Fishmeal Production and the Dispossession of Women in The Gambia

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Abstract

This paper examines how large-scale fishmeal processing impacts women's work in The Gambia. Fishmeal factories use bonga (*Ethmalosa fimbriata*), a staple fish in The Gambia, to produce fishmeal for the global aquaculture industry. The Gambian government yearns for FDI in fishmeal factories to industrialise the fisheries sector, increase fisheries contribution to GDP and ultimately achieve sustainable development through South-South Cooperation with Chinese and Mauritanian capital. However, coastal communities, especially women who live and work within the vicinity of three relatively new Chinese-Mauritanian factories, have been protesting the operations of the factories since 2017. Communities complain about livelihood dispossessions such as the displacement and disruption of women's work, food insecurity, as well as environmental and health concerns engendered by the factories. Using ethnographic methods and ecofeminist as well as feminist political ecology approaches, I argue that the operations of the fishmeal factories, which are underpinned by capitalist, patriarchal logic, disrupt women's work as gardeners and fish vendors. Consequently, instead of promoting sustainable development, fishmeal processing undermines it.

Keywords: fishmeal, Chinese capital, South-South Cooperation, dispossession, Gambia

Introduction

The blue revolution, or the growth of aquaculture, is often presented as a driver of sustainable development by the United Nations agencies. Specifically, the

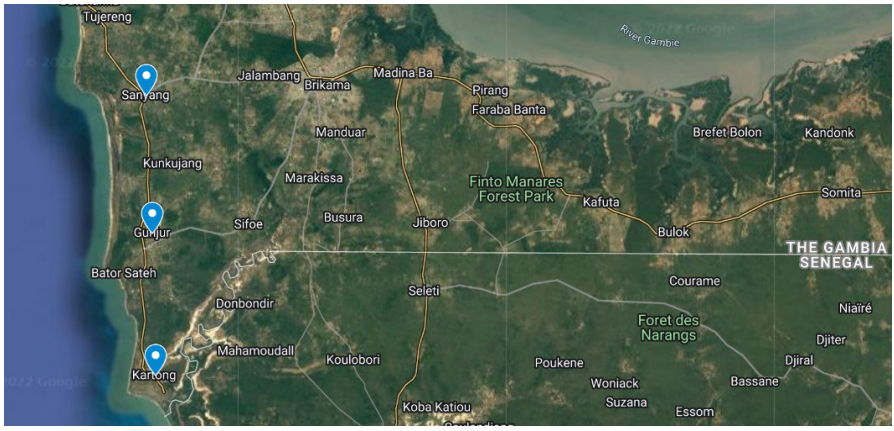
Food and Agriculture Organization (FAO) (2018) conceptualises aquaculture as an alternative to wild-caught fisheries because it has the potential to address the gap between aquatic food demand and supply, and ultimately help countries achieve sustainable development.

The concept of sustainable development has become an important global standard in the development of economic and social policies, especially in the Global South. The discourse on sustainable development is premised on the future use and exploitation of a country's natural resources globally, while simultaneously seeking economic growth through the UN Sustainable Development Goals (SDGs). For example, UN SDG Goal 14 calls for conserving and sustainably using the oceans, seas, and marine resources for sustainable development. The UN SDGs also outline the need for gender equality. Specifically, UN SDG Goal 5 aims to achieve gender equality and empower all women and girls by calling on nation states to "end all forms of discrimination against women and girls as it also has a multiplier effect across all other development areas" (United Nations, 2015). Nonetheless, the sustainable development discourse is highly contentious as scholars and development practitioners question its ability to simultaneously pursue economic growth along with the conservation and sustainable use of natural resources (Lélé, 1991).

The expansion of aquaculture and its inputs such as fishmeal has raised sustainability concerns regarding the industry's negative environmental, social, economic, and political impacts (Hall, 2010; Muir, 2013; Froehlich *et al.*, 2018). Yet, in West Africa, fishmeal industries have grown tremendously in the past few years (Urbina, 2021) as West African states prize fishmeal processing as a good source of foreign direct investment (FDI). West Africa's production of fishmeal, in particular that of Mauritania, Senegal, and The Gambia, has grown more than ten-fold in the past decade, from around 13,000 tons in 2010 to over 170,000 tons in 2019 (Greenpeace Africa and Changing Markets Foundation, 2021:6). The interest in fishmeal production is also driven by its increased demand as it is estimated that there will be an additional 500,000 kilograms of fishmeal demand in the next few years (Harkell, 2019). This global demand for fishmeal is mainly driven by China's massive aquaculture sector (Muir, 2013; Greenpeace Africa and Changing Markets Foundation, 2021).

China plays a vital role in the expansion of fishmeal processing in West Africa through its South-South Cooperation (SSC) discourse. In this context, three fishmeal factories were established in The Gambia after the government resumed bilateral relations with China in 2016. Since then, China has been playing a key role in developing the local fishmeal sector. Chinese investors fully or partially control the country's three fishmeal factories located on coastal shorelines: Chinese-owned Golden Lead in Gunjur, which started operations in early 2016, followed by joint Chinese-Mauritanian JXYG in Kartong in early 2017, and Chinese-Mauritanian Nessim in Sanyang in early 2018 (Changing Markets Foundation, 2019) (Figure 1).

