‘Beyond the border is where food is’

COVID-19, cross-border fish traders and food security around the Ghana-Togo border

Maïlys Rouillé

Master thesis in Geographies of Sustainable Development

University of Bergen

May 2022

Cover photo: Smoked fish (left) and dried fish (right). Source: Fieldwork (Maïlys Rouillé).

‘L’Afrique, c’était le corps plutôt que le visage. C’était la violence des sensations, la violence des appétits, la violence des saisons.’

‘Africa, it was the body, rather than the face. It was the violence of sensations, the violence of appetites, the violence of seasons.’

- J.M.G. Le Clézio, *L’Africain* (2004, p.13)

‘C'est qu'il est difficile à l'homme de mesurer l'extrême importance de discriminations sociales qui semblent du dehors insignifiantes et dont les répercussions morales, intellectuelles sont dans la femme si profondes qu'elles peuvent paraître avoir leur source dans une nature originelle.’

‘It is difficult for men to measure the enormous extent of social discrimination that seems insignificant from the outside and whose moral and intellectual repercussions are so deep in woman that they appear to spring from an original nature.’

- Simone de Beauvoir, *Le deuxième sexe* (1949, p. 28)

ABSTRACT

COVID-19 containment measures have had documented worldwide social and economic consequences. In Ghana, restrictions included a lockdown and border closures, limiting movement of people and goods therefore hindering intra-regional trade. Cross-border fish trade is a significant feature of West African countries and economies, enhancing livelihoods and food security for millions, particularly women.

Using theories of food security, the border, trade networks and gender, this thesis aims at pointing out the different effects that the COVID-19 crisis has had on cross-border fish trade and food security at a local level. A two-month fieldwork in Ghana was conducted in 2021 and consisted primarily of a survey and semi-structured interviews. Online secondary data was also collected.

Loss of incomes, deterioration of trade networks, difficulty and brutality in border crossing and decrease in variety and quality of diets are some of the main findings. The effects were aggravated by a non-COVID-19 related seasonal scarcity of fish. I conclude that cross-border fish traders as well as people who rely on them are now suffering from food insecurity, a condition deepened by their limited resilience and lack of agency.

ACKNOWLEDGEMENTS

These last years as a master student have been challenging and at the same time very rewarding. COVID-19 may have disturbed everything, nothing can prevent an eager geography student to undertake the fieldwork she envisioned. Fieldwork was the highlight of this period, and I am so glad that I could make it happen eventually!

Thank you to the Meltzer Research Fund and the SmallFishFood project for the financial support, this research would not have been possible without you. An extra thank you to everyone in the SmallFishFood project for your feedback and interest. I especially want to thank Amy Atter, your warm welcome in Ghana and in your home, and your endless help and advice were more than I could have asked for. You made it all so easy for me. Thank you to my interpreter for the great work and assistance!

A massive thank you to my supervisor Ragnhild Overå for all the guidance, feedback end encouragement. Your support and kind words have been greatly appreciated, especially in difficult times. Thank you for introducing me to Ghana and inspiring me to travel there.

I want to thank Lukas, for being my daily dose of sunshine and motivation. Thank you for constantly encouraging me. Your comments and feedback have been of great help.

A big merci to my mom and dad for the endless support in all kinds of forms, and to my sisters, Bleuenn and Alwena, for always believing in me and being my biggest fans. I want to thank my friends, those in Bergen, those back home in France for reminding me all along the process that there is a lot more to this world than a master thesis. You are the best. Thanks to the best study buddy and friend, Cecilie, I really do not know how I would have managed without you. I cannot wait to embark on more adventures with you. Thanks to Sofie, Veera, Lise and other geostudents from the reading hall for making the writing process somewhat enjoyable, especially in the last weeks!

To all the women who shared their experiences and concerns. I hope to represent you well. Akpe!

Maïlys Rouillé

16.05.2022

TABLE OF CONTENTS

TABLE OF FIGURES, TABLES, MAPS AND PHOTOS

Figures:

Tables:

Maps:

Photos:

LIST OF ABBREVIATIONS

AfCFTA	African Continental Free Trade Area
AUC	African Union Commission
CBFT	Cross-border fish trade
CBT	Cross-border trade
CFA	West African CFA franc
COVID-19	Coronavirus Disease 2019
CSIR	Council for Scientific and Industrial Research
ECA	Economic Commission for Africa
ECOWAS	Economic Community of West African States
FAO	Food and Agriculture Organization of the United Nations
FASDEP	Food and Agriculture Sector Development Project
FSIN	Food Security Information Network
GRFC	Global Report on Food Crises
HLPE	High Level Panel of Experts on Food Security and Nutrition
IFAD	International Fund for Agricultural Development
ILO	International Labour Organization
MoFA	Ghana's Ministry of Food and Agriculture
NAFPTA	National Fish Processors and Traders Association
PUFA	Poly-unsaturated fatty acids
SDG	Sustainable Development Goals of the United Nations
UEMOA	West African Economic and Monetary Union
UN	United Nations
UNICEF	United Nations Children's Fund
WFP	World Food Programme
WHO	World Health Organization

1 Introduction

As the coronavirus outbreak emerged in early 2020, it quickly became a threat to global health. Countries started to implement restrictions such as border closures in order to limit its spread, which was not without social and economic consequences. The COVID-19 crisis disrupted food systems and brought concerns of increasing food insecurity. Even before the COVID-19 crisis, in terms of hunger, Africa was the most hit continent with countries such as South Sudan whose more than half of the population was in a state of food crisis (WFP, 2020b). About a month after most countries enforced lockdowns in March 2020, a report by the World Food Programme and partners warned that acute food insecurity could almost double because of these restrictions, rising to 235 million people (WFP, 2020b). In newspapers, the hunger crisis related to COVID-19 is depicted as unprecedented because it happens at a global scale and is the result of several factors such as a sudden loss of income among already vulnerable people and ongoing challenges like climate change and conflicts (Dahir, 2020). Numbers of hungry people are increasing globally, contrasting with what the GFRC predicted for the year 2021. The first version of the GRFC 2021 published in May 2021 had predicted a decrease of 13 million people in hunger crisis from 2020 (FSIN, 2021a); numbers in the update version of September 2021 indicated a rise of 6 million (FSIN, 2021b). The latest Global Report on Food Crises (GRFC) in September 2021 indicated that 161 million people were suffering from acute food insecurity and over half a million people have reached the Catastrophe status (FSIN, 2021b).

Food systems were disrupted by the closure of workplaces, marketplaces and restrictions on the movement of workers and international transport (Laborde *et al.*, 2021). Sub-Saharan African countries rely particularly on imported food and as borders close, are at risk of supply chain failures (WFP, 2020a). Concerns about the informal food sector in Africa quickly emerged as informal workers do not have the ability to take off work when sick and lack safety nets alternatives (Resnick, 2020). Most of food trade in African countries is undertaken by informal traders.

Fish is an important traded foodstuff in sub-Saharan Africa and contributes to both securing incomes and strengthening food security (Ayilu *et al.*, 2016). Over 400 million African people depend on fish as direct source of nutrition, protein, calories and micronutrients, particularly vital in children's development (Ayilu *et al.*, 2016; Béné and Heck, 2005). In many developing countries, millions of households already spend more than 50% of their income on food (WFP, 2020a). Fish is sometimes the only affordable or accessible source of animal protein

for urban or peri-urban residents (Béné and Heck, 2005). It is estimated that fish provides 22% of protein intake in sub-Saharan Africa countries or even more in coastal countries. Since 2015, the world is facing growing numbers of undernourished and malnourished people (FAO, 2020). Fish as food has the potential to combat these problems and improve nutrition security by supplying rich foods at a cheap price. Many food value chains have been disrupted by the pandemic (Laborde *et al.*, 2021). Fish value chains, notably small-scale fisheries, were affected all around the world (Bennett *et al.*, 2020). The crisis is expected to further marginalize fishing communities that are already vulnerable to different social and environmental changes.

Fish trade is mostly informal and essentially undertaken by women. Women represent 60 to 70% of cross-border traders and their trade comprises 25 to 30 % of cross-border trade (CBT) at the global level (Desai, 2009). Cross-border fish trade ('CBFT' in this study) in Africa is often referred to as resilient in literature (Clark, 2000; Igue and Zinsou-Klassou, 2010; Walther, 2015). As such, it participates in making food systems resilient and sustainable through its capacity of overcoming shocks and stresses. The COVID-19 situation and related border closures appear then as a good opportunity to assess the degree of resilience of the cross-border trade system when confronted with extreme crises.

It is still hard to know the exacts effects of the pandemic on global food security (at the time of writing in May 2022), but it appears that the main threat is the loss of incomes induced by the global economic recession (Laborde *et al.*, 2021). Extreme poverty[1] is predicted to progress globally, which impacts levels of food insecurity. Early after the outbreak, the WFP also warned that lack of access to social safety nets could even aggravate the state of food security (WFP, 2020a). Studies and articles profusely describe how the pandemic affected food security at global or national levels. Little research was undertaken as an attempt to investigate how containment measures such as border closures impacted households and individuals working in the informal sector in non-Western countries (see Kansiime *et al.*, 2021; Murakami, 2022; Nchanji and Lutomia, 2021b).

