.

We are grateful to SFMP for teaching us how to run a village savings and loans scheme. We raised GHC30 000 (USD 2 420) in our first year. When we shared the money, some women

20. Interview with the Gender Focal Person, MoFAD, Ghana, December 2022.

21. The statistic was provided by the Policy, Planning, Monitoring and Evaluation Directorate, Fisheries Commission, Ghana, December 2022.

22. *Susu* schemes also exist within financial institutions where women can save any amount they want daily. This scheme is typically run by licensed financial institutions, with agents visiting the women daily to collect their savings.



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invested it in their businesses. Some even acquired plots of land and have started putting up their private houses.²³

Now our membership has increased, so we have divided the group into two. The women have recognized the importance of the scheme so new members are joining every day. It has even attracted a fisheries officer to join. She pays her contribution through mobile money.²⁴

National level

The National Fish Processors and Traders Association of Ghana (NAFPTA) is a membership organization and the national umbrella body of fish processors and traders operating small and medium-scale fisheries businesses in Ghana. Although NAFPTA is aimed at women, men are also technically allowed to be members as fish processors and traders. Since its inception in 2015, NAFPTA has given women a voice to lobby for their members to be supported in the sector. The association has collaborated with government, civil society organizations and NGOs to champion and promote hygienic fish handling among fish processors and traders in the country for improved trade and livelihoods.

According to the association's leaders, the association is highly regarded by other institutions and agencies. Achievements of NAFPTA include:

- Training in fish handling, processing, business management, group dynamics, environmental sanitation, and food hygiene for its members with stakeholders such as the Fisheries Commission and Feed the Future Ghana Fisheries Recovery Activity (USAID);
- Creation of strong local networks to assist members in times of crisis;
- Local welfare schemes to encourage savings and facilitate access to loans for qualified members who meet approved loan criteria; and
- Greater access to inputs and equipment (deep freezers, aluminium bowls, wire mesh and smoking ovens and others) that support women's businesses

The president of the National Fish Processors and Traders Association (NAFPTA) highlighted how the government is supporting women in the fisheries and aquaculture.

After the formation of NAFPTA, we, the fish processors and traders, are now recognized and we are invited to fisheries-related activities organized by either the ministry, Commission or civil society organizations in the sector. NAFPTA even has representation on the National Planning Committee for the celebration of the national fish festival in Ghana. Women also participate fully in the fisher-to-fisher dialogues

23. FGD with Dzita Dekaworwor Fish Processors and Traders Association, Ghana, December 2022.

24. Interview the President of Dzita Dekaworwor Fish Processors and Traders Association, Ghana, December 2022.

which focus on good governance of the fisheries and aquaculture sector.²⁵

Regional and continental level

Women processors have also joined continental networks such as the African Women Fish Processors and Traders Network (AWFISHNET) and the African Confederation of Professional Organizations of Artisanal Fisheries. Through these memberships, women have had the opportunity to visit other African countries on study visits and conferences as a form of learning exchange and vice versa. Members had the opportunity to discuss and share ideas on running and managing their various associations as well as group management of a processing facility. Some fish processors from Liberia visited the Yehowa Nyepklorlanye Fish Processors Association in Dzemeni to understand how inland (freshwater) fish is processed using the FTT oven.

Value addition of products

Until recently, fish processors in Ghana were processing fish into traditional fisheries and aquaculture products such as smoked, dried, fried, salted and fermented fish. These traditional products are packed in baskets and sent to market for sale. Processors and entrepreneurs also now use new packaging and brand their processed fisheries and aquaculture products to attract better markets and profits.²⁶ Products include fish and shrimp powder and *shito* (traditional chilli pepper sauce).

The Fisheries Commission has trained some processors in the development of new products in collaboration with the Food Research Institute in Ghana. These products include fish fillets, fish balls, kebabs, sausages and burgers. Products such as fish oil are also being developed from fish by-products. King Aquatics, a woman-owned fish processing company, produces fish kebabs for sale and attracts clientele from the elite community. One processor in Akosombo

produces smoked and frozen catfish and tilapia fillets as well as fish oil from the entrails of farmed tilapia.²⁷

The President of the Ghana Aquaculture Association noted that the sector competes with both the capture and import sectors so “we must be innovative with our marketing strategies and also reduce our high cost of production to stay in business – the high cost of production is due to high feed prices”.²⁸ All respondents, especially the fish processors, appreciated the need for continuous capacity building in post-harvest management for both processors and fishermen to sustain businesses.

Society is not static. Things are always changing so we must be able to change our style of processing to meet the demands of the market. Regular training and updates on the sector will help us diversify our processes to meet trends in demand and improve our businesses. Fishermen should also receive training on how to handle fish so that they can give us good fish.²⁹

Certification and registration of fish products has also been identified as a means of gaining comparative advantage in fish processing and marketing. To gain access to supermarkets and other formal and international markets, fish processing facilities and products should be registered and certified by the FDA. The requirements include business registration, product testing and label analysis.³⁰ At the time of interviews, only two participating entities had their fish products certified by the FDA – Sadarut Foods and Development Action Association. The owner of Sadarut Foods encouraged other processors to get their products certified to be able to benefit from greater market access.

I have access to China Mall in Tema and Biggies supermarket in Sakumono because my products have been registered with the FDA. I encourage my fellow women to try and register their products to get better markets.³¹

25. Interview with the President of NAFPTA, December 2022.

26. Example cases from interviews with association members and business owners in Dzemeni, Elmina and Accra.

27. Interview with Fisheries Officer, Fisheries Commission, Akosombo, Ghana. December 2022.

28. Interview with the President of Ghana Aquaculture Association, Ghana, December 2022.

29. FGD with Nungua Tiena Fish Processors and Traders Association, Greater Accra, Ghana, December 2022.

30. Interview with the Fisheries Training Center Manager, Development Action Association, December 2022.

31. Interview with the owner of Sadarut Foods, Ghana, December 2022.

Facilities, equipment and key services

The government is constructing new fish landing sites in 14 communities across Ghana's coastal regions (Ghana Ports and Harbours Authority, 2021). The construction will create a hygienic environment for fish processing and handling and improve productivity of the fishing industry, benefiting communities and providing employment. Fish landing sites provide a location for the first point of sale for products and where fishers can leave their boats and obtain supplies such as food, fuel and ice. Fish processors require access to services and infrastructure, such as a potable water supply and premises built to appropriate standards. These landing sites will make it easier to meet hygiene standards, reduce losses and improve the quality of fish and fishery products.

In Ghana, the introduction of improved fish processing equipment (such as the *Ahotor* and FTT ovens), raised drying racks and packaging materials supports the production of quality fish and aquaculture products. These technologies were developed in close collaboration with development partners and government organizations and introduced under initiatives supported by the European Union, FAO and USAID.³² Women who have adopted the improved technologies have experienced an increase in sales and profits.

My fish sells quickly any time I send it to Adabraka Market. I process my fish with the FTT which gives it a golden-brown colour which attracts customers. My fish sells for a price 30 percent higher than the price of other smoked fish products on the market. I also sell my well-packaged and branded fish in offices, especially in Accra. I sometimes receive orders from people travelling abroad for home consumption.³³

Input support schemes from MoFAD have also been extended to support fish processors. Previous initiatives provided subsidies for outboard motors and pre-mix fuel to fishermen but women-led activities were not the focus of interventions. However, in recent years, deep freezers, wire mesh and aluminium bowls have been provided to assist women in their businesses. The items are

mostly distributed in collaboration with NAFPTA. The Fisheries Commission also provides extension services to fish processing sites and facilities and has recruited officers to bridge the gap between the extension and the processors.³⁴ These services promote knowledge transfer on improved practices and technologies and reduce the burden that many women face in securing equipment for their trade.

Good practices for women-owned businesses in Ghana

The Ghana case has presented different factors which may undermine or facilitate women's ability to upscale their trade in the fisheries and aquaculture value chain. The following three cases of good practice provide specific examples where women in Ghana have been able to grow their business as a result of measures introduced at the regulatory level (such as certification schemes) or through collective action at the local level to improve access to processing and credit facilities.

BOX 1: SADARUT FOODS: ESTABLISHING CONSUMER CONFIDENCE THROUGH PRODUCT CERTIFICATION

Sadarut Foods, a micro agribusiness based in Tema, Ghana, was established in 2019 and is owned by Irene Adafia, a 59-year-old woman who also doubles as a seamstress. The business produces small amounts of fish, shrimp powder, *shito* and other processed local food products.

In 2021, Sadarut Foods went through the process of business registration and product certification, motivated by a commitment to promoting the consumption of safe quality fish products among Ghanaians and to also gain comparative marketing advantage over traditionally produced fish powders. The business is now registered with the Registrar General's Department of Ghana, and the products have been registered by the FDA.