Figure 1: *Map of Sanyang, Gunjur and Kartong in The Gambia*



Source: **Google Maps, 2022**

In this article, I draw on ecofeminist and feminist political ecology (FPE) approaches to examine how large-scale fishmeal processing in The Gambia impacts women gardeners and fish processors who work within the vicinity of the factories, as well as fish vendors who compete with the factories to access fish to sell in local markets. Similar to Isla (2009), I question whether sustainable development can deliver gender equality and simultaneously ensure environmental sustainability. I argue that the Gambian government's attempts to industrialise and achieve sustainable development through fishmeal processing

are unsustainable because its strategies simply replicate the domination of both women and nature by capitalism and patriarchy. This is evident in the fact that women who have historically worked and lived within the vicinity of the factories are being dispossessed by the operations of the factories in coastal Gambia.

The paper is organised as follows: firstly, I provide context with a discussion of fisheries and aquaculture as drivers of sustainable development. Secondly, I describe the role of China in industrialisation efforts through SSC in Africa. Thirdly, I outline the context of fishmeal in The Gambia by discussing fisheries in The Gambia as a case study of sustainable development and SSC efforts. Fourthly, I make a case for ecofeminist and FPE as useful approaches to studying the impact of large-scale fish processing on women and outline my methodology. Fifthly, I present my findings by discussing women's lack of employment opportunities and how fish processors, women gardeners, and fish vendors are dispossessed by the operations of the factories. Lastly, I conclude with recommendations to the Gambian government.

Sustainable Development through Fisheries, Aquaculture, and Fishmeal

The United Nations offered the first definition of sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987: 43). In other words, sustainable development is development premised on three interconnected pillars: the environment, society, and the economy. Since the pillars are interdependent, sustainability can only be achieved if all pillars are respected and balanced (Bleicher and Pehlken, 2020: 142).

Proponents of sustainable development often present it as an alternative to the dominant economic growth-focused development model (Allen *et al.*, 2018). Inheriting the legacy of the UN Millennium Development Goals (MDGs) in 2015, the UN Sustainable Development Goals (SDGs) gradually became a primary tool in policy design, especially in the Global South (Raimi *et al.*, 2020). The UN SDGs mandate the sustainable use and management of natural resources such as fisheries as drivers of sustainable development.

Fisheries represent one of the most prized natural resources globally because fish is a vital source of protein and livelihood for coastal communities (Angulo-Valdes *et al.,* 2022). Moreover, the fisheries sector is also a source of revenue for state governments through export and industrialisation efforts in aquaculture and fish processing (Allison, 2011).

Similar to how sustainable development is presented as an alternative to the economic growth-focused development model, aquaculture is often promoted as a sustainable substitute for conventional wild-caught fisheries (Stonich and Vendergeest, 2001: 264). Its advocates are optimistic that, through sustainable development, aquaculture will offer a unique transformative approach to shift the world to a sustainable and resilient path that leaves no one behind (Nasr-Allah *et al.,* 2020). Aquaculture is believed to have the potential to address the gap between aquatic food demand and supply and to help countries achieve the UN SDGS (FAO, 2018) including UN SDG Target 14.7 which aims to increase the economic benefits to least developed countries from the sustainable use of marine resources through sustainable management of fisheries and aquaculture by 2030 (United Nations, 2015).

Aquaculture relies heavily on fishmeal, a generic term for a nutrient-rich premium feed ingredient used primarily in diets for farmed aquaculture and other animal megafirms. Fishmeal can be produced from almost any type of seafood, but it is generally manufactured using wild-caught small pelagic fish that contain a high percentage of bones and oil, such as bonga (Péron *et al.,* 2010). Fishmeal has been developed and promoted as a high protein feed ingredient in diets for aquaculture since the 1940s, especially in Peru (Clarke, 2009). However, it was not until the 1980s, with the growth of intensive aquaculture, particularly in salmon and trout farming, that the global fishmeal industry started to grow (Tveterås, 2003). In 2008 and 2016, nearly 59% and 69% of global supplies of fishmeal, respectively, were used in aquaculture (Jackson and Shepherd, 2010: 332; Boyd 2013: 17; Greenpeace Africa and Changing Markets Foundation, 2021:17).

China has consistently been the main consumption market for fishmeal primarily because of its large-scale aquaculture industry (Mullon *et al.,* 2009). While Peru continued to be the leading world producer and exporter of fishmeal (Deutsch *et al.,* 2007), West African countries such as Mauritania, Senegal, and The Gambia have become medium-sized production hubs for fishmeal production since the mid-2000s (Corten *et al.*, 2017; Gorez, 2018). This has been made possible with financing from China as part of its SSC discourse.

South-South Cooperation, Beijing Consensus, and China-Africa Relations

The discourse on SSC conveys the notion that sustainable development may be achieved by Southern countries themselves through mutual assistance and economic engagement with one another to reflect mutual interest vis-à vis the dominant Global North (Gray and Gills, 2018). Currently, emerging economies such as China have been instrumental in advancing SSC initiatives and projects (Muhr, 2016). China's development path, often termed the Beijing Consensus, is championed and viewed as a model for Southern countries to achieve development through SSC.

As opposed to the Washington Consensus, which was based on neoliberal ideals that emphasised opening economies to the rest of the world through trade and privatisation, the Beijing Consensus is based on state-led capitalism that provides an alternative development approach that puts more emphasis on national sovereignty and state intervention in industrial development (Asongu and Acha-Anyi, 2020). The Beijing Consensus is also often portrayed through a rosy picture that proposes self-determination against hegemonic Western powers and a sustainable and balanced development that mitigates development trade-offs between cities and rural areas, between coastal communities and inland areas, and between society and nature (Kang, 2016).