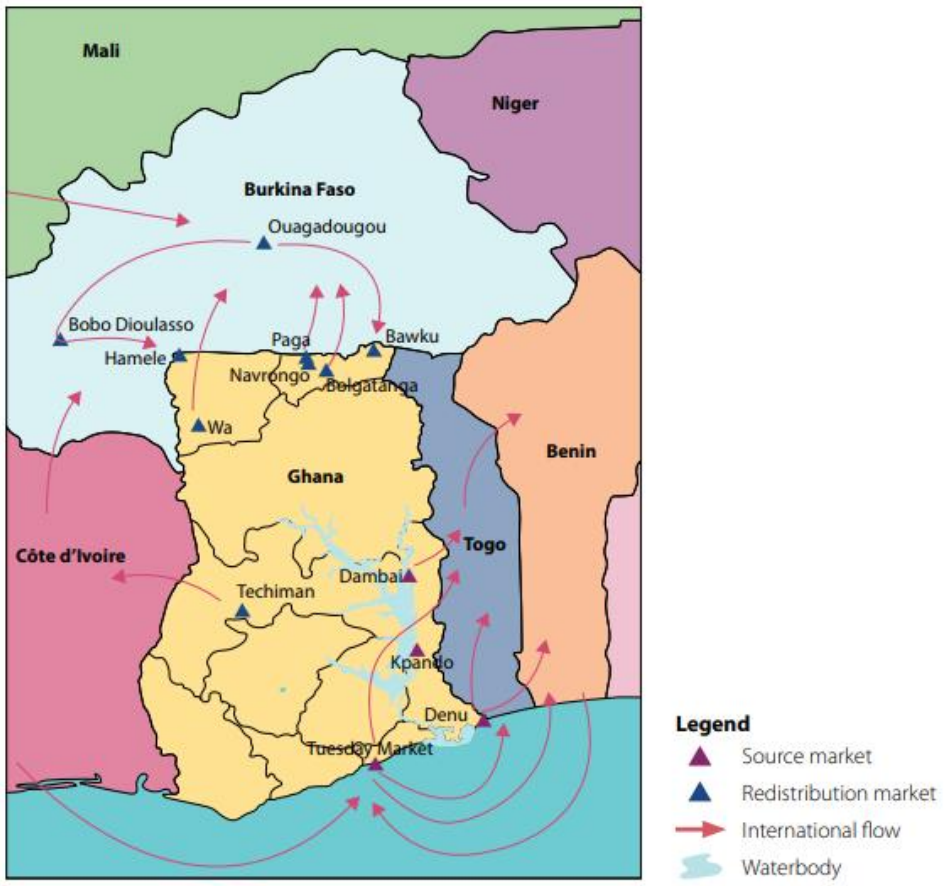
This study specifically focuses on cross-border trade involving Ghanaian marine fish sold in neighboring countries such as Togo and Benin. Ghana started implementing measures to contain the pandemic on 15 March 2020 and the first step was a ban on public gatherings for four weeks long (Asante and Mills, 2020). Marketplaces were considered as essential and therefore were not closed but thoroughly disinfected. Good personal hygiene and social

[1] Calculated against the purchasing power parity of $1.90 poverty line (Laborde *et al.*, 2021).

distancing were strongly advised to citizens. A week later, the government decided to close all land, sea and air borders to human traffic (Asante and Mills, 2020). Goods (e.g. foodstuffs), supplies and cargo were not affected by that measure. Food trade was therefore still possible but mostly concerning trucks carrying food. People were in theory not allowed to cross the border except for truck drivers. A partial lockdown was decided on 27 March in the two main cities, Accra and Kumasi, as they appeared to be the epicenters of the pandemic in the country. Residents of these cities were required to stay home for two weeks and traveling between restricted areas and other parts of the country was prohibited. Containment measures were especially strict between March and May 2020 (Atkins *et al.*, 2021). Policy measures to limit the pandemic in Togo did not include a lockdown but a curfew from 8 p.m. to 6 a.m. as well as a closure of all meeting places (Togo Revenue Authority, 2020). The border closure is the main restriction that impacted cross-border fish trade in the area.

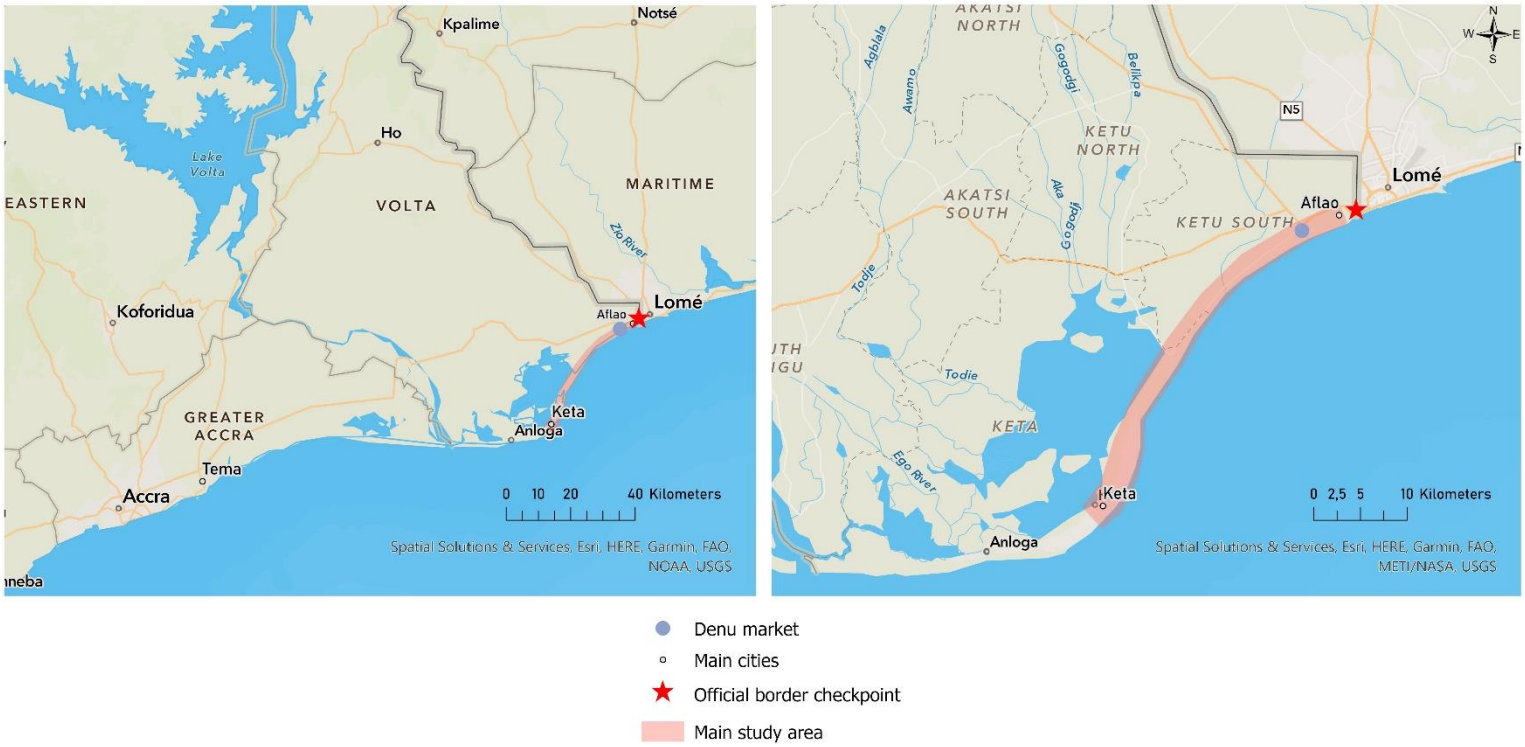
1.1 The study area: the Aflao border post at the Ghana-Togo border

Ghana was selected as study area because it is an important country for fish production in sub-Saharan Africa. It is dominated by artisanal marine fisheries that generate fish trade (Hasselberg *et al.*, 2020) and notably cross-border trade (see Map 1).