32. Examples of initiatives include SFMP and the Feed the Future Ghana Fisheries Recovery Activity.

33. Interview with the President of Yehowa Nyekporlanye Fish Processors and Traders Association, Ghana, December 2022.

34. Interview with the Director of Policy, Planning, Monitoring and Evaluation Directorate, MOFAD, Ghana, December 2022.

Ms. Adafia regarded the certification and registration process as comparatively easy and found it helpful to receive the additional training from the FDA before the certificate was awarded. The cost of testing the products before product certification could be issued presented a challenge. However, this was overcome with financial support from relatives.

The business is doing well and now has an additional female employee. Penetrating the market has not been easy. However, the process of certification has eased marketing efforts and demand has improved over the past two years. The business is now supplying supermarkets, and samples of the products have even been sent abroad through family networks to expand to markets in the diaspora.

Since the products were certified, the business has received assistance from Absa Bank and a short peer-to-peer documentary on how she produces her fish powder has been shared via several social media platforms, increasing visibility and creating market linkages.³⁵

BOX 2: YEHOWA NYEKPLORLANYE FISH PROCESSORS AND TRADERS ASSOCIATION: EXPANDING MARKETS THROUGH QUALITY FACILITIES

The Yehowa Nyekplorlanye (The Lord is my Shepherd) Fish Processors and Traders Association was founded in 2014 in Dzemeni, Volta region. It was created as part of a government initiative to recognize women's roles in the fisheries and aquaculture value chain. The group has since gained recognition for their united front in assisting themselves, and there are now 40 female and three male members. Since its inception, the group has benefited from the construction of a processing facility – made possible through a project supported by FAO to enable women to benefit more equally from agrifood value chains. The facility was opened in 2020 and has since been upgraded to a learning centre where other women can learn about processing.

The formation of the association and the establishment of the fish processing facility have improved the ability of processors and traders to participate in international and local trade in fish and fishery products. The facility has clearly defined areas for receiving raw material, processing, packaging and storage. It is fitted with three FTT ovens, which have helped to create a new route to market.

FAO supported our group with three FTT ovens. When I use it to process my fish, the colour of the fish is golden brown compared to the black colour when I process with the traditional chorkor smoker. This has helped me to market my fish in some offices in Accra.³⁶

The group ensures that all fish leaving the facility is of good quality and is safe for consumption. The women have received extensive group training on hygienic fish handling and group dynamics from the Fisheries Commission and partners. It is expected that the facility will qualify for FDA certification, providing members with greater opportunities to sell to a wider market.

The association now employs four people to oversee its day-to-day operations. Members do not currently have a collective product but they sell individual products that are well packaged and branded. Even without certification, their products reach the international market through those living in the Ghanaian diaspora. The progress made by the group led to the production of a documentary on their activities and how they manage their association.³⁷

BOX 3: DZITA DEKAWORWOR FISH PROCESSORS AND TRADERS' ASSOCIATION: GROWING BUSINESSES THROUGH COLLECTIVE FUNDING SCHEMES

The Dzita Dekaworwor Fish Processors and Traders' Association was founded in 2018 in Dzita, Volta Region, by 64 members. A strength of the association has been the successful

35. The documentary is available at <https://www.youtube.com/watch?v=2LnMRX6bhpA>.

36. Interview with the President of Yehowa Nyekplorlanye Fish Processors and Traders Association, Dzemeni, Ghana, December 2022.

37. The video can be viewed at <https://www.youtube.com/watch?v=r-HrFk2IfQo>.

management of the group's village savings and loans scheme, which has resulted in increased membership to 150 women. Members of the association contribute GHS 25* in weekly savings and GHS 1 in welfare contributions, which are recorded in the member's savings card. Based on contributions, a member is granted a loan facility that is repayable over time at a rate of 5 percent (GHS 5 per month). While providing loans to processors and traders, the association generates revenue primarily from loan interest. In 2021, the group raised approximately GHS 30,000. Total contributions are distributed annually among members in proportion to the amount contributed, while interest on loans is distributed equally among members. The group has been divided into two for easier savings management due to its size but all members belong to the same association. Through this scheme, some women have been able to acquire equipment to produce high-quality fish products. Membership of the association has also provided access to other markets through obtaining the required documentation.

* GHS 1 is equivalent to USD 0.08 at the time of writing.

NIGERIA

In Nigeria, over 28 million people, or an estimated 13 percent of the population, rely on fisheries for their livelihoods – more than 8.6 million directly and a further 19.6 million indirectly, with women constituting 70 percent of the workforce (WorldFish, 2018).

The overall GDP contribution from small-scale and industrial fishing was 0.84 percent in 2019, 1.09 percent in 2020 and 1.29 percent in 2021 (Okafor-Yarwood and Bhagwandas, 2021; Sasu, 2022). While this figure is low compared to other agricultural sectors such as livestock and crop production (Sasu, 2022), the increase over recent years shows that the fisheries and aquaculture sector is undoubtedly a path to socioeconomic development in Nigeria.

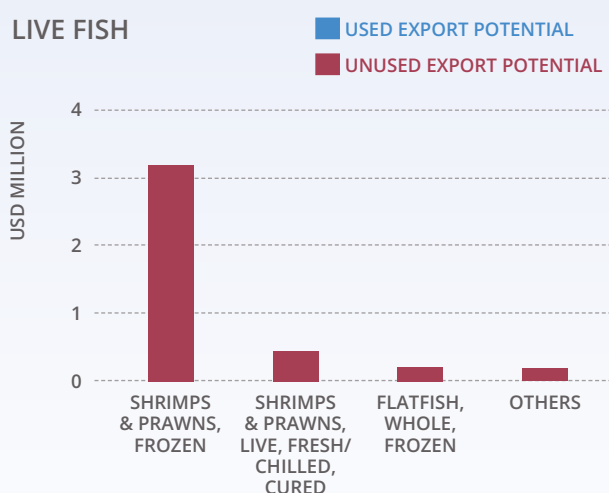
In Nigeria, the export potential for live fish amounts to USD 4 million (see Figure 4). In contrast, Nigeria's

potential to export prepared or preserved fish is currently very low, at under USD 1 million. With the introduction of the AfCFTA, Nigeria's potential to export live fish within Africa is expected to rise from USD 3.9 million to USD 11.3 million (FAO and ITC, 2023a).

The fisheries and aquaculture value chain in Nigeria is characterized by marine capture (both artisanal and industrial), inland fishing (artisanal) and aquaculture. The increasing demand for fish and aquaculture products is reflected by the rapid expansion of small and medium-sized aquaculture enterprises, several large-scale managed fish farms and fish-oriented markets throughout Nigeria.

The most farmed species in Nigeria are catfish and tilapia (Kaleem and Sabi, 2021), with catfish representing an estimated 90 percent of Nigeria's fish farming activities (FISH4ACP, 2021). The catfish value chain is one of the two value chains recognized by the Federal Ministry of Agriculture and Food Security in the fisheries and aquaculture sector (the second being the shrimp value chain).³⁸ The catfish value chain supports an estimated one million direct and indirect jobs (FISH4ACP, 2021).