However, critics of the Beijing Consensus, framed in the literature as pessimists (Shinn and Eisenman, 2012), argue that China's model is not that much different from the Washington Consensus because it still operates within a capitalist logic that is not different from that of the West (Kennedy, 2010;

Rapanyane, 2021). Yet, Southern countries, and optimistic scholars such as Alden (2005), view the Beijing Consensus as an alternative model for development. For instance, China's lack of colonial history with Africa and its status as a former "underdeveloped country" reflects a sense of hope for many African leaders. Furthermore, the lack of conditionalities in China-Africa relations is prized by African states.

Consequently, since China's "going-out" policy in the mid-2000s, China-Africa relations have exponentially increased over the last decade. China's development assistance aid to African countries represented 45% of China's total aid disbursements, including grants, interest-free loans, and concessional loans, between 2013 and 2018 (CARI, 2022a). China has also become the largest trading partner for most African countries with an all-time high total trade of US$254 billion, with China exporting US$148 billion to Africa and importing US$105 billion from the continent in 2020 (General Administration of Customs, P.R. China, 2021). Chinese FDI inflows in African countries have been steadily increasing since 2003, rising from US$75 million in 2003 to US$4.2 billion in 2020 (CARI, 2022b). While early investments, and by extension scholarship, focused mainly on predominantly natural resource-rich countries such as the Democratic Republic of Congo (DRC), Ghana, Nigeria, South Africa, and Sudan (Bogale, 2017; Adovor Tsikudo, 2021; Imanche *et al.,* 2021), recent studies have shown that Chinese FDI inflows to these countries have been declining since 2011, whereas investments in natural resource-poor countries such as The Gambia, Senegal, and Mauritania have been on the rise (Brautigam, 2009).

Mauritania was the pioneer in establishing a fishmeal industry in the region in 2005 by using bonga to produce fishmeal (Corten *et al.,* 2017). However, unlike The Gambia and Senegal, there is no human consumption market for bonga in Mauritania. This is partly due to the abundance of other, less bony species, and partly to the absence of a fish-smoking industry (Corten *et al.,* 2017). The use of bonga for fishmeal in Mauritania thus does not have a direct effect on Mauritanian fish consumption. In the mid-2010s, The Gambia and Senegal followed the path of Mauritania by welcoming FDI from China and Mauritania to establish a fishmeal industry (Gorez, 2018) despite the consumption of bonga in their respective countries. This article, which explores the impact of fishmeal

factories on women's livelihoods in The Gambia, seeks to expand the existing literature on China-Africa relations by bringing a gender lens to bear. By so doing, it adds to the work of scholars like Jeken (2017).

Sustainable Development and Fisheries Industrialisation in The Gambia

The Government of The Gambia has made an explicit commitment to integrating the SDGs into its *National Development Plan (NDP) 2018-2021*, a new policy plan proposed after former president Jammeh's dictatorial rule ended in 2016. The Minister of Finance and Economic Affairs of The Gambia said that the country's "adoption of the 2030 Agenda and implementation of the SDGs supports the national vision of the 'new Gambia'" (UNDP, 2020: 7). Therefore, the UN SDGs serve as a blueprint for the management and conservation of natural resources, including fisheries, in The Gambia.

Fish is a major source of protein for Gambians, especially for the rural poor (Van der Knaap and Sanyang, 2021). With a marine coastline of 80 km, The Gambia is enriched with fisheries that flow from the Gambia River and the Atlantic Ocean. The Gambia's marine waters attract many species which feed and spawn in the area, including small pelagic fish such as bonga (Satia and Hansen, 1994). Although per capita fish consumption in The Gambia was 28.5 kg in 2016, it still surpasses the global per capita fish consumption average of 20.5 kg (FAO, 2023; FAO 2020: 2). Affordable fish such as bonga thus represents one of the cheapest sources of protein in The Gambia. Moreover, traditional processing methods and trade in local markets are important to make bonga available to local consumers (UNCTAD, 2014: 13).

The fisheries sector is also vital economically. In 2018, fisheries and aquaculture represented about 7.9% of GDP (GBoS, 2020: 32). The artisanal sector has been the major producer of fish with around 90% consumed domestically, especially in the coastal areas (UNCTAD, 2014:10). UNCTAD (2014:8) estimates that 25,000-30,000 Gambians are directly and indirectly employed in the artisanal sector. The livelihoods of an estimated 200,000 people are dependent on fisheries and related activities (Palomares and Pauly, 2004). This number is

significant given that the population of The Gambia stood at 2,335,504 people in 2018 (GBoS, 2018:16). Moreover, although men are involved in large-scale fish smoking for domestic and export marketing, most local smoking, drying, and trading are done by women (Njie and Mikkola, 2001).

In accordance with the NDP, The Gambia has made tremendous efforts to increase the economic benefits of the fisheries sector. Although fisheries' contribution to GDP did not increase to the stated goal of 15%, it increased from 5.2% in 2015 to 10.1% in 2020 (GBoS, 2020:32). For the first time ever, fisheries surpassed agriculture as the second major contributor to GDP in 2020. As fisheries industrialisation expands through fishmeal processing and the Gambian state reaps benefits from it through increased GDP contribution and licensing fees, coastal communities continually protest and call for the elimination of the factories. Therefore, one must ask who benefits from the economic improvements in the fisheries sector? Using an ecofeminist and FPE perspective, I interrogate how women's work and livelihoods have been impacted by the fishmeal factories' attempt to dominate both nature and women through patriarchy and capitalism.