Map 1: Domestic and cross border fish trade channels in and from Ghana. Source: Ayilu et al.*, 2016.*

Fieldwork was mainly undertaken in fishing villages between Keta and Aflao (Map 2[2]) in the Ketu South District and partly in the Keta Municipal District, Volta region, as many fish traders from these communities engage in cross-border fish trade on a regular basis. Aflao is located at the border with Togo. Ketu South is characterized by 'vibrant cross-border trade […] and viable marine fisheries' (MoFA, 2022b). Vegetable production is also an important feature of the district. Ketu South is a rural district, with over 65% of its 155,000 inhabitants living in rural communities. The coastline is smooth and characterized by beaches (ibid.). Marine fishing is intensive from the westernmost part of the district to Adafienu, a village less than ten kilometers from Aflao. It is estimated that about 7,882 fishermen work on the 204 canoes registered in Ketu South, using beach seine nets or purse seine nets. Anchovy and sardine are the most caught fish with a peak season from August to October. Mostly women are responsible for fish processing, often using Chorkor ovens[3]. Ghana's Ministry of Food and Agriculture (MoFA) asserts that the processed fish 'serves neighbouring Togo and other Sahelian countries' (2022b). Fisheries in the Keta municipal district have the same potential but also include inland fishing in the lagoons (MoFA, 2022a).



Map 2: Presentation of the main study area.

[2] In addition to interviews in the main study area on the map, one interview was conducted in Tema.

[3] Chorkor ovens (or chorkor kilns) are a type of smoking ovens developed in the late 1960s by the Food Research Institute of Ghana, FAO and fish processors from the Chorkor fishing community in Accra. It is widely used in Ghana as well as other African countries (Zelasney *et al.*, 2020).

Situated on the Abidjan-Lagos corridor, the Aflao checkpoint at the Ghana-Togo border presented heavy trade flows in all types of commodities pre-COVID-19 (Bewiadzi Akakpo, 2021). Aflao on the Ghana side is the major border town along the border but relatively small compared to Lomé on the Togo side, which is the capital city of the country. Even though English is Ghana's official language and French is Togo's official language, people on both sides of the border speak their native language Ewe (Nugent, 2021). The border separating the British Gold Coast from the German Togoland in 1890 was established in the middle of Ewe settlements, dividing the Ewe people on both sides of the border (Nugent, 2021; Akyeampong, 2001).

Historically, Aflao and Lomé's relationship has been 'fundamentally shaped by trading opportunities' (Nugent, 2021, p. 150). Assigamé market in Lomé and Denu market (see Maps 1 and 2) close to Aflao are highly frequented by traders traveling long distances (from Ghana, Togo, Benin, Nigeria and Côte d'Ivoire) and cross the border by taxi (Nugent, 2021; Bewiadzi Akakpo, 2021). Fish traders, using bulky consignments, are also known for using taxis to cross the border. Although Aflao is the official crossing, traders may employ a 'zemidjan' (motorcycle taxi) and use unofficial crossings (footpaths called 'beats') located in neighborhoods north of Aflao to pay lower crossing fees (Bewiadzi Akakpo, 2021). Unofficial routes are more unsafe than the official crossing and require bargaining with border officials on either side. Bewiadzi Akakpo (2021) explains that customs duties are present at the official border at Aflao to apply tariffs to entering goods, whereas unofficial routes are regulated by the Immigration Service (GIS) to prevent illegal migration.

1.2 Research questions

The purpose of this thesis is to assess the changes and differences in CBFT brought by the global COVID-19 pandemic and how they are affecting the traders' food security. Therefore, the following research question was conceived:

In what ways can the COVID-19 related Ghana-Togo border closure highlight the important contribution of the cross-border fish trade system to the traders' food security?

Several sub-questions were elaborated in order to discuss the subject in depth:

1. *What did cross-border fish trade look like before COVID-19 and how were traders benefitting from it?*
2. *What are the changes brought by the pandemic and how are traders responding and coping with the situation?*
3. *How did impacts from the pandemic affect cross-border fish trade livelihoods and in turn the traders' food security?*

Through data collected during fieldwork as well as secondary data, the intention is to first depict the pre-COVID-19 situation in order to then determine the main changes in cross-border fish trade practices. Lastly, the data will be analyzed in light of the theoretical framework, discussing concepts such as the border, resilience and agency.

1.3 Structure of the thesis

This thesis is organized in seven chapters. Chapter 1 is the introduction to the thesis, which highlights the reasons for the chosen topic and presents the research questions. Chapter 2 sets the context for the study, depicting the main characteristics of the fisheries and trade activities in Ghana. The theoretical background and framework are detailed in Chapter 3; it includes definitions of the main concepts used in the study. In Chapter 4, the methods used are introduced. Choices made by the researcher are explained, and limitations and challenges of the study are presented. The main results of the study are portrayed in Chapter 5. They are then interpreted and discussed in Chapter 6. Chapter 7 concludes this thesis by summarizing the main results. References and appendixes are to be found after Chapter 7.

2 Setting the context: fisheries and trade in Africa and Ghana

This chapter aims at introducing the background of the study. The importance of fish as food is first explained. Insights on how fisheries and trade activities in Ghana operate are then portrayed, including a historical backdrop. A small section about how previous epidemics affected the region is also included.

2.1 Fish as food in Africa and in Ghana

Food security keeps on being a worldwide concern despite growth in food production (Godfray *et al.*, 2010). As the global population keeps on increasing, issues of sufficient protein and energy from diets and micronutrient malnourishment are becoming more and more alarming. Poor people in particular are more at risk of suffering from hunger. Overall, in developing countries, food availability per person and dietary energy supplies have risen in the last two decades. Nevertheless, improvements remain uneven across regions, particularly in Africa (FAO, 2013). Lack of economic access and affordability are the main constraints to available foods. Variations in poverty rates have major impacts on access to food (FAO, 2013). Large reductions in poverty rates during the last decades have significantly improved economic access at the global level. As of 2010, 40% Ghanaian people live in poverty (Ghana Statistical Service, 2010).

Aquatic foods have a crucial role in the food system and provide about 3 billion people with at least 15% of the animal protein needs (Godfray *et al.*, 2010). Fish is a very important source of protein in low- and middle-income African countries, including West African countries like Ghana, Togo, Côte d'Ivoire and Benin. In addition to high protein levels, fish is a direct source of lipids, minerals, calories and micronutrients (Hasselberg *et al.*, 2020; Béné and Heck, 2005; Belton *et al.*, 2022). It constitutes between 30 and 50% of total animal protein consumed in those countries and from 12 to 27 kg per capita consumption (Ayilu *et al.*, 2016). By and large in Africa, fish is often the sole accessible or available animal protein source food (Béné and Heck, 2005; Hasselberg *et al.*,

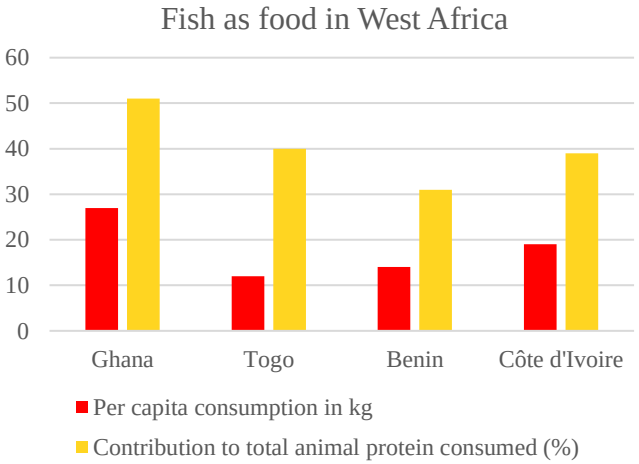


Figure 1: Importance of fish for nutrition in selected West African countries. Source: Adapted from Ayilu et al.*, 2016.*

2020). Moreover, fish protein is more digestible than plant protein by 5 to 15% (Kawarazuka and Béné, 2011).

Traded fish is made available in many different forms: mainly smoked, dried and fried concerning small pelagic species, and grilled, smoked, fried or fermented concerning larger species (Kawarazuka and Béné, 2011). The different forms of dried fish allow for a conservation that does not necessitate a fridge (Belton *et al.*, 2022). Fish is sometimes frozen but has a shorter storage life than other processed fish (Alhassan *et al.*, 2012). Eating fish whole is highly recommended but not always possible with large fish (Hasselberg *et al.*, 2020). Removing bones, head, viscera and organs reduces micronutrient and mineral intake, since these parts are highly concentrated in micronutrients (Kawarazuka and Béné, 2011). Fish consumption is especially beneficial for food insecure, vegetarian households who cannot afford other protein- or nutrient-rich foods. Other nutrients include calcium, iodine, iron, zinc, potassium, vitamin A, B2 and B6 (Béné and Heck, 2005). Fish also contributes to the supply of poly-unsaturated fatty acids (PUFA), fundamental for brain and body development, reducing the risk of heart disease and lowering blood pressure (Béné and Heck, 2005; Kawarazuka and Béné, 2011). Small pelagic forage fish like anchovies and sardines are notably rich in PUFA. Fish can provide up to 180 calories per capita per day in some areas in Africa.

Informal fish trade allows people to buy fish in small quantities and according to their needs (Hasselberg *et al.*, 2020). Poor households appear especially dependent on fish (FAO, 2016). They usually buy small, cheap fish and spend more of their expenditures on fish than households on average. Contrastingly, wealthier consumers can afford larger, more expensive fish.