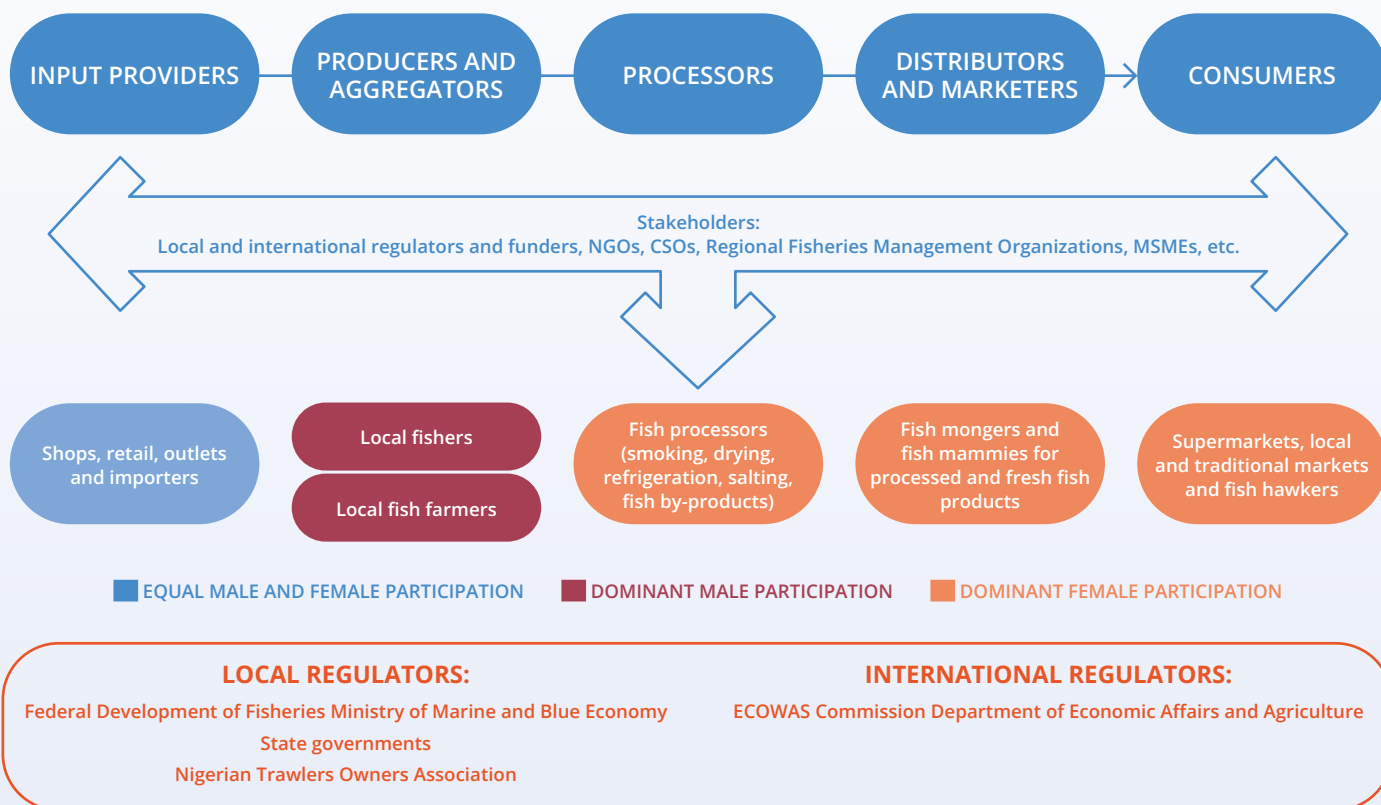
Figure 4: Nigeria's export potential in Africa, key fisheries and aquaculture products



SOURCE: FAO & ITC. 2023a. *Mapping of the fisheries and aquaculture value chain in Ghana and Nigeria from a trade potential perspective.* Rome.

38. For more information on value chains recognized under the ministry, see <https://fmard.gov.ng/value-chain/>.

Figure 5: Male and female participation along nodes of the fisheries and aquaculture value chain in Nigeria



SOURCE: Created by the author from interviews, FGDs and selected FAO value chain frameworks and guidelines (FAO, 2014, 2016, 2018).

Women’s roles in the fisheries and aquaculture value chains in Nigeria

In marine and inland capture fisheries, the main stakeholders are men. However, women finance fishing activities by providing money for fuel and gear and some are boat owners, especially in the southern part of Nigeria. The aquaculture sector is also dominated by men because of the technical nature and financial resources required to maintain a fish farm – an estimated 80 percent of those involved in aquaculture are men. The processing and marketing nodes are dominated by women. Participants of the FGD with fish mummies from Ijora Fish Market reported that 85 percent of those involved in fish sales are women.³⁹ While women are present in wholesale, most such ventures are owned by corporations rather than individuals.

In the processing node, women are the key agents and control this segment – historically because skills were passed down from their mothers on how to secure and process fish without reducing quality and risking post-harvest loss. Men are not active in this domain because of inadequate capacity and skill to properly handle the fish after harvest.

In some communities in Nigeria, women make up 100 percent of the marketing node, while men make up 100 percent of production. In particular, in Ibeno community in Akwa Ibom State in the southern region of Nigeria, women born in the community inherit the fish retailing business. Any woman who marries into the community is required to fulfil certain obligations to become members of the fish retailing association. All mothers transfer the right of engagement in the fish business to her daughters. If the daughters are old enough, they can work alongside their mothers.

39. FGD with Nigeria Trawler Owners Association and fish mummies from Ijora Market, Lagos, Nigeria, December 2022.

Inputs supply

Although women are present in input nodes, this node is dominated by men. However, women may also own some shops or be employed as sales representatives and marketers to attract customers and effectively make sales. Men dominate the supply of firewood used for the traditional method of smoking of fish still widely in operation throughout the country.

Routes to markets

The final consumers of Nigerian fish and aquaculture products are primarily Nigerians, and interstate trade predominates. The traditional route to market is presented in Figure 6.

The data show that those in the production, processing and marketing nodes of the value chain are finding creative ways to maintain existing markets while also creating new routes to market to make their business more profitable. Approaches include through social media, the use of apps to reach international buyers, and better packaging and branding of their products. Traders also adjust prices to compete with sellers of low-value frozen fish and sell on credit.⁴⁰

In Ibeno community in Akwa Ibom State, the COVID-19 pandemic resulted in a loss for many fish processors and marketers, whose customers included agents and corporate organizations such as hotels and oil companies and their personnel. With restrictions and a reduction in



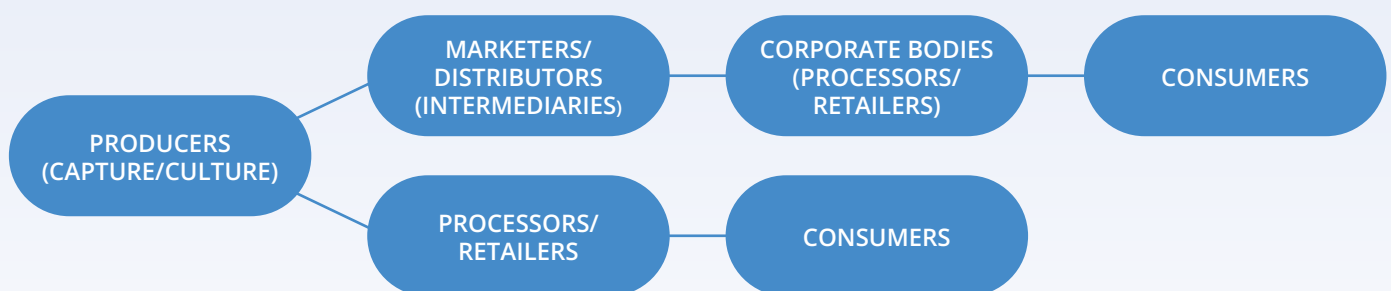
business activities, demand fell. Through the use of social media and adapting the processing of fish to customer needs, processors and marketers discovered new markets and customers from outside the community and state, including Nigerians in the diaspora.⁴¹

While respondents stated that they needed to present their travel documents and sometimes permits, they are often required to pay unspecified amounts to cross-border officials, which is a challenge for them. Some of the women do not have the necessary documentation relating to food standards and certification to cross borders to

40. FGD with members of AWFISHNET and an interview with the Deputy Director of Fisheries, FDF, Nigeria, December 2022.

41. FGD with members of Mpanak Women Fishing Association, Ibeno, Akwa Ibom State, Nigeria, December 2022.

Figure 6: Traditional route to market in the fisheries and aquaculture value chain in Nigeria.



trade in fish products. As a result, such restrictions limit the ability of processors and traders to engage in legitimate cross-border trade. Informal market routes have emerged, resulting in monetary extortion.

Partnerships and contractual relationships

Several participants disclosed an unwritten contractual relationship with the capture and/or cultured fish producers. The agreement allows fishmongers and processors to obtain fish on credit and pay after selling – making it possible for women to continue doing business even when they do not have money to pay in advance. For others, the unwritten agreement is to subsidize fishing trips, which then gives them access to fish once the catch is landed. Some processors, marketers and corporations (such as hotels and companies) have contractual agreements that specify what needs to be supplied and when and how to make payments.

Challenges for women in the fisheries and aquaculture value chain in Nigeria

Women in the fisheries and aquaculture sector in Nigeria face multiple challenges to scaling up their businesses. Data from interviews and FGDs indicate that many of the challenges are related to the broader policy and systems environment in the sector as well as social and cultural norms that discriminate against women more generally.

Institutional and regulatory environment

In Nigeria, the fisheries sector is governed by the 1992 Sea Fisheries Act. Controlling the operations of fishing vessels in Nigeria's waters is the responsibility of the Monitoring, Control and Surveillance Department. However, the department is severely underfunded and does not function effectively (Okafor-Yarwood and Bhagwandas, 2021).