Ecofeminist and Feminist Political Ecology Approaches

The ecofeminist perspective explicitly links the domination of nature and women to capitalism and patriarchy (Shiva, 1988; Plumwood, 1991; Salleh, 1997). Ecofeminists often use ethnographic methods to study how women's subsistence and use of the commons are subjugated, deemed "unproductive," and thus dominated alongside nature (Isla, 2009; Nyambura 2015; Brownhill and Turner 2019). Ecofeminists also critique oppositional value dualisms or binary opposition such as male/female; productive/unproductive; and rational/emotional as the root of the domination of women and nature (Plumwood, 1991).

Shiva (1988) argues that the preservation of nature in its most organic form and women's sustenance work are deemed unproductive unless they produce profits for global capital. As such, Shiva contends that economic growth measures emerge as a new source of male-female inequality and the subjugation of nature.

Ecofeminists are, however, often deemed essentialist in that, although they are against oppositional dualism such as male/female and productive/unproductive often associated with gender norms, they tend to essentialise women as natural caregivers of the environment. Furthermore, they portray women as a monolithic category with no differentiations in class, race, caste, culture, geography, and sexuality (Agarwal, 1998; Jumawan-Dadang, 2015). Whereas ecofeminism suffers from its essentialist characteristic, socialist ecofeminist and FPE approaches employ historical materialism and power relations respectively to analyse the domination of nature and women (Salleh, 1995; Rocheleau *et al.*, 1996; Mellor, 1998).

Socialist ecofeminists focus their analysis on the sphere of reproduction (biological, social, and economic) to explain the dominance of nature and women by both capital and patriarchy (Salleh, 1997). This scholarship provides a Marxist political economy lens to ecofeminism (Merchant, 1992: 269; Salleh, 1995). Salleh (1995) for example calls for an ecofeminist perspective that centres embodied materialism to account for an ecofeminist understanding of the domination of women and nature. This perspective transcends oppositional value dualism and views the ecological crisis as a material theft of capitalism and patriarchy embodied in women's reproductive responsibilities. According to Salleh (1984: 344), the feminism in ecofeminism invokes notions of womanhood because it is "a transvaluation of 'feminine' experiences and, in particular, the relational sensibility often gained in mothering labours." Mothering thus encompasses the paid and unpaid reproductive relations between women, nature, men, and children.

Drawing inspiration from ecofeminism, FPE also provides a unique approach to studying nature-society relations from a gender lens. FPE's analytical approach brings a feminist perspective to political ecology (PE), the interdisciplinary analytical approach that applies political economy methods to environmental degradation and livelihoods (Robbins 2012; Blaikie and Brookfield, 2015). The scholarship on FPE highlights how social conflict can be predicated on socio-ecological change, and how changing gender roles or power can drive environmental transformation and vice versa (Rocheleau *et al.*, 1996). State-imposed development schemes, as in the case of fishmeal investments in The Gambia or marketed products such as fishmeal, may lead

not only to conflict but also to the collapse of environmental systems tended to and managed by women (Robbins, 2012). Consequently, development efforts that seek to alter local production systems with the goal of intensification may inadvertently reduce the resources women can claim, while increasing their labour burden.

Therefore, an FPE approach illuminates the different forms of social-ecological constructs and documents the power relations associated with different eco-social groups. In addition to gendered ways, FPE examines how social differences such as race, ethnicity, class, age, sexuality, and ability/disability overlap and intersect to create complex outcomes of marginalisation and empowerment (Robbins, 2020). For FPE scholars, gender is a process and is mutually constituted with the environment (Nightingale, 2006). Thus, although gender is seen as a critical variable, it is neither analytically central nor the end point of critique and analysis. As suggested by Elmhirst (2011), people are conceptualised as inhabiting multiple and fragmented identities constituted through social relations that include gender, but also class, religion, sexuality, race/ethnicity, and post-coloniality, as well as in multiple networks for coping with, transforming, or resisting development.

Socialist ecofeminist and FPE perspectives provide a useful lens to study the socio-economic impact of large-scale processing on women's livelihoods. Therefore, in this paper I ask two main questions: 1) What are the employment opportunities for women in the fishmeal industry? and 2) How does fishmeal processing impact the work of women?

Methodology

To answer these questions, I relied primarily on a qualitative approach including interviews, ethnographic observations, and document analysis that was part of the research conducted between February and April 2021 during my MA thesis research at the University of Illinois at Urbana Champaign. Data was sourced from (1) focus group interviews with women in Gunjur and Sanyang; (2) interviews with local community members in the three communities of Gunjur, Sanyang, and Kartong, as well as interviews with local and national

government officials; (3) observations of the factory operations and local market in Sanyang; and (4) newspaper and government policy documents. The focus group interviews were conducted mostly in Mandinka with a few Wolof interjections. As I am a native Wolof speaker, my research assistant helped with the translations of Mandinka.