In spite of fish being a significant part of West African diets, malnutrition remains a burden for many countries, especially among children (Béné and Heck, 2005). In Ghana, for instance, a large part of children under 5 years old suffer from undernutrition, stunting, anemia (66% in 2014) and vitamin A deficiency (Hasselberg *et al.*, 2020). Early introduction of fish and fish products (e.g. fish powder) in children's diets is considered highly beneficial for infants and young children’s health and growth, improving both their macro- and micronutrient intake (ibid.). Women are also highly affected by malnutrition with between 15 000 and 20 000 African women dying every year of severe iron-deficiency anemia (Béné and Heck, 2005). If fish has proven to largely improve the micronutrient intake of a person, it remains uncertain as to how it improves the overall nutritional status of that person (Kawarazuka and Béné, 2011). Besides, fish consumption can be unequal within households. In Nigeria, for instance, the

sharing of a single large fish often gives the body to the man, the tail to his wife and the head to the children (Kawarazuka and Béné, 2011).

As fish represents 61% of Ghanaians' animal protein source food expenditures and provides 70% of their total animal protein intake, it is considered as a relatively affordable source of nutritious food (Hasselberg *et al.*, 2020, p. 5). Fish consumption in Ghana is estimated at 35kg per capita per year (see Figure 1) (Hasselberg *et al.*, 2020). Hasselberg *et al.* (2020) describe the Ghanaian diet as largely composed of starchy food, cassava, yams, bananas and cereals, and fish is used in addition of these dishes. Fish as food is a key element to prevent macro- and micronutrient deficiencies and improve micronutrient availability (Hasselberg *et al.*, 2020; Kawarazuka and Béné, 2011). It can really change a person's condition from food insecure to food secure (Béné and Heck, 2005).

2.2 Historical background of the study area: the Ewe, fisheries and the border

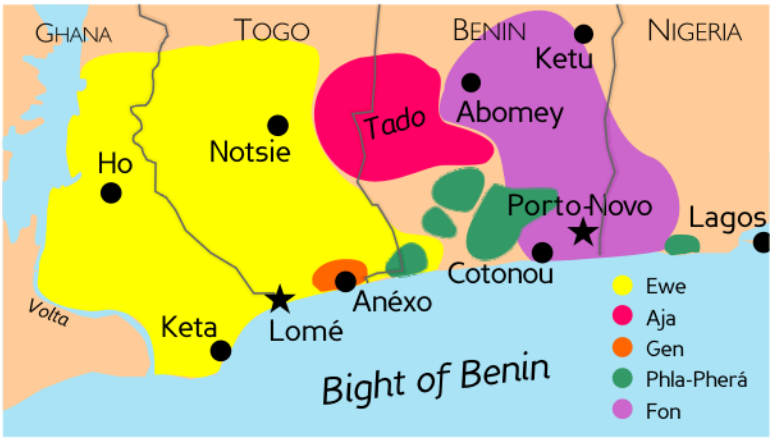
This section presents a short history of the area under study. The settlement of the main ethnic group in the region, the Ewe, is introduced and their relations with both fisheries and trade are described.

The main ethnic groups engaged in coastal fishing activities in Ghana are Ewe, Ga, Fante and Ahanta, to mention a few (Overå, 1993). This study focuses on the Ewe people because fieldwork was mainly undertaken in Ewe coastal communities east of the Volta River, and all of the informants were from that ethnic group.

2.2.1 Ewe and fisheries

The Ewe people came from central Togoland to Ghana around the mid-17th century and settled in an environment surrounded by water: the Volta River to the West, the Atlantic Ocean to the South and the Keta Lagoons to the North. The Ewe people are located on the coast between the Volta River in Ghana and the Mono River in Togo (see Map 3) (Akyeampong, 2001). The Anlo are a subgroup of the Ewe-speaking people particularly present in southeastern Ghana[4]. The proximity of the Keta Lagoon allowed the Ewe to experiment with canoes, navigation and fishing technology before these activities were transferred to the sea (ibid.). The lagoon was of economic importance for the Ewe for fishing and salt making. Unlike Fante and Ga people, the Ewe seldom ventured out on the open sea because they lacked maritime skills and the coast was marked by heavy surf.

[4] This thesis uses the term 'Ewe' rather than both 'Ewe' and 'Anlo' for better legibility.



Map 3: Spoken languages from Eastern Ghana to Nigeria with Ewe in yellow. Source: Wikipedia.

Fish trade in the area remained mostly local in the 17th century with two mains flows: along the coast (from the east to the west) and between littoral towns and farming communities (from the south to the north) (Akyeampong, 2001). At that time, African trade networks aimed at supplying African needs in foodstuffs and clothes and were rather dynamic (Akyeampong, 2001). Free trade was promoted. Slave trade was an important trading activity from the early 18th century until the 1860s and allowed the Ewe to enter international trading flows with their ports on the Western side of the Slave Coast. Between the Volta River and the Lagos channel, Keta and Aflao emerged as important intermediaries in slave trade. Female slaves were used to dry fish for the long-distance trade. Long-distance trade was largely improved in the early 1900s with the revolution of the transportation system in the Gold Coast British colony (Overå, 2007).

The 'maritime tradition' of the Ewe people started in the second half of the 19th century when beach-seine nets were introduced, and trade activities shifted from slave trade to commercial marine fishing (Akyeampong, 2001, p. 8). Fisheries were not a priority in colonial environmental policy and colonial rulers only became interested in fisheries and fishing in the late 1930-40s. Before the 18th century, the main fishing methods were set nets, purse nets, hook and line and traps and dams in sea, rivers and lagoons. From the second half of the 19th century, various nets were introduced in fishing such as the beach-seine net which allowed fishermen to fish from the shore. Sea fishing became the most common type of fishing by the turn of the 20th century and the Ewe became experts of beach-seine fishing along the West African coast over the century. It is argued that the technological improvement of the nets as well as the strong presence of the sea in Ewe religion and rituals made the Ewe more confident in their relation to the sea (Akyeampong, 2001).

The Ewe fisheries use different nets for different fish types or sizes and the fishing season is between July and December. After fishing, the fish is processed then sent and traded

somewhere else (Akyeampong, 2001). Increases in fish production made fishing an increasingly market-oriented business (Overå, 1998). Markets for fish were improved in the beginning of the 20th century as mining, railway and cocoa trade developed and in turn created incentive for fish harvest (Akyeampong, 2001). Improvements were also made possible thanks to increases in labor force and technological innovations that produced bigger nets.

Women occupy important roles in Ewe fisheries (Akyeampong, 2001; Overå, 1998). They either help men on the beach by carrying ropes attached to fishing nets and bringing them water to drink, or they occupy roles of 'fishwives'. As fishwives, women are not necessarily wives of fishermen, although often related to them in some way (Overå, 1993). The fish 'enter[s] a female domain' (Overå, 1998, p. 101) once it has been sold on the beach. Women can hold different positions in fisheries: as 'standing women' who regularly buy fish at the beach; as 'carriers' who transport fish to 'standing women' in their own baskets; as fish processors; or as fish trader (Akyeampong, 2001). They sometimes combine different roles. Fishwives trade in fresh fish or processed fish in different forms: dried, smoked or fried. As fishing became a more commercialized industry, fishwives accumulated profits and from them emerged 'fish mammies' who operated trading activities at a large-scale. Sometimes wives of net owners, sometimes independently wealthy, they invested a lot in fisheries. Few Ewe women were fish mammies because of 'patrilineal ideology and an inheritance system that favors transmitting fishing equipment to sons' (Overå, 1998 in Akyeampong, 2001, p. 144).

2.2.2 Establishment of the border and emergence of trade

The colonial boundary between the Gold Coast and Togoland followed a trading boundary with high profitable tariffs for the British to the West and lower customs duties in German Togoland to the East which promoted smuggling into Ghanaian Ewe settlements (Akyeampong, 2001). The area counted two main ports: a prosperous one in Keta, and a weaker one in Denu that struggled because of the restrictions imposed by the British on smuggling between Denu and Lomé (Akyeampong, 2001). Keta thrived from a large market every four days that attracted traders from Accra, Benin and even Nigeria. Lomé was founded as a smuggling depot close to the newly established customs port of Denu. In 1890, the colonial government of the Gold Coast decided to lower customs duties and align them with German Togoland tariffs to make smuggling into Anlo unattractive and 'wipe out the relative advantage residents on one side of the Ewe border may have over the other' (ibid., p. 66).

Togoland was occupied by British and French troops during World War I and became formally divided between British Togoland and French Togoland after the war during the partition of German colonies (Bening, 1983). French Togoland corresponds with modern Togo while British Togoland was a territory situated approximately from Ho, southeast modern Ghana, to east of Bawku, northeast modern Ghana. British Togoland was integrated in the Gold Coast when it declared independence in 1957 and became the Republic of Ghana (ibid.). French Togoland became the Republic of Togo in 1960.