With only the catfish and shrimp value chains recognized at the ministry level, the fisheries

and aquaculture sector may face challenges to get the support that it needs, particularly in relation to budgetary allocations.⁴² While no exclusionary policy exists, inadequate recognition of the many value chains within the fisheries and aquaculture sector by national policymakers could present a challenge and, to a large extent, affect budgetary allocation within the fisheries and aquaculture sector. This could subsequently have an impact on the type of support available to women within those value chains. In the 2022 budgetary allocations, the sector received an estimated 10 billion naira while crops received an estimated 25 billion naira.⁴³ However, the allocation to fisheries and aquaculture is much higher compared to the livestock sector which received around 3 billion naira, demonstrating the Nigerian government's commitment to improving the sector. Nevertheless, from the appropriation documents reviewed, there appears to be a lack of proper coordination, with many initiatives not aligning with the directives of the Department of Fisheries, even though these should have been within their remits.

Nigeria's fisheries potential remains generally untapped, including in ornamental fisheries. However, the lack of standards at the national level affects large-scale export.

Industrialization of the fisheries and aquaculture sector

The industrialization of the fisheries and aquaculture sector has had a significant impact on the artisanal sector and more specifically on women's role in the industry. The level of competition has affected those in the marketing node of the value chain (Belhabib, Greer and Pauly, 2018; Okafor-Yarwood, 2021). Large-scale import of frozen fish has resulted in low prices, which local producers, such as those in fish farming, cannot match. FGD respondents noted that the higher production costs associated with local farming can make it difficult for farmers to compete. This creates a situation where importers of frozen fish become major competitors for local producers and processors who specialize in fresh fish production,

42. Interview with the Deputy Director of Fisheries, Federal Department of Fisheries, Abuja, Nigeria, December 2022.

43. For more information on federal appropriations, see <https://www.budgetoffice.gov.ng/index.php/resources/internal-resources/budget-documents/2022-appropriation-amended/viewdocument/36>.



leading to potential reductions in sales and profits for these farmers.⁴⁴

Household and reproductive responsibilities

The nature of women's household responsibilities has an impact on women's ability to reinvest in their businesses and/or succeed as fish farmers, processors or marketers. Income is often spent on family maintenance rather than purchasing the required resources to grow their business. Many women are the sole earners in a household and bear the responsibility for providing for the family. In one FGD, the spouses of eight out of ten women were between jobs while the remaining two women were widows.⁴⁵ Because the responsibility of looking after the home often rests on the women due to social and gender norms, women might also miss out on opportunities to attend workshops on fish processing and financial education.

The challenges for women in southern Nigeria differ from those in northern Nigeria, where some men do not take responsibility for their families but do not want their wives to have a significant source of income. Other husbands may be supportive and allow women to work but do not have the resources to support them in their businesses. Many women in processing and marketing

subsequently rely on the generosity of producers and or marketers to sell on credit to continue gaining access to fish for sale, which keeps them at the subsistence level in the trade.⁴⁶ Some AWFISHNET members noted that fishmongers often do not have money to pay for their fisheries and aquaculture products and must buy on credit, promising to pay after sales. However, it can sometimes take three to four months before the women can pay.⁴⁷

Access to facilities and equipment

Access to cold chains and processing equipment (such as industrial ovens and smoking kilns) is seen as a challenge. Respondents reported that lack of access to cooling facilities means having to reduce the price of products for quick sale to avoid wastage. Respondents from national and regional regulatory bodies acknowledged this challenge and that the availability of refrigerated transport would enhance women's competitive capabilities in the fisheries and aquaculture sector.⁴⁸

The temporary nature of fish market spaces was also highlighted as an issue. Where markets are owned by a private entity, the space could be repurposed at any point, requiring traders to find alternative locations. One example is the Ijora market – a strongly established market that

44. FGD with members of AWFISHNET, Nigeria, December 2022.

45. FGD with members of Mpanak Fish Women Association in Ibeno, Akwa Ibom State.

46. Interview with the Deputy Director of Fisheries, FDF, Abuja, Nigeria.

47. FDG with AWFISHNET members, Nigeria, December 2022.

48. Interviews with the Deputy Director of Fisheries, FDF, Abuja, Nigeria and Officer-in-Charge, Department of Trade and Development, ECOWAS Commission, Abuja, December 2022.

has existed for over 100 years and is home to the biggest fish market in Lagos and arguably in Nigeria. As the market is privately owned, long-term regular access to market spaces is not guaranteed for the fish retailers, processors and distributors that make a living there. The uncertainty associated with operating from temporary spaces has seen some key actors leaving the market.⁴⁹

Financing options

Women in small-scale fisheries and aquaculture businesses in Nigeria face several challenges accessing credit from financial institutions. Customary and societal norms limit women's legal ownership of fixed assets (such as land and property), which has a direct impact on the ability to put up the collateral to secure a loan. For many women, lack of access to financing options is the key limitation for upscaling their businesses.

Access to credit is the biggest barrier to [women upscaling] because when you ask people to bring collateral to access credit, you are shutting the doors to so many people who could have accessed the loan and be able to pay back. Those in the fishing industry are good creditors; they can repay their credit if given the opportunity. Access to credit is the major hindrance stopping women from upscaling their production and uplifting their families' livelihoods.⁵⁰

If somebody needs to bring collateral for a loan, in our culture, mainly men own lands, and so are the ones with fixed assets as collateral. It is possible that even when the woman has it, the husband's name is on the document. And so when they have to present such documentation, the man is the one who will get the loan instead of the woman.⁵¹

While women might have access to bank accounts, few of them have access to business accounts and those that do might not have the required turnover, which is sometimes one of the conditions for loans. Compounding this issue, some commercial banks do not give loans to cooperatives and require individuals to have

operated their accounts for several years to access loans. A potential option is microfinance institutions for loans. However, interest rates are often too high and some women risk losing their business due to their inability to keep up with repayments. These bottlenecks discourage women from applying for loans even when restrictions might not exist.

Women's creditworthiness is often associated with age or level of household responsibilities. Women of childbearing age might not be seen as creditworthy because the assumption is that funds would be directed towards family expenses. Employees of commercial and microfinance banks sometimes take advantage of women by exploiting their lack of education or knowledge to gain money before advising them on accessing loans. Women are also exploited when they are buying inputs for their trade. Some respondents believed that the patriarchal nature of Nigerian society has allowed men to take advantage of women in business knowing that they can get away with it.

An additional challenge facing women in the fisheries and aquaculture value chain is the lack of affordable insurance services to compensate for losses caused by fish stunting, power supply issues and theft.

Favourable conditions for business growth

Alongside these challenges, certain favourable measures have provided the conditions for individuals or groups of women in the fisheries and aquaculture value chain to improve their businesses. These include steps towards more inclusive regulations, collective action at the national, regional and continental level and greater access to technical knowledge and methods for diversification.

Institutional and regulatory measures

Within the government, each ministry has a unit in charge of incorporating gender into all their

49. FGD with Nigeria Trawler Owners Association and fish mummies from Ijora Fish Market, Lagos, Nigeria, December 2022.

50. Interview with the Deputy Director of Fisheries, FDF, Abuja, Nigeria.

51. Interview with Officer-in-Charge, Department of Trade and Development, ECOWAS Commission, December 2022

work.⁵² The Federal Department of Fisheries (FDF) has a gender focal person whose responsibility is to ensure that gender is considered across policy decisions. The male-to-female ratio at FDF in Abuja is 11 to 9, although top leadership positions such as the Director and Deputy Director positions are held by men. Occasionally, women are also in leadership positions within the agency.

The Deputy Director of FDF indicated that inclusive regulations are being explored in the ongoing review of Nigeria's Sea Fisheries Acts to facilitate the active engagement of both women and men for the sustainability of the fisheries and aquaculture sector. This consideration for gender issues could potentially serve to address the sector's historical oversight of gender-specific concerns in its laws.

The government is also aware of the issues of financial constraints and difficulty in accessing loans. There is the potential to reduce the interest rate to single figures to make their loans available to all by exploring how the Bank of Agriculture can provide credit at lower interest

rates.⁵³ To that end, the National Agricultural Technology and Innovation Policy has been signed into law as a new government policy instrument for 2022–2027. No-interest loans and decollateralization are high on the government's agenda for strengthening agricultural lending and insurance (Government of Nigeria, 2022). This will provide greater opportunities for women to take out the loans they need to upscale their businesses. Furthermore, other financial institutions, particularly in the private sector, may be encouraged to emulate the Bank of Agriculture, benefiting everyone in the sector, including women.

Nigeria has been called to establish a dedicated ministry for fisheries and aquaculture to fully harness the economic potential of its marine resources in response to this divide (Ogundare, 2023). The Ministry of Marine and Blue Economy was established in August 2023 but the precise operational scope of this new ministry remains uncertain. This initiative could significantly enhance the fisheries and aquaculture sector in Nigeria and stimulate its growth.

Collective action and initiatives

Women fish processors and traders in Nigeria who have become members of associations have been able to benefit from being part of a group to grow their businesses. The associations have supported women to improve business skills and to have greater access to productive resources.