In addition to women, I interviewed community members, including youth activists, in all three communities, government officials from appropriate agencies and ministries, as well as the local governing bodies, and the village development committees (VDC). Most of the interviews were conducted in Sanyang. Purposive sampling was used to select interview participants. All the interviews were conducted in English except for one which was conducted in Wolof. I asked open-ended interview questions to solicit data on understanding the perceptions of fishmeal factories by all three actors.

In addition to interviews, I gathered field notes by conducting observations on the field in Sanyang and government offices, along with a tour of the factory in Sanyang. I also gathered secondary sources that document fishmeal processing in The Gambia. I used online search engines to find major Gambian newspapers including *Foroyaa* and *GunjurOnline* as well as other international publications such as *The Guardian*. I collected twenty newspaper articles. I also collected data from government policy and reported documents published online.

Data analysis of the interview transcripts and observations took place simultaneously with data collection so that I could further refine data collection methods (Emerson *et al.,* 1995; Maxwell, 2013). Interview transcripts and field notes were read completely before the initial coding of the collected data. After the interviews had been transcribed, I employed an open-coding system to analyse participants' responses line-by-line, phrase-by-phrase, and word-by-word to identify key themes (Creswell, 2014). I applied the same coding methods for newspapers and policy documents by reading articles clearly to identify key themes.

Notably, although I focus on discourses from different genders, classes, and age groups, it is worth noting that most of my participants are of Mandinka and Wolof origin. However, ethnicity did not emerge as an important identity, whereas the issue of class is salient. Therefore, I would also argue that class

discrepancies of African women are salient when using an ecofeminist approach, as African women are not a monolithic group. Poor African women who live in cities and work in industries, as well as rural women who primarily work in subsistence industries, are typically the African women who are most affected by capitalist extractive industries. Thus, FPE and socialist ecofeminist perspectives provide a better analytical approach to examining how social and environmental variables intersect with local, regional, and global political-economic forces to shape patterns of resource access, use, and control (Robbins 2012; Blaikie and Brookfield, 2015).

I conducted the study in full compliance with the ethical guidelines of the University of Illinois Institutional Review Board (IRB #21405).

Fishmeal Processing, Employment Opportunities, and the Disruption of Women's Work

Fisheries and agriculture are the major contributors to women's economic activities in The Gambia and the most prominent source of income for poor rural households. Historically, women make up the majority of those working in the agriculture, forestry, and fishing industries, with 13.2% of women employed in the sector compared to seven per cent of men (GBoS, 2020: 65). Although the Gambian government attempts to industrialise the fisheries industry, and increase employment opportunities in the sector, only men seem to benefit from such industrialisation because, in the case of fishmeal processing, men are the main beneficiaries of fishmeal processing. Thus, it seems that men benefit the most from the industrialisation of the fisheries through fishmeal processing. A closer look at the case study of the fishmeal factories reveals further profound consequences on women's working opportunities and conditions as fishmeal processing obstructs both the nature of women's work in these sectors and the environment that women rely on for subsistence.

Fishmeal production and employment

Notwithstanding the discourse that increased investments in the fisheries sector will enhance employment opportunities for local communities, the factories have

not provided substantial employment for either women or men. Since I did not get access to observe the factories in Gunjur and Kartong, I can only deduce based on my findings from Sanyang. It is also important to note that the factories have specific working days and thus do not operate every day of the week.

According to the manager, the estimated number of people officially employed at the factory in Sanyang is fifty. However, I noticed that they constitute mostly Mauritanian and Chinese expatriates. An exception is the few local Gambian men who are directly employed as "community liaisons" and security guards, but even they are not drawn from the coastal communities. The remaining employment opportunities can be divided into six categories: 1) contracted Senegalese fishermen who supply bonga to the factory (I was not able to get the figures from boat owners); 2) slab boys who carry fish from boats to baskets; 3) basket carriers who transport loaded baskets from shore to trucks; 4) counters who count the number of baskets carried by each basket carrier; 5) pickers who pick fallen fish and put them back into a basket; and 6) truck drivers who transport fish from the shore to the factory. I was only able to find the pay scale for basket carriers and truck drivers. Basket carriers get paid 35 dalasis (US$0.57) per basket and usually carry about 20 baskets per day. Truck drivers get paid the most with an average pay of 6,000 dalasis (US$97.80) to 7,000 dalasis (US$114.10) for a day of work.

Although it was difficult to obtain official employment data from the factories, I did not observe any women working inside the factory. Women mostly work informally as basket carriers and pickers, tasks which require a lot of physical strength and are often not ergonomic as they must carry baskets of fish back and forth or bend down to pick up fallen fish. Although men also work as basket carriers, all the fishermen and workers inside the factories are men. As basket carriers and pickers, women are subjected to poor working conditions. As one interviewee noted:

> You want to give us that kind of job and keep pointing fingers at the youths that they do not want work, they do not want hard work, they don't want any jobs? Anybody who does that kind of work [basket carrying], by age 40 you are dead.
>
> (Interviewee 9, Sanyang, March 2, 2021).

This interviewee points to the ways that women as basket carriers are subjected to work that is not sustainable in the long term. Although African women historically carry baskets of goods on their heads, basket carrying for fishmeal is different in that it is capitalistic as it is not for subsistence but for export, thus large-scale and repetitive. Furthermore, whereas women normally carry goods for sustenance, basket carrying for fishmeal processing is not for the household or local consumption. Rather, it is for fishmeal producers whose primary aim is to gain surplus value through exportation. Despite promises to hire local people, the lack of employment opportunities in the factories demonstrates that the factories are not drivers of sustainable development in coastal Gambia.