2.3 Fisheries in Ghana

With its 550km coastline and inland water bodies such as Lake Volta taking up to 10% of the land surface, Ghana's physical features have for a long time provided significant opportunities for fish production (FAO, 2016). Ghana's domestic catch is dominated by the marine sector (around 80%) in which prevail the small-scale fisheries, or artisanal fisheries (Hasselberg *et al.*, 2020). Fishing operations are also operated by the industrial or semi-industrial subsectors (FAO, 2016). According to the FAO (2016), artisanal fisheries consist of 304 landing sites in 189 fishing villages along the coast and use a total of 12 000 canoes of which about 6 400 are motorized. Fishermen in artisanal fisheries capture about 70% of marine catches (FAO, 2016). However, as a result of 'overfishing and lack of good fisheries management systems, lack of infrastructure and modernization of the industry' (Part II, FAO, 2016), marine captures have significantly dropped (30%) since the end of the 1990s, resulting in an increase in imports from other countries in West Africa or Europe in order to match local demand (Hasselberg *et al.*, 2020). Concerning inland fisheries, they are mostly found around Lake Volta and its surrounding rivers. They represent about 16% of domestic captures.

Around 70% of marine fish catches in Ghana are small pelagics such as mackerel, sardines, anchovies (FAO, 2016). Sardinellas account for the most traded fish species. Catches can also include valuable demersal fish (e.g. shrimp, sole, burrito).

The artisanal fishery business is also quite often a family business within a household where the husband catches the fish and his wife processes and trades it as well as across generations, with female traders having been trained by their mothers, aunts or grandmothers and training their own daughters (Overå, 1993). Over 60% of women working in the fishery value chain are employed in the artisanal subsector (FAO, 2016).

2.3.1 Incomes derived from fisheries

In Sub-Saharan Africa, fisheries employ about ten million people and indirectly benefit between 50 and 60 million people with incomes and livelihoods (Béné *et al.*, 2010). They provide employment and income to rural communities that lack alternative work opportunities (Béné and Heck, 2005). Working in the fishery sector can be seen as a safety net that protects workers against social, political and economic threats to their food security.

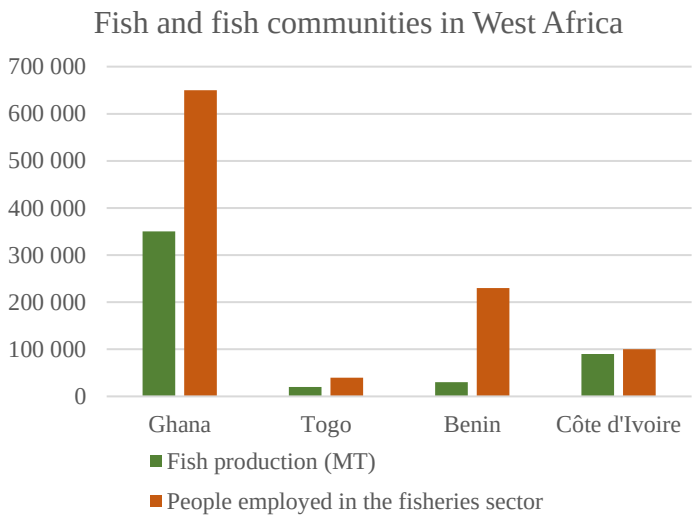


Figure 2: Importance of fish for the economies and people of selected West African countries. Source: Adapted from Ayilu et al.*, 2016.*

The fishery sector benefits the livelihoods of 10 percent of Ghana's population, representing around 2.6 million people and employs about 500 000 workers through processing and trading activities (FAO, 2016). Not all postharvest workers in the sector are however full-time employed; some become involved on a seasonal or occasional basis, and do not benefit from a stable income (FAO, 2016). Fishery workers all along the value chain have been subject to income reductions during the last decade as a result of a number of factors, such as increasing numbers of canoes and fishers per boat, increasing competition from trawlers, higher input costs and a decrease in catches (Hasselberg *et al.*, 2020). The surplus of cash generated by fish trade is often used to buy food in poor rural fishing communities (Kawarazuka and Béné, 2010). It helps elevating people above the level of poverty observed in communities not involved in fishing activities. It is estimated that increases in incomes contribute to increases in energy intake, particularly for the poor. However, it does not necessarily improving their nutritional well-being because 'the additional income may be spent on foods of low nutritional value or even on non-food items' (ibid., p. 350).

The fishery sector in Ghana is based on a gendered division of labor. Men are invested in fishing activities whereas women occupy roles in exchanging, processing and trading fish (Overå, 1993). Many women fish traders being heads of households, fish trade can represent the primary or even sole source of income (Béné and Heck, 2005).

2.4 Trade activities in Ghana

Agriculture and fisheries are the largest sources of employment in Ghana, with 32% of total registered workers in 2021 (Ghana Statistical Service, 2021). Trade represents the second largest source of employment and comprises two sectors: the formal, large-scale private sector and the informal sector (Darkwah, 2002). Foreign multinational enterprises and retail chains prevail in the former while the latter is essentially constituted of small-scale, Ghanaian businesses. This study examines informal trade at a rather small-scale.

Regional organizations such as ECOWAS (Economic Community of West African States) or UEMOA (West African Economic and Monetary Union) and the implementation of the AfCFTA (African Continental Free Trade Area) are tools aiming at promoting free trade in the region as well as 'give preferential treatment for goods manufactured in the region, lower tariffs and other barriers, and standardize documents and procedures in order to simplify the paperwork' (Desai, 2009, p. 381). The aim is to, among others, make cross-border trade easier. However, these organizations' policies have not been entirely put into effect and local populations and informal traders are often unaware of them.

2.4.1 Trade as female occupation

Cross-border trade is mostly a female activity in Ghana as in many sub-Saharan countries (Wrigley-Asante, 2012; Desai, 2009). Unlike other business activities, engaging in trade activities in Africa requires few investments, no particular physical strength and can be undertaken by unskilled labor (Béné and Heck, 2005). Therefore, women from the lowest strata of the community are able to enter business even though they often lack school education and literacy. Being an informal trader does not necessarily mean to be poor; many women have become wealthy through trade and have gained a high status (Desai, 2009).

Cross-border trade in Africa is gendered in terms of kinds of traded goods, traded volume, access to capital, type of transportation used and location of business (Desai, 2009, p. 379). Women are limited by low access to credit, transportation and mobility. Most women traders work in low-profit, highly competitive trade in agricultural and food products. They do not own a vehicle and tend to sell their products in marketplaces or directly on the street. Men traders mainly work in value-added, non-foodstuffs and consumer goods trade as wholesalers or retailers and own shops and their own vehicles.

Many challenges that traders face are gender-related (Wrigley-Asante and Agyemang, 2019). Men are also likely to undergo harassment but to a lesser extent than women do. Gender differences can be explained by female stereotypes in society. Women are pictured and picture themselves as vulnerable since they travel more frequently than men and often trade in perishable goods. They experience more emotional challenges, fearing the need to dispose of goods and reinvesting in the business if food were to perish or to be stolen. Border officials tend to take advantage of this vulnerability by harassing them.

As stated before, gender roles are a main feature of West African fisheries, notably Ghana, with women traditionally working in the onshore pre- and post-harvest sectors as source of finance of the fleet, processors and/or traders while men fish (Overå, 1993; Bennett, 2005). Gender roles and relations are dynamic and can vary from fishery to fishery (Bennett, 2005). The role of women as compared to the role of men in decision-making in fisheries remains hindered by insufficient access to education, funding and institutional support (Hasselberg *et al.*, 2020).

Women's engagement in cross-border trade can be limited by childcare and cooking duties that prevent them from leaving home for a long time (Overå, 2007). Within households, women are responsible for educational, health and dietary matters (Bennett, 2005). Female traders, being usually responsible of their children at home, are subject to stress as they wish to return home safely and as quickly as possible to attend their left-behind children (Wrigley-Asante and Agyemang, 2019). 30% of households in Africa are female headed and women traders usually support between 4 and 7 dependents (Desai, 2009).

2.4.2 Characteristics and challenges of cross-border trade

Cross-border trade in Africa is considered as "the most efficient, organized and deep-rooted system of trade in the region" according to the African Development Bank (2012 in Walther, 2015, p. 616). Informal cross-border trade is considered as a primary actor, more important than state or markets in providing food and improving food security for a majority of people in Africa (Desai, 2009).

Trade networks in Africa are based on and developed through birth, kin and ethnicity factors (Walther, 2015). Desai (2009) differentiates between 3 categories of trade networks: (1) entry into the trade and getting credit; (2) transportation and border crossing; (3) developing and maintaining a client base (p. 381). Traders usually engage in cross-border trade with the help of a friend or a relative and transfer their trade to their kin when they get older. Financial

resources are the first and primary concern for cross-border traders. Governmental and non-governmental credit societies are the main source of capital. Borrowing money from rotating saving rings for business is also common practice. In Ghana, these credit rings or 'ROSCA' are called 'susu' (Wrigley-Asante, 2008). Business relationships with men often involve transportation and paperwork processing (e.g. transporters, freight forwarders, money changers). Client networks will determine how successful a trader is. Regular, loyal customers help make a trader's business more lucrative. Besides, cross-border traders rely a lot on family and non-family members to look after their families while they are gone.