Members of the Nigeria Association of Chambers of Commerce, Industry, Mines and Agriculture Business Women Group (NAWORG) described how membership has provided access to training on business procurement, how to establish a business and options for accessing credit. Being part of a group has allowed them to speak as one voice in making demands from the government and, importantly, acquiring the education needed to identify where they can get help. Members have succeeded in upscaling their fish farming businesses with support from the association's coordinated efforts that allowed them to access a World Bank intervention package at the height of the COVID-19 pandemic in 2020.⁵⁴



52. Interview with the Deputy Director of Fisheries, FDF, Abuja, Nigeria, December 2022.

53. Interview with the Deputy Director of Fisheries, FDF, Abuja, Nigeria, December 2022.

54. FGD with members of NAWORG, December 2022.

The situation is similar for members of the Catfish Farmers Association of Nigeria (CAFAN), who have benefited from training (including from outside Nigeria), awareness-raising and price standardization of fresh catfish. One regional CAFAN president pointed out that, although a standard price is not always acceptable to customers, price uniformity reduces competition from other farmers because all members have a uniform starting price.⁵⁵ At the height of the COVID-19 pandemic in 2020, many catfish farmers left the industry due to increased prices of foreign feed, which affected production costs. To address this concern, CAFAN began producing feed in 2021, which it sells to members to reduce costs. Funding for the feed production was generated through the members' cooperative subscription scheme (Brand Spur, 2021).

Nigerian women fish processors and traders have also joined AWFISHNET Nigeria, with approximately 500 members from seven states in southwest and northern Nigeria (Lagos, Ogun, Ondo, Delta, Abuja, Kaduna and Kano). Benefits for members have included training on how to establish a fish farming business and how to improve processing businesses as well as access to processing equipment from the government.⁵⁶

Other benefits through AWFISHNET include access to business agreements, contracts and export for women processors/entrepreneurs in fisheries. For example, members benefit from contractual agreements that the association has with companies that stipulate payment on delivery. These contracts ensure immediate access to finance that improves women's purchasing power and capacity to reinvest the money to buy more products. The AWFISHNET Nigeria president provided an example of benefits to women who process crayfish without access to potable water and who cannot move the products quickly to a certified factory. AWFISHNET agreements with the women support the initial processing phase and provide immediate access to cash.

Our agreement with them [the women] allows them to smoke the product to the point where it cannot easily go bad; we then take it off them during the initial processing phase and

dry it out in our factory. It also undergoes lab analysis and certification before being shipped to Switzerland. We pay the women we work with in cash because they do not have the financial means to sell on credit - and we get to pay the fishermen in cash. This is our way of discouraging the practice of sex for fish in the communities.⁵⁷

The representative from the Department of Trade at the ECOWAS Commission acknowledged the importance of working as a collective. At the national level, regulators noted that improving the value chains where women dominate requires that they are sensitized on how to work together as part of a cooperative society to reduce production costs and enhance profits. Being part of a cooperative also allows women access to bigger markets that cannot be achieved at an individual level. At the subregional level, the significance of traditional cooperative societies in helping women overcome the constraints caused by limited access to credit from financial institutions was also highlighted.

[In most West African societies] women are resourceful in resolving credit-related issues. They accomplish this by forming cooperatives or *esusu* groups in which each member contributes money, which is distributed among members; this allows them to obtain the funds they require for their businesses when banks cannot support them.⁵⁸

Facilities, equipment and key services

A repeated theme in FGDs for improving the participation of women in the fisheries and aquaculture value chain was the importance of investment in infrastructure that facilitates marketing and processing. While respondents reported challenges in cold chain transport, it is noted that fish markets established in each of Nigeria's geopolitical zones are equipped with cold rooms to extend the shelf life of fish and improve processing and storage.

The government is addressing the immediate needs of women in processing by distributing one

55. Interview with the President of CAFAN, Lagos, December 2022.

56. FGD with members of AWFISHNET, December 2022.

57. Interview with the AWFISHNET Nigeria president, January 2023.

58. Interview with Officer-in-Charge, Department of Trade and Development, ECOWAS Commission, December 2022.

tonne of smoking kilns to women fish processors to reduce production costs and improve processing facilities. Aware of the need to mitigate the impact of the traditional fish smoking method on women's physical health and climate change, FDF is working with many international organizations to bring in new climate-smart technologies, especially in processing. The Deputy Director of FDF stressed the importance of this support in encouraging women's continued participation in fisheries.

The traditional processing method that uses firewood has been changed to solar energy and wood processing areas that reduce heat and smoke to make the environment more friendly for women. This helps the women to upscale their production, improve their health and reduce the effect on the environment.⁵⁹

Value addition of products

Representatives from government departments and processor associations reported that value addition is another strategy used by women in fisheries and aquaculture in Nigeria to enhance their competitive capabilities. The sale of spiced fish is on the increase, and women who know which spices to use with which fish species can profit from this. According to the Deputy Director of Fisheries, more women are recognizing the benefits of value addition.

A lot of women have come into the fish trade and realized that a little bit of value addition helps to increase their profitability and improve the standard of living of their families. If you go out at the point of sale with a little bit of value addition by way of spicing, putting some flavours or pepper and the rest, they make a lot of money there. A lot of women have seen that the value chain is profitable.⁶⁰

Respondents noted that spiced fish and other value-added products such as catfish oil, boneless fish fillets, fish powder and omega-3 oil for cooking are examples that reflect the potential for profit from value-added processes.⁶¹ By innovating and finding new ways to attract and retain customers through processing, branding and marketing

technology, women can upscale their businesses and become more competitive.

Good practices for women-owned businesses in Nigeria

The Nigeria case has presented several significant challenges for women to upscale their trade in the fisheries and aquaculture value chain. The study has also highlighted measures and initiatives that provide favourable conditions alongside the challenges. The following good practice cases provide specific examples where women in Nigeria have been able to grow their business as a result of collective action at the national level and through technical know-how and improved access to technology and facilities.

BOX 4: NIGERIA ASSOCIATION OF CHAMBERS OF COMMERCE, INDUSTRY, MINES AND AGRICULTURE BUSINESS WOMEN GROUP (NAWORG): GROWING BUSINESSES THROUGH WOMEN'S ASSOCIATIONS

Members of NAWORG whose fish farming businesses are doing very well attribute their success to support from the association. NAWORG's coordinating and guiding role enabled ten members to benefit from a World Bank programme aimed at supporting livelihoods. Under this programme, NAWORG obtained complete ownership of a fish farm located in Lagos, which is now managed by the ten members. Their businesses have had two major harvests in the last two years and they have restocked their farm. Members acknowledged that the rapid growth they have experienced would not have been possible without NAWORG's guidance and coordination.

NAWORG helped us get a niche in the aquaculture industry. We joined the aquaculture business in 2020 during the lockdown, through an intervention from the World Bank under the Ministry of Agriculture in Lagos State. Through this

59. Interview with the Deputy Director of Fisheries, FDF, Abuja, Nigeria, December 2022.

60. Interview with the Deputy Director of Fisheries, FDF, Abuja, Nigeria, December 2022.

61. FDG with AWFISHNET members, Nigeria, December 2022.

programme, we got 40kg of tilapia fish. Today, we have over 200kg and each kilogram has about 1 000 to 1 500 fish.⁶²

BOX 5: AKEIMA FARMS: DIVERSIFYING WITH TECHNICAL KNOW-HOW

Akeima Farms was established by Mrs Blessing Udouwem in 2020 in Uyo, Akwa Ibom State in the Niger Delta region at the height of the lockdown. The business produces farmed fish products from hatchery to table size as well as broodstock and fish feed. The first stock of catfish (*Clarias gariepinus*) produced was profitable and allowed the business to restock in a short space of time and make a further profit. However, with the lack of access to feeds during COVID-19 restrictions, it was necessary to think of a creative way of meeting the needs of herself and others. Mrs Blessing Udouwem then also ventured into the feed production business, creating a platform to take orders from fish farmers and teaching other women how to produce fish. The business is flourishing and has empowered other women. Today, the business employs six people and continues to do well despite many challenges. Mrs Blessing Udouwem acknowledged how education helps to think outside the box and explore many options when things are not going as planned. The ability to upscale was possible with technical know-how.

The price of fish feed increased and I looked to get a loan from the bank but I could not get the loan due to many bottlenecks in government. [My] business is still feasible because [I do] fish feed production... institutions lack interest in the business. The key actors are rich people who can sustain their farms, especially the politicians... Fish farming is profitable if you have the technical know-how.⁶³

It is noteworthy that Mrs Blessing Udouwem has a university degree in Marine Geology from the Institute of Oceanography (now the Faculty

of Oceanography), University of Calabar, Cross Rivers State and currently combines her fish farming businesses with studying for a Master's degree in Hydrogeology at the Department of Geology, University of Port Harcourt, Rivers State.