Besides the lack of formal employment for women in the factories, the factories are also dispossessing women through displacement and the disruption of their work. In particular, fish processors and women gardeners who previously used the land where the factory in Gunjur now stands and women gardeners in both Sanyang and Gunjur who grow crops near the factories complain that the factories have obstructed their livelihoods.

Displacement of fish processors and disruption of gardeners

Agriculture is the primary source of income for about 72% of extremely poor rural households, especially women, who dominate the industry (World Bank, 2019: iv). Women also make up around 80% of fish processors and 50% of small-sized fish traders in The Gambia (UNCTAD, 2014:12). For this reason, agriculture and fisheries are a major contributor to women's economic activities and a major source of income for poor rural households.

Although women in The Gambia dominate the agriculture and fisheries sector, they do not enjoy equal access to land. Despite constitutional and policy provisions of gender equality, according to which all women should be considered and treated as equals to men with respect to political, social, and economic opportunities, land reform has not benefitted rural women as most rely on use rights (Schroeder, 1997; Carney, 1998; Bensouda, 2013; Monterroso *et al.*, 2021).

The fishmeal industry in The Gambia reduces women's access to land by displacing fish processors and disrupting the work of women gardeners who

enjoyed land use rights. In Gunjur, the factory displaced fish processors who had use rights to the land for fish smoking. The Department of Fisheries asked women to give up the land and assured them that the factory would build a standard fish processing site and market that they could use to dry fish and sell for free. This promise was never fulfilled, according to the fish processors. Consequently, the Department of Fisheries built a small oven space for them on the beach to dry and smoke fish, but the women must pay a daily fee of ten dalasis (US$ 0.18) per oven use as opposed to the free land they hitherto enjoyed (Focus Group 1, Gunjur, March 18, 2021). This further exacerbates the economic burden on women and reduces their incomes.

Similarly, women gardeners in Gunjur have been using land next to the factories to cultivate vegetables for more than two decades. Although they do not own the land they farm on, they have been enjoying use rights. However, the factories encroached on the land and built a water pipe along their farm that usually overwaters crops and limits women's yearly yield. Two women noted the following:

> The factory has done nothing for us, but harm. Their water pipe is here [points at pipe in the garden] (see figure 2) and they do whatever they want here, but we cannot say anything because the government gave them access and we do not own the land. In fact, we experienced two years of bad yields after they [the factory] came because sometimes the water pipe bursts and spreads water over the plants.
>
> (Focus Group 3, Gunjur, April 8, 2021).
>
> Last month [March 2021] while we were watering our plants, the Chinese came here with tape lines measuring, which was very random. So, we got so scared because we knew they would do something bad like the water pipe. We had to call the boys [youth activists] to chase them away. Even though I am married, all my kids depend on this garden. Be it food, school fees, or lunch money…everything comes from this garden. This garden is my everything. So, when I heard that the Chinese were going to extend it, I was sleepless.
>
> (Focus Group 3, Gunjur on April 8, 2021).

These statements by women gardeners demonstrate the mothering role that they embody as mothers, but also their role as sustainers of nature. Salleh (1984: 340)

argues that "women's monthly fertility cycle, the tiring symbiosis of pregnancy, the wrench of childbirth and the pleasure of suckling an infant, these things already ground women's consciousness in the knowledge of being coterminous with Nature." For Salleh, even when women are unconscious of this positioning, it is a "fact of life." Fishmeal processing is thus disrupting both nature's work and women's work in agriculture, and "by destroying the water and land and organic matter base for food production, women's productivity in sustenance is killed" (Shiva, 1988: 74).

In Sanyang, a journalist interviewed women vegetable gardeners who also complained that they experienced two consecutive years of bad yield due to crop diseases caused by flies that carry bacteria from the factory (Darboe, 2021). Since women gardeners witnessed fish processors lose use rights to the factories, they consistently feel threatened that the factories will encroach on the land they use and rob them of their livelihood.

The women in Gunjur are not alone in fighting the encroachment of the factories. The fishmeal factory in Sanyang installed a pipe dumping its waste just thirty metres out to sea, in full view of the beachfront hotels and women's vegetable gardens (Changing Market Foundation, 2019; figure 3). A second group of women gardeners also associated poor yields with the factory's waste dump site that was located near their garden (Nyang and Jobe, 2018).

Women claim that the disposal of the waste has destroyed their vegetable gardens in Sanyang. One gardener who grows bitter tomato, tomato, and eggplant said, in an interview with a journalist, "These past two years have been a total disaster for us. We harvest nothing." She also stated that she is a single mother raising five children from the revenue she gets from gardening. With the decline in her garden productivity comes difficulty in making ends meet (Darboe, 2021).

"Our fate is in Allah's hands," she told the journalist as she weeded her newly created sorrel beds, a less profitable product. The sorrel had to be planted in place of the rotten tomato, bitter tomato, and eggplant. This woman's story is one too many according to Darboe (2021) because other women gardeners in Sanyang grapple with a similar fate. Their harvest between 2018 and 2019 has been a disaster, another woman told Darboe. "The proceeds from this garden are used to feed our families. It has been a helpless two years for us." The women

blame the fishmeal factory for bad yields as the factory stands thirty metres from the garden where at least 50 to 100 women earn a living (Darboe, 2021).