Technology innovations through the last decades have introduced new ways of trading, with some traders using internet or mobile telephony for trading, or electronic banking and transfers (Wrigley-Asante and Agyemang, 2019). Access to cell phone also helps strengthening social ties both between traders and suppliers and between traders and customers. According to Ayilu *et al.* (2016), increases in fish trade over the years is due to "improvements in fishing technologies, improved exchange of information among traders, commoditization of fish and improved transport infrastructure, [and] increased demand for fish in expanding urban areas" (p. 6).

It is documented that cross-border traders face many different challenges along the way: customs and immigration checks; theft and robbery cases; long delays at transit points; high transport cost; long delays at bus terminals; language barrier; road traffic accidents; availability of vehicles; perishability of goods (Wrigley-Asante and Agyemang, 2019, p. 40). Associated consequences are twofold: the food they carry is not made available at the marketplace as expected, and traders' businesses and livelihoods are negatively affected, making them in turn more vulnerable. According to Desai (2009), lack of credit, lack of information about ways to increase profitability, complicated customs forms and procedures and limited information about international and regional markets are other barriers that poor women traders have to face. They are in addition subject to harassment from border and customs officials. Besides, lack of access to credit constrains them from carrying large amounts of cash with them and puts them at risk.

2.4.3 The status of trader – between the formal and the informal

Informal economic activities in developing parts of the world such as Africa have been largely defined as unregistered, unregulated activities, even 'illegal or extra-legal but […] not necessarily perceived as illegitimate by the actors concerned' (Hansen and Vaa, 2004, p. 7).

In Ghana, the border between formal and informal is blurry and many economic activities straddle both sectors (Overå, 2007). The government exercises somewhat of an influence over informal activities, including police control and payment of fees. In practice, many Ghanaians can combine both a formal job and an informal job if needed. Informality rates are very high in the Ghanaian economy: 77% of Ghana's workers are active in the informal sector (Ghana Statistical Service, 2021). Around 80% of female workers are employed in the informal sector, most frequently as a self-employed trader (Overå, 2007). Even though the informal economy allows for many benefits concerning employment and income generation, this phenomenon must be put in a more general economic perspective. African economies tend to be globally marginalized, African incomes remain low and African governments often hinder the development of informal economies (Hansen and Vaa, 2004). If international fish trade is globally accounted for, there remains a lack of information and data on cross-border trade because of its informality (Ayilu *et al.*, 2016).

Economic liberalization reforms in the 1980s-90s like Structural Adjustment Programmes (SAP) reduced public expenditures and lead to growing poverty, exacerbating social inequalities (Hansen and Vaa, 2004). In Ghana, many workers in the formal economy (mostly men) lost their jobs and were left with no choice but turn to the informal economy for work (Overå, 2007). The informalization process has had several gendered consequences. Men have entered traditional 'female' occupations such as trade, leading to stronger competition for women in accessing either the informal or the formal sector. Moreover, customers' purchasing power has been undermined, reducing in turn traders' profit potential. Another consequence concerns the loss of male support within households. When both wife and husband earn acceptable incomes, the female trader can invest in her own trading business. As husbands lose their formal jobs and become unemployed or underemployed, larger parts of wives' profits must be used on household expenditures. Economic restructuring has nevertheless benefited cross-border traders to some extent through intensification of global and regional trade and an increase in wages in the informal sector (Desai, 2009). Many women entered cross-border trade activities in the wake of the introduction of structural adjustment policies.

Border administrations are often challenged by informal or fraudulent strategies and practices that actors have internalized and normalized and that contribute to the emergence of a shared development (Igue and Zinsou-Klassou, 2010). Such informal practices sometimes become standardized by public authorities (e.g. border crossing without required documentation, exchange of services, regular dialogue between different local authorities). Due to the large part of informal trade across the border, traders can hardly predict whether state officials at the border crossing will apply formal or informal rules (Walther, 2015). Many traders have then resorted to engaging in clientelist ties with border officers.

2.5 Insights from previous food crises

The COVID-19 crisis is not the first major food crisis; the financial crisis in 2007-8 and the Ebola outbreaks from 2014 also led to food crises and increases in global food prices (WFP, 2020a). The 2007-8 crisis induced export restrictions and panic behavior. The Ebola crisis resembles the COVID-19 crisis as it induced similar restrictions on trade, movement of people and borders (Games and Vickers, 2015). Even though only the three worst-affected West African countries (Liberia, Sierra Leone and Guinea) implemented severe containment measures, other countries such as Nigeria, Ghana and Côte d'Ivoire were also impacted. Economic activity largely declined and especially affected self-employed people. The crisis brought major disturbances in food production and agriculture. Effects of these epidemics on regional African cross-border trade are documented (see Alpha and Figuié, 2016; Burite, 2019) and could have influenced COVID-19 containment measures.

3 Theoretical perspective

This chapter presents the theoretical concepts and framework underlying this study. It aims at introducing the main ideas and theories that will be used throughout this study to research and explore the impacts of the pandemic related border closure on cross-border fish trade activities and food security. First, the food security concept is defined, followed by the food security framework and its six pillars. Second, theories of gender are established to explain the relevance of gender in fisheries and trade activities. The third section presents theories on trade, fish trade and cross-border fish trade activities. Lastly, the concept(s) of borders and its importance in CBFT are determined.

3.1 Food security

The concept of food security is central to this study. Its meaning and definition have changed over time. Concerns about national security and a country's capacity to produce its own food first emerged during World War I, and the term itself is mentioned in founding statements of the FAO from 1943 (Sage, 2017). A first definition of food security was conceived at the 1974 World Food Conference as the 'availability at all times of adequate world food supplies of basic food stuffs … to sustain a steady expansion of food consumption … and to offset fluctuations in production and prices' (ibid., p.1). With a strong focus on food production and consumption and rooted in agricultural productivism, the definition nevertheless lacked ideas of food distribution across countries, accessibility, and availability. The publication of Amartya Sen's *Poverty and Famines* in 1981 shed light on the relevance of the last two notions for understanding food security with an emphasis on food access failures as main cause for food insecurity (Barrett, 2010). For a long time, food security had been understood as producing and eating high-calorie foods rather than foodstuffs rich in micronutrients and proteins (Carolan, 2013).

Since the 1996 World Food Summit, food security is said to be achieved when 'all people, at all times, have physical, social and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life' (FAO *et al.*, 2020b, p. 254). This definition embraces wider perspectives than the first one. Food security is not to be addressed only on the national and global scales, but attention should also be directed towards household and individual levels. Moreover, the idea of food security is expanded to notions of access and livelihoods. Food security is not a static condition but a rather dynamic one (Ericksen, 2008). It results from the interaction and interconnection of several

factors, and a person who is considered food secure might see her condition change to food insecure for a number of reasons. This study focuses on individual and household levels of food security around the Ghana-Togo border.

There now exists more than a hundred definitions of food security (Carolan, 2013; Sage, 2017). In Ghana, food security has been defined by the Ministry of Food and Agriculture as 'good quality nutritious food, hygienically packaged and attractively presented, available in sufficient quantities all year round and located at the appropriate places at affordable prices' (FASDEP, 2007).

Food insecurity, or the lack of food security, can take two forms, namely transitory food insecurity (from short-term instability) and chronic food insecurity (from long-term instability) (FAO, 2008). Transitory food insecurity is temporary and originates from short-term shocks and fluctuations mainly linked to food availability and/or access. Typical shocks include household incomes and food prices. Although unpredictable in nature, transitory food insecurity can be counterbalanced by safety net programs and social networks. Chronic food insecurity is a form of food insecurity that persists over a continued period of time. Several factors can lead to chronic food insecurity such as long periods of poverty, lack of access to resources and credit and lack of assets. Policies aiming at improving poverty, access to credit and education help reduce chronic food insecurity.

Fish trade can impact food security directly in the form of fish as food, or indirectly as a source of income and livelihood for workers in the fisheries sector (Kurien, 2005; Kawarazuka and Béné, 2010). This study mostly uses indirect food security since the focus is on the traders' own food security. If cross-border fish trade has obvious direct effects on providing food to populations, it also produces less visible and indirect consequences. It provides traders with an income that they mostly use for buying food for themselves and their family (Clark, 2000). According to the FAO (2013), incomes deriving from agriculture, forests, fisheries and aquaculture activities play a vital role in determining food security outcomes. Insights on direct food security are also relevant in this study as fish traders use fish in their diets.