BOX 6: MPANAK FISH WOMEN'S ASSOCIATION: BOOSTING PROFIT MARGINS THROUGH IMPROVED INFRASTRUCTURE AND TECHNOLOGIES.

Mpanak Fish Women's Association in Ibeno, Akwa Ibom State, specializes in fish production, processing and aquaculture. For members of the Association, the provision of an uninterrupted power supply has helped their business grow exponentially. The power supply was brought to communities as part of the corporate social responsibility of one of the multinational oil companies operating in their community.

While the women do not have the financial capabilities to provide cold chain services and industrial ovens, the availability of electricity has attracted other start-ups, such as cold room and industrial oven operators. The women acknowledged that since having access to an affordable cold room, their profit margins have increased because they can store the fish and they do not need to rush to sell their stock. Since using industrial ovens, they can dry their fish in 48 hours, compared to a week to dry properly when using firewood. This has attracted new customers within and outside the community and state. With access to electricity, cold rooms and industrial ovens, the women have been able to expand their businesses, including purchasing boats, fishing nets and outboard engines for their husbands or relatives. Women in neighbouring communities who do not have access to an uninterrupted supply of electricity have not been able to do the same.⁶⁴ ●

62. FGD with members of NAWORG, December 2022.

63. Interview with the owner of Akeima Farms, Akwa Ibom State, Nigeria, December 2022.

64. FGD with members of the Mpanak Fish Women Association, December 2022.



INSIGHTS AND IMPLICATIONS FOR AFCFTA IMPLEMENTATION IN WEST AFRICA

THE CASES OF GHANA AND NIGERIA have provided insights into women's roles and contributions in the fisheries and aquaculture value chain and the key challenges faced. Table 4 provides a summary of women's roles in the fisheries and aquaculture value chain in Ghana and Nigeria. The two cases have also

demonstrated where women have been able to progress under certain favourable conditions. The insights, together with existing literature on the sector in the region, provide an understanding of opportunities and the implications for how effective implementation of the AfCFTA could help women-led businesses in West Africa unlock their potential.

Table 5. Summary of women’s roles in the fisheries and aquaculture value chain in Ghana and Nigeria

Component	Women’s role	
	Ghana	Nigeria
Inputs	<ul style="list-style-type: none"> • Provide fish and processing inputs at wholesale/retail levels • Owners of fishing businesses (canoe and gear owners) • Finance fishing trips • Business owners in aquaculture and as fish producers 	<ul style="list-style-type: none"> • May own fish input shops and outlets or be employed as sales representatives and marketers • Investors in fishing business and bankroll men’s fishing activities • Finance fishing trips • Finance repair of fishing gear • Involved in aquaculture as fish farm owners
Production	<ul style="list-style-type: none"> • Involved in small-scale inland fishing 	
Aggregation		<ul style="list-style-type: none"> • Key agents
Processing	<ul style="list-style-type: none"> • Dominate the processing value chain 	<ul style="list-style-type: none"> • Dominate processing activities
Distribution	<ul style="list-style-type: none"> • Marketing and distribution of both processed and fresh fish at retail and wholesale levels • Transport fish to processing sites through head porting 	<ul style="list-style-type: none"> • Dominate the marketing and distribution node • Support the transportation of fish along the supply chain

SOURCE: Authors’ compilation

Barriers to advancing women’s participation in West Africa’s fisheries and aquaculture value chains

In West Africa, the fisheries and aquaculture sector has historically been far more equitable than other maritime sectors, such as transport and shipping. In the fisheries and aquaculture sector, women have been involved at every stage of the value chain. However, the confinement of women’s perceived roles to specific nodes of the value chains such as processing and marketing has contributed to women’s invisibility in high-value nodes and in the sector’s leadership. This perception overlooks the critical role that women could play in resource management and policy decision-making (Lentisco and Lee, 2015). Lack of women’s representation at decision-making levels, the perception of women’s work as merely an extension of household duties and interventions targeted only to men at the production node level of the value chain all limit the capacity of women to fulfil their potential in the value chain.

The case studies have highlighted the range of challenges that women small-scale fishers, processors and agripreneurs face in upscaling their businesses. The analysis reveals that numerous challenges are rooted in underlying discriminatory social and gender norms, cultural biases and unequal power relations that entertain persisting inequalities. Harmful social and gender norms restrict women’s participation in decision-making along the value chain and limit access to information, resources, technologies, services and opportunities. Table 5 provides a summary of the issues identified and specific challenges for women consistent across both Ghana and Nigeria.

Measures and initiatives that facilitate upscaling for women in the value chain

The cases of Ghana and Nigeria present examples of how certain measures and initiatives at the community, national and regional level can provide more favourable conditions for women to upscale

Table 6. Summary of challenges for women in the fisheries and aquaculture value chain in Ghana and Nigeria

Identified issue	Challenge for women
Decision-making	<ul style="list-style-type: none"> • Lack of representation at decision-making levels • Roles tend to be primarily administrative and not technical • Limited regard for women's voice at the community level
Access to finance/capital⁶⁵	<ul style="list-style-type: none"> • Limited or no access to land for business expansion • Shift to banks and financial institutions taking over the financing of fishing activities, to the detriment of women traders who used to play this role • High interest rates with financial institutions • Lack of collateral to secure loans from financial institutions • Limited financial education • High-interest loans and financial bondage with loan sharks
Access to technologies	<ul style="list-style-type: none"> • High cost of improved technologies compared to working capital • Low level of knowledge on improved fish processing and handling technologies • Limited to the production of traditional processed fish products
Access to information	<ul style="list-style-type: none"> • Low literacy levels • Lack of information in simple language and local dialects on: <ul style="list-style-type: none"> – business and product registration – fish markets, products and prices – markets other than the traditional markets where they operate – cross-border trade requirements – AfCFTA and the benefits
Gender-responsive infrastructure and services	<ul style="list-style-type: none"> • Financial exploitation at the borders to pay unspecified amounts to cross-border officials • Lack of documentation for legitimate cross-border trade • Increased risk of monetary extortion and compromised security in emerging informal cross-border market routes
Household and reproductive roles	<ul style="list-style-type: none"> • Perception of contributions as informal and an extension of household chores • Proportion of time spent on non-remunerated household chores, unpaid care tasks and other socioeconomic activities • Expectation to direct any income generated to household expenses and education/health care costs rather than for reinvestment in the fish value chain • Difficulties in maintaining food security, nutrition needs and well-being of families and communities
Industrialization in women-dominated nodes (Nigeria)	<ul style="list-style-type: none"> • Reduction of artisanal catch to process and sell due to overfishing and displacement of pirogues by large ships • Refrigeration as a replacement for traditional preservation methods (smoking and drying)

SOURCE: Authors' compilation

65. For more information on challenges for women in relation to financing options, see the FAO brief on women's access to finance (forthcoming 2024).

their businesses. Key areas include an enabling regulatory environment, the benefits of collective action and the importance of gender-responsive mechanisms and interventions for improved access to resources and services.

Enabling regulatory environment

Where a more advanced institutional framework and enabling environment exists (such as in the Ghana case where there is a dedicated ministry for fisheries and aquaculture), it is more likely that tailored policymaking, regulations and strategies will be put in place that effectively address the unique challenges and requirements of the fisheries and aquaculture sector. Features may include a dedicated ministry for fisheries and aquaculture, a sector gender mainstreaming strategy and women in key leadership positions.

Gender-responsive implementation of the AfCFTA has the potential to enable women to expand their trade and improve their livelihoods through facilitated access to markets in Africa (African Union, 2021). In the long run, this will contribute to improving gender equality and progress towards achieving SDG goals 5 and 10. Efficient and effective interventions include regulation, infrastructure provision and development, information dissemination, certification, skills development, moderation and policy implementation. These interventions are necessary for addressing gender inequalities in fisheries in West Africa and for promoting the smooth operation and development of fisheries and aquaculture value chains in the region. Without a gender-responsive enabling environment, progress for all actors within the fisheries and aquaculture value chain could be hindered (FAO, 2016, 2018).

Progress has been made in collecting data on women's contribution to informal cross-border trade, such as through the ECOWAS informal cross-border trade data collection exercise (UNECA, 2021). It is crucial to pursue the efforts in the collection and analysis of gender data and extend this progress to other areas, including ensuring that women are represented in decision-making related to informal cross-border trade. If informal cross-border trade is not prioritized during the implementation of the AfCFTA, models of intra-African trade flows will be misleading, further



alienating and keeping women invisible as key drivers of African trade on the continent.