Figure 2: *Factory's water pipe in women's gardens*

Source: **Fieldwork, 2021**

Figure 3 :*Factory waste pipe emptying into the ocean with a young boy sitting and playing.*

Source: **Fieldwork, 2021**

The work and productivity of these women are rendered invisible as fishmeal production became a project of the global capitalist patriarchy. Moreover, the "work and wealth in accordance with the feminine principle are significant precisely because they are rooted in stability and sustainability" (Shiva, 1988: 42) as women rely on their gardens to not only feed their families but also to supply food for the local economy. Therefore, fishmeal processing is not a driver of sustainable development because the operations of the factories displace and disrupt women from being productive. Moreover, these mechanisms demonstrate that sustainable development is not robust enough to restrain capitalistic destruction of sustenance work and natural resources for survival.

Dispossession of fish vendors and the impact on the sustenance of local fisheries

Women engaged in the fishery trade in The Gambia have historically faced several challenges including inadequate access to funds and markets (Mbenga, 1996; Ragusa, 2014). However, with the arrival of fishmeal factories, fish vendors started facing new challenges as they encounter severe competition in buying and reselling fish. Fish vendors point out that the factories affect the price and availability of bonga in local markets because fishermen prioritise supplying the fishmeal factories. One interviewee noted that the fishermen now operate on the principle of "you buy it or leave" because, at the end of the day, they do not rely on local fish vendors anymore since the factories have contracts with them. Another interviewee also confirmed this by noting: "At some point, fishermen realised that instead of having to deal with fish vendors, they just go to the fishmeal factories because it is a guaranteed sale." Additionally, some women who can no longer afford to buy fish from fishermen now have to work either as basket carriers or pickers instead of trading fish.

Since most fishermen now have contracts with the factories, they do not negotiate with vendors anymore. With the advent of fishmeal factories and contracts between fishermen and factories, fishermen must supply a specified number of bonga to the factories. I could not verify the contracts with the fishermen as they claim that they cannot disclose contract details. However, the contracts specify the amount of bonga needed per working day at an agreed-upon

price. Haggling when buying anything is part of the market culture in The Gambia as in most parts of Africa (Uzo *et al.,* 2018). In fact, one always expects to negotiate when buying goods. Therefore, factories are not only diminishing women's access to fish but also undermining the social relationships between women fish vendors and fishermen. One woman noted:

> We are not respected anymore; the fishermen do not even talk to us anymore because we cannot directly buy fish from the boats anymore…We used to have a good relationship with fishermen, but now they do not even look at us because of this fishmeal factory. They really make our lives and work difficult.
>
> (Focus Group 2, Sanyang, March 26, 2021).

Furthermore, fishmeal processing has changed long-standing business relations between women as fish vendors and the fishermen; in the past the women used to buy fish on credit, paying fishermen back once they made a sale (Gbadamosi, 2018). However, since the factories have contracts with the fishermen, the women can neither negotiate with the latter nor buy from them on credit. One woman noted:

> We cannot negotiate for fish anymore and you know here, you always negotiate. I can only get fish in Sanyang if the factory does not want their fish anymore because they sometimes reach a certain number.
> (Focus Group 2, Sanyang, March 26, 2021).

As a result of fishmeal processing, there is also a shortage of fish supply and, as a result, the price of bonga has increased. For instance, before the factories, one could buy three bonga for ten dalasis (US$0.20) but now the price of three bongas has increased to twenty-five dalasis (US$0.49). Women fish vendors claim that they cannot sell bonga at an affordable price anymore because they cannot access it and if they do, the supply price is too high for them to sell it at a reasonable price to make a profit. This also impacts the availability of fish for local community members. One interviewee recalls having to travel twenty minutes to Tanji to buy fish because the factory has created a shortage of fish in Sanyang:

> Sometimes you cannot have what [the fish] you want, there were many times I had to drive to Tanji. I have to drive for twenty minutes to get fish, can you imagine? I think there was a time it went on for two weeks, there was no fish, for two weeks there was no fish here by the beach. I would go check when the factory is operating and guess what? They have all the fish that we used to eat. They are raping the ocean, taking all our fish to make fishmeal to go feed their farmed fish so that when we run out [of fish] they can come and sell us their fish that they stole, because right now 70% of the world export of farmed fish is from China, yes 70%.
>
> (Interviewee 7, Sanyang, March 26th, 2021).

Indeed, per capita consumption of total fish and small pelagic fluctuated between 2013 and 2020. Per capita consumption of total fish reached an all-time high at 30kg in 2015, with a sharp decline in 2017 to 25 kg and back up to 28 kg in 2020 (Deme *et al.,* 2021: 302). This downward trend is more profound for small pelagics as per capita consumption decreased from 15 kg in 2015 to 7 kg in 2020 (Deme *et al.,* 2021:302). The proliferation of fishmeal factories, thus, has disrupted the supply of local fisheries because the fishmeal factories are diverting food destined for local human consumption to feed the global aquaculture industry.