3.1.1 Conceptual framework

Drawing on food security theoretical frameworks from the FAO, the High Level Panel of Experts on Food Security and Nutrition (HLPE) and scientific papers, I am using a framework which appeared to be relevant for this study. The food security framework employed here relies

on six dimensions: *agency*, *stability*, *sustainability*, *access*, *availability* and *utilization* (Figure 3).

Figure 3: Identifying six dimensions of food security in its current definition. Source: HLPE, 2020.

This study uses the 1996 World Food Summit definition as stated in Figure 3 as framework since it prevails in academic literature and international organizations reports. There are four underlying notions to the concept of food security, commonly referred to as 'the four pillars', as identified by the FAO (2013): food availability, food access, utilization and stability. Food security is realized when and only when all four dimensions are complete simultaneously (FAO, 2008). Apart from stability, which represents stability of the other three dimensions over time, the core concepts are intrinsically hierarchical: availability is necessary but not sufficient to ensure access, and access is necessary but not sufficient to ensure effective utilization (Barrett, 2010; Webb *et al.*, 2006). Risk of food insecurity emerges when one or several of these dimensions is not fulfilled. The 2020 report by the High-Level Panel of Experts on Food Security and Nutrition introduces two other key aspects of food security: agency and sustainability. Their updated definition of food security emphasizes the necessity to include the principle of the right to food and to direct food systems towards the SDGs (HLPE, 2020). The recent inclusion of the notion of sustainability is somewhat similar to the one of stability. Both notions refer to the effects of food systems shocks and stresses, whether short-term (stability) or long-term (sustainability). This framework allows us to examine the different elements and processes specific to our subject through the lens of food security.

Availability

Food availability refers to the supply side of food security (FAO, 2008). It represents 'the amount, type and quality of food a unit has at its disposal to consume' (Ericksen, 2008, p. 238). In other words, food availability relates to how food is made physically available to populations. It is determined by levels of food production, stock levels and net trade and comprises elements of production, processing, transportation and distribution of food (Ericksen, 2008; FAO, 2008). Food-related policies can influence food availability directly or indirectly (FAO *et al.*, 2021).

Factors shaping food availability in the context of cross-border fish trade can be the fishery sector, trade networks and the border. The first aspect refers to fish production, whereas the two other elements relate to post-harvest processes.

Accessibility

Access refers to the ability for populations to physically, socially and economically acquire adequate amounts of food (HLPE, 2020; Hasselberg *et al.*, 2020). People can access food by purchasing, producing, hunting or foraging it. Ericksen (2008, p. 236) defines access as the ability for people to 'convert their various financial, political, and other assets into food, whether produced or purchased'. Access usually relates to individual or household levels of food security (Barrett, 2010). Around the world, food security issues are mainly due to accessibility difficulties. Food distribution between and within households remains uneven. Inequity in food distribution and allocation is derived from income, political and social power (Ericksen, 2008).

The capacity of governments, individuals and other actors to respond to negative shocks such as unemployment spells, price rises and loss of livelihood is a major challenge in ensuring food access (Barrett, 2010). Economic and gender inequalities can also critically affect accessibility (Hasselberg *et al.*, 2020).

In the context of transborder fish trade, accessibility relies upon physical, social and economic factors.

Physical access to food depends on availability and quality of transportation, storage and communication infrastructures around and at the marketplace (FAO, 2013). Cross-border trade, traditionally targeting scarcity areas, makes food available and accessible in urban and rural marketplaces in many places in different countries and at low prices (Hasselberg *et al.*, 2020).

Access to food can be limited by preferences and socio-cultural factors (Ericksen, 2008; Barrett, 2010). Consumers are influenced by *social and cultural* norms and values in their choice of food (e.g. tastes, religion, season).

Factors of *economic access* to food are disposable income, food prices and the provision of and access to social support and safety nets (FAO, 2013). Economic access is significantly determined by people's affordability (Ericksen, 2008). Affordability refers to a household or community's purchasing power in relation to the price of food. Ericksen (2008, p. 240) indicates many determinants of affordability, namely 'pricing policies and mechanisms, seasonal and geographical variations in price, local prices relative to external prices, the form in which households are paid, income, and wealth levels'. Besides, variations in poverty rates have major impacts on economic access to food (FAO, 2013). Food security benefits to a greater extent from indirect policies relating to poverty reduction such as employment creation, productivity growth and safety nets allocation than direct feeding programs (Barrett, 2010). Food prices and people's purchasing power explain for a large part economic access to food (FAO, 2013). Purchasing power is measured by the domestic food price index, that is the ratio of food purchasing power parity to general purchasing power parity and reflects the cost of food relative to total consumption. If the ratio is globally on an increasing trend, the domestic food price index in Africa is subject to stronger variations over time. Food is 'one of the most income-responsive of all basic necessities' (FAO, 2013, p. 28), therefore improving incomes and access to safety nets helps reducing poverty (ibid.).

Poverty and use of income generated by working in fisheries are the two main factors that shape economic access in this study. Provision of social support can also improve economic access (FAO, 2013). Physical access to marketplaces might also have influence accessibility.

Utilization

Utilization refers to the usage and consumption aspects of food. It reflects concerns about dietary quality, preparation, individuals and households' nutritional benefits from food, and food safety (Barrett, 2010; Ericksen, 2008; Hasselberg *et al.*, 2020). Different anthropometric indicators such as wasting, stunting and underweight among children under five years indicate a poor utilization of food (FAO, 2013). Besides, improvements in food access and availability does not always enhance food utilization, notably because good utilization requires good health. Diseases such as HIV/AIDS, diarrhea and tuberculosis are still significantly present in some

regions in Africa and hinder food utilization. Issues of clean water, sanitation and health care are vital for a reaching nutrition security and well-being (HLPE, 2020).

Nutritional dimensions of food insecurity such as undernourishment, malnutrition and hunger are important to examine and define. Undernourished people are people whose dietary energy consumption do not meet a pre-determined national threshold (FAO, 2008). Undernourishment is measured by the number of kilocalories required to carry out daily activities. Hunger is described as a severe form of undernourishment where people physically suffer from the lack of food energy consumption. Malnutrition results from 'deficiencies, excesses or imbalances in the consumption of macro- and/or micronutrients' (FAO, 2008, p. 3), and is not necessarily related to hunger and food insecurity but can emanate from inadequate care and health practices and environments.

In this study, the notion of utilization will be used to investigate how diets in variety and quality were impacted by changes in availability and access.

Agency

In relation to food security, the HLPE (2020, p. 8) defines agency as the 'capacity of individuals or groups to make their own decisions about what foods they eat, what foods they produce, how that food is produced, processed and distributed within food systems, and their ability to engage in processes that shape food system policies and governance'. The agency dimension brings to the traditional concept of food security notions of empowerment, and participatory and inclusive decision-making. Agency is situated and influenced by local power dynamics, wealth disparities, gender norms and governance structures (Peter, 2003 in HLPE, 2020, p. 8). Differences in agency between actors are displayed by social disparities (World Bank, 2005 in HLPE, 2020). On the one hand, individuals and communities such as women, fisherfolk, vulnerable food system workers, poor people in urban areas and marginalized communities largely lack agency in food systems and concerning their food security condition (HLPE, 2020). At the same time, the same communities are generally more likely to suffer from food insecurity. On the other hand, other actors such as large corporations or governments have significant agency and shape food processes and environments in ways that do not always benefit local populations. Governments in particular play a prominent role in that they have the ability to stimulate and reinforce individuals' and communities' capacity to take part in decision-making processes in order to readjust power relations that influence food processes and, in turn, food security. Agency in the context of CBFT is presented in section 3.3.2.

Vulnerability is in my view an important concept in relation to food security and agency. It is defined by the FAO (2008) as the 'vulnerability to an outcome from a variety of risk factors because of an inability to manage those risks' (p. 3). Vulnerable people are in this view people that do not suffer from food insecurity at a given time but might become food insecure in the future, typically under changes in environmental, social, economic and political conditions. Therefore, the less agency a person has, the more vulnerable they are to become food insecure in times of stress. People need to be given the tools to manage risks in case of a crisis.

In the context of cross-border trade, agency regards both local populations' capacity to buy fish in accordance with their preferences and tastes and the ability of traders and populations to participate in the governance of food systems, processes and activities. This implies access to adequate resources and sufficient political and social power or support.

Stability

Stability originally refers to the 'stability of the other three dimensions [namely availability, access and utilization] over time' (FAO, 2008, p. 1) and the ability of food systems to cope with risks and shocks directly or indirectly induced by political, social, economic or environmental instability. It typically focuses on short-term effects of shocks such as food supply variability and price volatility (FAO, 2013). Stability of food availability is also influenced by seasonality of fish catches (Hasselberg *et al.*, 2020). The COVID-19 related border closure is the shock in the context of this study.

Sustainability

The HLPE defines sustainability as 'the long-term ability of food systems to provide food security and nutrition today in such a way that does not compromise the environmental, economic, and social bases that generate food security and nutrition for future generations' (HLPE, 2020, p. 9). It emphasizes the role of political, economic, and social systems in ensuring food security. Sustainability mostly regards concerns of food consumption as well as production, processing, transportation, and use (ibid.).