A critical priority lies in addressing factors that directly or indirectly undermine livelihoods within the fisheries and aquaculture value chain. These factors not only hinder the progress of upscaling attempts by women but also drive individuals and their families within the value chain deeper into poverty. Policy interventions prioritizing the sustainable utilization of fisheries resources are imperative.

Opportunities through collective action

The numerous examples from Ghana and Nigeria of the benefits gained from membership of associations and cooperatives illustrate what can be achieved through collective action. Research has shown that when women organize and work as a group, they are more likely to receive government assistance, contribute to policy changes and support one another (Okafor-Yarwood *et al.*, 2022). The examples emphasize the importance of collaboration and cooperation by women in fisheries to respond to the challenges

in the sector rather than working in isolation (Torre *et al.*, 2019; Gopal *et al.*, 2020; Okafor-Yarwood *et al.*, 2022).

Accessible financing mechanisms

Women in this study who have been able to expand their businesses and improve livelihood security have done so primarily with increased access to financial capital, whether through traditional savings schemes or more formalized institutional mechanisms. Access to finance has allowed women to reinvest in their businesses, improve the quality of their products and accumulate assets, among others.

This is also a key consideration under the AfCFTA with initiatives such as the Pan-African Payment and Settlement System and the African Trade Gateway which aim to facilitate cross border payments and access to finance (Ighobor, 2022). While these initiatives may be beneficial for established enterprises, they fail to address the challenges for women who are not business owners but who play an important role in intraregional trade through their informal cross-border trade activities.

Gender-responsive facilities and key services

The case studies highlight how access to improved gender-responsive infrastructure can propel women in the fisheries and aquaculture value chain to advance their businesses and support their families and other women. Access to cooling, smoking and branding facilities adapted to women's specific situations can enhance women's

competitive capabilities. Product development and value addition create an advantage for processors and have been identified as a way to increase profits from processing – and ultimately improve livelihoods. Appropriate facilities, including the provision of accessible and affordable childcare facilities near processing sites, can help women process and preserve their fish and aquaculture products more efficiently, maintain quality and create unique branding that distinguishes their products.

Investment in a permanent shared space for fish processing and marketing is noted as critical to increasing women's participation in the fisheries and aquaculture value chain. There is an urgent need for investment in fish markets with affordable access to cold rooms, processing facilities and business centres (for branding and advertising) for women to upscale from micro to macro enterprises. For fish processors, access to industrial ovens would go a long way in upscaling their businesses and improving their health. Such infrastructure should be mechanical or solar powered in countries that experience challenges with the power supply. Having these facilities in the same space would reduce wastage and provide more opportunities for women to process and/or sell fresh fish at a profit. It would also create employment for more women who can get paid to process other people's fish. The inclusion of childcare facilities would support women to focus on their trade, reduce children's exposure to toxins in processing sites and provide children with access to early education programmes.

The availability of cold transport and refrigerated trucks would help women in the value chain to upscale and take advantage of implementation of the AfCFTA to access customers across borders by road or sea. ●



CONCLUSIONS AND RECOMMENDATIONS

THIS REPORT has examined the status and contributions of women in the West African fisheries and aquaculture value chain, with a focus on Ghana and Nigeria, to identify better opportunities to benefit from implementation of the AfCFTA. Ultimately, the AfCFTA presents an opportunity for West African women to reinvent themselves by upscaling their trade and contributing to the socioeconomic development of their people, as enshrined in the African Union's Agenda 2063.

While the narrative for different countries in West Africa is likely to differ, one constant throughout the literature review and case study analysis is that women in fisheries and aquaculture are undervalued, underpaid and made invisible by policies that fail to cater to their needs, limiting their ability to reach their full potential. West African women have demonstrated an ability to thrive in the face of adversity but their capacity to continue cannot be guaranteed unless the government, communities and other value chain

actors address the fundamental factors that contribute to the barriers that women face.

A more equitable and inclusive environment within the value chain can be created by implementing a combination of individual, community and policy-level interventions (FAO, 2014, 2016, 2018; Mangubhai *et al.*, 2022). Individual-level interventions focus on empowering those in the value chain to fully participate and benefit from the fisheries and aquaculture sector, including the trade opportunities opened by the AfCFTA. Community-level interventions focus on changing the attitudes and behaviours of men and women towards gender equality in fisheries. These interventions can include raising awareness of gender issues and promoting gender-responsive policies and practices (FAO, 2014, 2018). They also include piloting gender-transformative approaches aiming at challenging and shifting discriminatory social and gender norms and harmful masculinities at household, community and policy level to foster positive change for women and men engaged in the sector (FAO, 2023).

Promoting the growth of fisheries and aquaculture in Africa involves addressing additional challenges

around overfishing, illegal fishing practices and inadequate infrastructure. Sustainable management, conservation measures and investments in modernizing fishing techniques and equipment are essential for maximizing the potential of fisheries in Africa. Additionally, empowering local communities, especially those engaged in small-scale fishing, is crucial for ensuring equitable access to and distribution of the benefits derived from the fisheries sector.

The analysis highlights the need for gender-responsive policies and interventions that recognize and value women's contributions to the sector and enhance access to resources and decision-making opportunities. To this end, the following recommendations are put forward to unlock the potential that the AfCFTA presents.

Inclusive governance in the fisheries and aquaculture sector

With ongoing discussions regarding the AfCFTA Women and Youth Protocol as part of the AfCFTA implementation, policymakers are presented



with a distinct opportunity to prioritize women's specific challenges and interests within the value chain. This entails formulating policies specifically aimed at addressing the distinct obstacles for women engaged in the fisheries and aquaculture value chain. Policy interventions to facilitate women's participation should consider more than just improving their post-harvest roles and include a comprehensive approach that addresses gender-related barriers throughout the entire value chain, from production to processing and trade. This can be accomplished by creating opportunities for women to participate more actively in fisheries governance and challenging practices in the sector that directly or indirectly undermine the livelihoods within the fisheries and aquaculture value chain.

- **Mainstream gender in all sectors and bring women's voices into policy and programme design.** Ensure the representation of both women and men in government institutions. Promote women's involvement in decision-making structures and processes, integrating their perspectives in policy formulation and adopting gender-responsive budgeting for equitable resource allocation. Provide capacity building for stakeholders to understand gender dynamics and the implementation of gender-responsive strategies. Ensure the collection of gender data to better understand roles in the fisheries and aquaculture value chain.
- **Prioritize policy interventions for the sustainable utilization of fisheries resources.** Specifically, prioritize policies to combat illegal, unreported and unregulated fishing. Leverage agreements such as the Agreement on Port State Measures by enforcing provisions to contribute to ensuring the sustainable exploitation of fisheries within national waters. This approach can safeguard the livelihoods of those engaged in the value chain while promoting responsible and sustainable practices.
- **Foster policies for the protection and promotion of local artisanal fishing.** To address the challenges caused by industrialization in the fishing industry, it is essential to implement policies that can

mitigate negative impacts and promote harmonious coexistence. Establishing a comprehensive framework that safeguards and enhances local artisanal fishing practices should be a top priority. This can be achieved by implementing measures that protect traditional livelihoods and encourage sustainability, ensuring a balanced integration of industrialization while preserving the vitality of local fisheries. A nuanced and inclusive approach that champions economic progress while promoting the well-being of local fishing communities is critical.

- **Promote women-led collective action and advocacy.** Sectoral women-led associations should be supported and further promoted, with their contributions being recognized at the national sectoral level. Associations and cooperatives of women in fisheries and aquaculture that are better organized and visible could support collective advocacy, calling for women to be better represented in policymaking and negotiations processes as well as gender financing mechanisms. These groups could advocate for improved access to information, resources and services, including the establishment of shared gender-responsive infrastructure making machinery, equipment and other services available to women.
- **Promote gender-transformative approaches for greater gender equity in the fisheries and aquaculture sector.** Gender-transformative approaches seek to actively examine, challenge and transform the underlying causes of gender inequality rooted in inequitable social structures and institutions (FAO, 2020b). A framework based on these approaches facilitates the active participation of all stakeholders to collaboratively address the factors contributing to gender-based disparities in the sector at multiple levels (individual, household, community and systems/institutions). Integrate community conversations and training that are contextually relevant and locally led to critically reflect, challenge and shift discriminatory social and gender norms that reinforce gender stereotypes and power relations that hold women back. Challenge and reshape deeply

66. For more information on addressing the constraints for women in accessing credit and financial services, see the FAO brief and women's access to finance toolkit (forthcoming 2024).

entrenched gender norms with a focus on redistributing responsibilities within fisheries households.

Gender-responsive financing mechanisms

To address the multiple constraints that women in the fisheries and aquaculture industry often encounter when attempting to access credit and financial services, a multifaceted approach should be considered.⁶⁶ Mechanisms should be designed to provide women with improved access to credit, investment and tailored savings schemes that cater to the unique financial requirements of women at various stages of the value chain.