Changing Markets Foundation (2019:5) found that the combined catch of one of the factories, Golden Lead in Gunjur, accounted for approximately 40% of the country's total reported fish catches in 2016, roughly the equivalent of half of the fresh fish landings. Although it was hard to obtain production and export data for fishmeal, a study of The Gambia's fisheries value chain by Avadí *et al.* (2020:8) found that the amount of small pelagic fish processed by fishmeal factories accounted for 31% of all processed fish with a total of 16,642 tons of fishmeal produced between 2014 and 2018. This means that just after two years of establishment, fishmeal factories diverted 31% of fish destined for local consumption into fishmeal to feed global aquaculture. Therefore, the factories are turning a local resource into a high-value product for global aquaculture markets by denying women access to fish, who in turn are then unable to provide sufficient supply for local sustenance.

Unlike community members who opine that the factories are causing a shortage of bonga, government officials that I interviewed argue that the state

sought the fishmeal factories to solve the problem of an unsustainable oversupply of bonga fish. One interviewee noted that:

> ...if it is a fish of low value like bonga it is not worth spending money to freeze them, so most of it was being buried or thrown away at the beach. That is why the factories were brought into The Gambia to produce fishmeal. Instead of throwing it away, the fisherman can sell it to factories. This was the whole idea behind building the fishmeal factories.
>
> (Interviewee, Banjul. April 28, 2021).

This discourse emerging from the Gambian state is what Messner *et al.* (2020) call the prevention paradox. By claiming that fishmeal investments are a sustainable alternative to a natural resource surplus problem (bonga oversupply), the government aims to merge its economic growth ideals and sustainability goals through food waste prevention policies. Furthermore, this narrative that fishmeal investments were established to solve an oversupply of bonga is another attempt to advance the UN SDGs goals in policymaking. Such discourses ultimately exemplify the gender-blind policies that undervalue the work of women because as governments try to achieve economic growth through FDI, they engender a trade-off with food security. Instead of solving an oversupply problem as technocratic discourse suggests, the factories in fact disrupted the local supply of fish for domestic consumption and made bonga scarce for local consumption.

Ultimately, in operating the factories in Gunjur and Sanyang, patriarchal capitalists are disrupting and dominating the nature of women's work and nature simultaneously. Patriarchy and capitalism subordinate women and nature as "'Productive' man, producing commodities, using some of nature's wealth and women's work as raw material and dispensing with the rest as waste, becomes the only legitimate category of work, wealth and production. Nature and women working to produce and reproduce life are declared 'unproductive'" (Shiva, 1988). The profit-maximisation ideals that fishmeal production promises lead producers to use any means necessary to exploit fisheries along with dirty production processes such as waste dumping, noxious smell, and pollution. Hence, women along with nature are subjugated by capitalism and patriarchy.

Conclusion

In this article, I have argued that large-scale fishmeal processing by Chinese-Mauritanian factories dominates women and nature by disrupting women's work and by exploiting a low-value staple fish through the mechanisms of capitalism and patriarchy. In particular, the fishmeal factories are diverting fish traditionally supplied to fish vendors to sell for local consumption to factories to process feedstock for global aquaculture industries. The big push for increased investments in aquaculture and fishmeal is therefore not sustainable. Rather, they are causing unsustainable outcomes.

Fishmeal processing negatively impacts the nature of women's work in coastal Gambia by disrupting the work of local fish processors, vendors, and women gardeners. The domination of both women and nature's work for sustenance is an inherent and ongoing process of capitalist expansion. Thus, ongoing capital accumulation through fishmeal processing reveals the expanding hegemony of transnational operations that deepens the domination of nature and women.

Since fishmeal factories are located near coastal regions for easy access to fisheries resources, they have also enclosed women's access to the commons. According to Mesmain (2014), following similar patterns to agriculture, dominant economic theories have been promoting the privatisation of fishing access to maximise profits for more than four decades. Privatisation involves redefining access rights or privileges to open common or state-owned fisheries by increasing the level of private allocation of, and control over, public resources (Mesmain, 2014). Fishmeal industries have also replicated this pattern by privatising local resources as well as local spaces and land which women used to freely enjoy in The Gambia. The enclosures are also accompanied by securitisation as factories hire guards.

Therefore, despite aquaculture being promoted as a sustainable alternative, its supply inputs are causing unsustainable outcomes, thereby demanding an alternative to the capitalist regime. This reveals how the state holds a gendered and dualistic worldview that deems nature and indigenous peoples as inferior, feminine, and passive, who are to be subordinated to the masculine extractive industry and government policies.

My findings also further illuminate the broader mechanisms leading to the further marginalisation of women in The Gambia and, by extension, on the continent. Gender equality and women empowerment initiatives on the continent are facades for sustainable development objectives that are incompatible with the protection of women and the environment and are entwined with global capital. Overall, patriarchal roles, coupled with development policies, forefront foreign capital, which hinders African women from living a dignified life. This study should inform governments who yearn for increased fishmeal investments, scholars and development practitioners who push aquaculture and fishmeal as a sustainable alternative to wild-caught fishing, and multilateral organisations such as the UN and FAO to rethink "better" management processes to mitigate conflict and violence around the industries.

The Gambian government must mitigate the negative ramifications of industrial production on women. Since fisheries stock requires regional cooperation and management, there is a crucial need for a gender-sensitive fisheries management plan to ensure sustainable regional management of bonga for local and regional consumption. This will require fishermen to prioritise the supply of fish for local consumption. Furthermore, the Gambian government must step up and protect coastal areas whose citizens depend on gardens for their livelihoods. For instance, given that women only enjoy the use of land rights and constantly feel insecure that factory owners will encroach on their land, it is necessary for the Gambian government to legally protect women from being displaced by the factories.

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