- **Reduce interest rates, increase subsidies and explore alternatives to conventional collateral requirements.** Consider fishing assets or equipment as collateral as a solution that eases credit accessibility for women lacking traditional assets while mitigating risk for lenders. Financial institutions should be encouraged to employ fisheries experts to enhance understanding of activities in the informal sector. This strategic move would offer insight into the nuances of the sector and facilitate tailored financial products and services.
- **Provide financial literacy programmes designed specifically for women in fisheries and aquaculture.** These programmes empower women to bookkeep, better understand credit access points, terms, financial management and informed borrowing decisions.
- **Promote traditional savings systems for women in the value chain:** Encourage and support traditional savings systems (such as the *susu* or *esusu* schemes in Ghana and Nigeria) for women in production, processing and marketing value chains. This will require a comprehensive approach that encompasses awareness campaigns, capacity building, partnerships, legal support, monitoring, evaluation and incentives. Initiate an awareness campaign to educate women about the advantages of traditional savings methods. Develop member capacities to establish and manage formalized savings schemes, including

record-keeping and financial management. Establish pathways for collaborations between traditional savings systems and financial institutions as a viable strategy to facilitate the formalization process. This pathway can offer technical assistance, preferential interest rates and customized financial products that cater to the needs of cooperatives.

- **Provide legal and business assistance for the formalization of savings schemes.** Facilitate access to legal assistance through legal clinics on compliance and document preparation to support registering formalized savings schemes within relevant legal frameworks. Conduct regular assessments of record-keeping practices, repayment rates and financial management to support compliance with commercial lending standards and implement a monitoring and evaluation system. Introduce incentives for groups successfully formalizing their savings schemes (such as recognition from local authorities or access to exclusive financial services) to provide added motivation for participation.

Investment in systems and services for women-led fisheries activities

The fisheries and aquaculture value chains have the potential to generate much-needed income for female-headed households throughout West Africa. To support scaling up for those already in the sector and to attract young people, interventions must be implemented that incentivize the private sector and provide much-needed infrastructure to advance the processing and marketing value chain where women dominate.

- **Invest in relevant gender-responsive infrastructure for product development and value addition.** Landing sites, cooling facilities, processing units and training centres with modern amenities like solar-powered cold chains, industrial ovens and internet access could revolutionize women's involvement from the micro to the macro level. Gender-responsive infrastructure should also include toilets, changing rooms and child care facilities.
- **Establish a centralized inter-agency certification system to streamline the**



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certification process. Women with certified products are better able to tap into broader markets, demonstrating the positive impact of certification on market reach. A centralized certification system would mitigate the challenges of navigating multiple locations for certification compliance and benefit both women and men in the sector. Certification regulations should be made available in simple language and local dialects for greater accessibility for women with low levels of literacy.

- **Provide training on production, marketing, processing and packaging.** Knowledge and skills on fish processing and market information is essential to build competitive capabilities of women in the sector. Ensure access to training

on technological advancements for women to be innovative in their approach and maintain a competitive advantage.

To substantively increase the participation of women in the fisheries and aquaculture sector, support is necessary at the subregional, continental and international level. Such support can be through strategic collaboration and partnerships with relevant agencies to enable access to resources, knowledge exchange, training and technical assistance as well as tailored financial products for women in agribusiness across the continent. Now, more than ever, support to women in fisheries and aquaculture is critical to contribute to the sustainable and inclusive development of the African people as envisioned by the Agenda 2063 of the African Union and the AfCFTA. ●

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APPENDIX: LIST OF RESPONDENTS

GHANA

KEY INFORMANT INTERVIEWS					
	Institution/entity	Representation	Sex		Location
			F	M	
1	Ministry of Fisheries and Aquaculture Development	Director, Policy, Planning, Monitoring and Evaluation Directorate	1	-	Accra, Greater Accra Region
		Gender Focal Person	1	-	
2	Fisheries Commission	Head, Post-harvest Unit	1	-	Accra, Greater Accra Region
		Fisheries Officer, Post-harvest Unit	-	1	
		Head Monitoring and Evaluation Unit	-	1	
		Fisheries Officer	1	-	Akosombo, Eastern Region
3	Ghana Fisheries Recovery Activity	Market and Private Sector Specialist	-	1	Accra, Greater Accra Region
4	Central and Western Fishmongers Association	Gender Specialist	1	-	Accra, Greater Accra Region
5	National Fish Processors and Traders Association	President	1	-	Accra, Greater Accra Region
6	Ghana Aquaculture Association	President	1	-	Accra, Greater Accra Region
7	Ghana National Canoe Fishermen Council	President	-	1	Accra, Greater Accra Region
8	National Inland Canoe Fishermen Council	President	-	1	Accra, Greater Accra Region
9	Development Action Association	Manager, Training Centre	1	-	Kokrobite, Greater Accra Region
10	Sadarut foods	Owner, fish and shrimp powder producer	1	-	Sakumono, Greater Accra Region
11	Tema Manhean Fishmongers and Smokers Association	Secretary, community fish processor group	1	-	Tema, Greater Accra Region
12	West Coast Women Ambassadors	President	1	-	Keta, Volta Region
13	Dzita Dekaworwor Fish Processors and Traders Association	President	1	-	Dzita, Volta Region
14	Yehowa Nyekporlanye Fish Processors and Traders Association	President	1	-	Dzemeni, Volta Region
15	Dzigbordi Fish Mongers Association	President	1	-	Tema, Greater Accra
16	Peace Gavor Enterprise	Owner, Fish processing business enterprise	1	-	Elmina, Central Region

FOCUS GROUP DISCUSSIONS

	Entity	Representation	Sex		Location
			F	M	
1	West Coast Women Ambassadors	Executive Members (fish processors and traders)	5	-	Keta, Volta Region
2	Dekaworwor Fish Processors and Traders Association	Executive Members (fish processors and traders)	4	1	Dzita, Volta Region
3	Central and Western Fishmongers Association	Gender Specialist	1	-	Elmina, Central Region
		Executive Members (fish processors and traders)	4	-	
4	Development Action Association	Executive Members (fish processors and traders)	5	-	Kokrobite, Greater Accra Region
5	Yehowa Nyekporlanye Fish Processors and Traders Association	Executive Members (4 fish processors and traders, 1 teacher as secretary)	4	1	Dzemeni, Volta Region
6	Akateng Fish Processors and Traders Association	Executive Members (fish processors and traders)	4	-	Akateng, Eastern Region
7	Axim Fish Processors and Traders Association	Executive Members (fish processors and traders)	5	-	Axim, Western Region
8	Nungua Tiena Fish Processors and Traders Association	Executive Members (fish processors and traders)	5	-	Nungua, Greater Accra Region



NIGERIA

KEY INFORMANT INTERVIEWS					
	Institution/entity	Representation	Sex		Location
			F	M	
1	Federal Department of Fisheries (FDF)	Deputy Director of Fisheries	-	1	Abuja (Federal Capital)
		Deputy Director of Aquaculture	1	-	
2	Economic Community of West African States (ECOWAS) Commission	Officer-in-Charge, Department of Trade and Development	-	1	Abuja (Federal Capital)
3	Catfish Farmers Association of Nigeria (CAFAN)	President (aquaculture)	-	1	Lagos, South West Region
4	Akeima Farms	Owner and major distributor of fish products	1	-	Akwa Ibom, South South Region
5	African Women Fish Processors and Traders Network (AWFISHNET) Nigeria	President (fish processor)	1	-	Lagos, South West Region
		Assistant secretary (fish farmer and processor)	1	-	

FOCUS GROUP DISCUSSIONS					
	Entity	Representation	Sex		Location
			F	M	
1	African Women Fish Processors and Traders Network (AWFISHNET) Nigeria	President and executive members (fish marketers, processors and fish farmers)	7	-	Lagos, South West Region Kaduna, North West Region Ogun State, South West Region
		Members in fish production (aquaculture)	5	-	Lagos, South West Region
2	Nigeria Trawler Owners Association (NITOA)	President and members plus Ijora fish mammals	6	1	Lagos, South West region
3	Nigeria Association of Chambers of Commerce, Industry, Mines and Agriculture – Women’s Group (NAWORG)	President (fish production and trader), fish farmers and member fish traders from across Nigeria	4	-	Lagos, South West Region Ekiti State, South West Region Delta State, South South Region Gombe State, North East Region
4	Ornament Fishers Association of Nigeria	President, publicity officer and executive member (ornamental fish farmers)	-	3	Lagos State, South West Region
5	Mpanak Fish Women Association, Ibeno	President and members (processors, traders and production – aquaculture)	10	-	Akwa Ibom State, South South Region

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