With these conceptions in mind, it will be important to determine the nature of the COVID-19 consequences on cross-border trade activities and whether they threaten food security over a short or a long period of time.

3.2 Gender

As most cross-border fish traders are women, gender takes an important part of this thesis. The definition of the term will help understanding if and how gender can affect trading processes. I believe that it is also important to recognize women's activities and contribution. Gender norms define occupation for men and women and food trade is a traditional occupation for women in Ghana. Gender is a major factor in influencing agency.

Sex is the fixed biological given of a person whereas gender is what society makes of it (Cresswell, 2013; Longhurst, 2017). Gender refers to a social construct and is susceptible to change over time or place. It consists of 'socially produced norms and expectations about what is "masculine" and what is "feminine"' (Cresswell, 2013, pp. 153-154). Often, women's roles tend to be devalued in comparison with men's roles in society or in the household (Longhurst, 2017). In addition to gender as roles, gender relations explain how power relations influence and are influenced by gender. Gender relations are mostly unequal and at the disadvantage of women (Longhurst, 2017). In the 1990s, feminist geographers developed a third understanding of gender which recognized that differences between women matter as much as differences between women and men. The term 'women' cannot speak for all women in the world and studies needed to examine 'smaller-scale, more localized expressions of gendered subjectivities' (Longhurst, 2017, p. 3). The focus shifted from the white, Western perspective on gender to the recognition and representation of the diversity and plurality of voices within feminist geography. Within African feminist writers, not only Western feminism perspectives are problematic in the African context but the notion of feminism itself is inappropriate (Cornwall, 2005). In the African context, men and women are said to have rather complementary roles than being in conflict. An emphasis lacking in Western feminism but which is of substantial importance in African feminism is that of motherhood and the role of 'maternal politics' in Africa (Cornwall, 2005). According to Nnaemeka (2005), the notion of 'womanisms' would be more appropriate, especially in its plural form that can depict not only women's engagement but also the plurality of their engagements. Besides, African feminism differs from Western feminism when it comes to priorities:

> 'The much bandied about intersection of class, race, sexual orientation, and so forth, in Western feminist discourse does not ring with the same urgency for most African women for whom basic issues of everyday life are intersecting in most oppressive ways' (Nnaemeka, 2005, p. 32).

The notion of the 'body' brings interesting insights into the concept of gender. As cross-border traders travel, their body is a vital 'tool' for their job. Their work can be considered as the 'sorts of bodily activities […] that require the enlistment of strength and the confrontation of the body's capacities and possibilities with the resistance and malleability of things' (Young, 1980, p. 210). When women work, their body bring about a movement whose purpose is to complete a task. Understanding how cross-border traders perceive and live their body at work can be of interest in this context.

As mentioned earlier, women dominate the post-harvest sector in fisheries, including trade processes. This is not only true in the fishery sector; women are predominant in all types of trade in Africa (e.g. foodstuffs, textile) and in marketplaces. The trader role has historically been regarded and constructed as female (Overå, 2007). In Ghana, the significant role of women in trade and marketplaces can be explained by its cultural construction of gender where 'men's and women's economic functions were separate but complementary' (Robertson, 1984, p.13 in Overå, 2007). Colonialism facilitated trade as a female activity since women gathered in agricultural activities involving trade whereas men became wage earners (Desai, 2009). Through trade activities, women thus 'formed their own social economies' (ibid., p.379). Ghanaian traders express specific behaviours such as talking loudly, using physical strength or exercising power over other people that could be seen as rather unfeminine in other African or world regions (Overå, 2007). However, these behaviours are part of working as a trader. Among several Ghanaian communities, engaging in trade is considered as a '"natural" way for women to fulfil the social expectation of combining their roles as wives and mothers with income generation' (Clark, 2000 in Overå, 2007, p.540). Men started entering the trading business a couple of decades ago as a result of altered political and economic conditions (Overå, 2007). The marketplace remains however a major employment sector for women (Clark, 1994; Overå, 2007). In Clark's (2000) view, the predominance of woman in trading networks benefits not only traders but other women as well especially through same-sex connections between buyers and sellers. This system can lead to greater gender equity.

Gender inequalities tend to deepen during food crises (FSIN and Global Network Against Food Crises, 2020). Women are the first ones to limit their food rations and sacrifice themselves so that the children and old people can eat first. Even among children, food distribution is unequal and at a disadvantage for girls (Oxfam, 2020 in ibid.). Unlike many other high-protein foods, fish has proven to be more equally distributed and consumed among household members, notably women and children (Béné and Heck, 2005). However, they still

consume less fish than men on average, despite their higher micronutrient needs (Kawarazuka and Béné, 2011). Cross-border trade might be a crucial tool to improve gender equality (Olusola and Lere, 2020). At the same time, women generally have limited agency in the food systems which can make them more vulnerable to food insecurity.

3.3 Defining cross-border trade: the importance of social networks, resilience and agency

Trade networks influence three sides of food security, namely availability, sustainability and agency. Their informal and flexible nature allow traders to know when and where to deliver fish, which increases availability. Trade networks rely on trust and social embeddedness that enable traders to exchange information. The traders' resilience and ability to learn from shocks and stresses help making the food system more stable and thus enhances sustainability. Moreover, securing a livelihood through trade is a means for women to strengthen their agency.

3.3.1 Trade networks, social capital and resilience

Traders can be classified in different categories depending on the type and scale of their trade (Overå, 2006). Overå (2006) defines them as follows:

> '(1) *wholesalers*, or travelers, as Clark (1994, p. 9) calls itinerant traders who travel to buy goods in rural areas; (2) *wholesale retailers*, who sell the goods in bulk to (3) *retailers*, who buy bags of maize, crates of tomatoes, and so on, which they either sell directly to customers, or sell in even smaller quantities to (4) *petty traders and street hawkers*' (p.1303).

Wholesalers usually travel to regional markets or even to other continents and trade in high-value goods (Desai, 2009). According to Desai (2009), wholesaler/retailers[5] sell retail and/or wholesale. They buy and sell in local and regional markets with lower value items and volume than wholesalers but higher than those of retailers. Retailers do not travel far and trade in local markets. The scale of trade is also defined by the means of transportation of traders. Some carry headloads to border towns, other travel by road to ECOWAS countries; other even by air to Europe, the United States of America, the Middle East or China (Wrigley-Asante, 2013).

According to Desai (2009), cross-border trade in Western and Southern Africa often consists of 'low-cash flows, small consignments, no taxation and traders accompanying their

[5] 'Wholesale retailers' (Overå, 2006) and 'wholesaler/retailers' (Desai, 2009) are the same category of traders. This study uses only the term of wholesaler/retailer for better readability.

consignments' (p. 379). Most cross-border traders carry goods from a foreign country to sell it in their home country; few bring goods from their own country to sell in foreign countries. Cross-border trade in West Africa has a different structure than trade at the local, regional or national level. More than just relying on the 'trust and cooperation among local traders', it also induces 'distant ties developed with foreign partners from a different origin, religion or culture' (Walther, 2015, p. 603). Traders who engage in cross-border activities tend to occupy a role in the general trade structure that makes them more important than those who do not.

Cross-border food trade activities are primarily considered as sustainable and resilient in West Africa as they contribute to the supply of food from places with cheap, abundant foods to places in neighbouring countries that experience scarcity (Olusola and Lere, 2020). Border towns particularly benefit from it.

Trade networks have for a long time been known as resilient, since at least the colonial era and the adaptation of local populations to political and economic structures, as mentioned above (Walther, 2015). They have proven to be able to allocate supplies during and after food crises in the past, preventing severe effects of food and financial crises (Olusola and Lere, 2020; Walther, 2015). Clark (2000) argues that the resilience characteristic of the trade system emanates from its gendered construction. Women in the trade system are energetic, resourceful and they 'respond rapidly and creatively to the new opportunities' (ibid.: 255). Guyer (1987 in Clark, 2000) explains that the trade system is flexible in its structure, allowing for long-term reliability and stability of food supplies. In periods of crises, the system responds with shifts in personnel and sources of foodstuffs.

> 'Structural flexibility within the marketplace system has an important cushioning effect on the seasonal fluctuations and political crises that repeatedly threaten food supplies and incomes, although it cannot erase these problems entirely' (Clark, 2000, p. 268)

Food supply becomes more reliable and less rigid. Trading networks are dynamic in that they can provide food for nearby as well as more distant regions. Guyer argues that it creates the reserve capacity necessary to withstand various stresses (ibid.: 256).

Resilience in cross-border trading also stems from the great amount of social capital traders acquire through trade (Walther, 2015). Social networks have many benefits on trade and on traders' productivity. They provide better information on prices, they improve truthfulness of clients and suppliers and ease access to credit. However, social networks do not necessarily benefit the most qualified traders; they rather promote those who are well connected, making it

difficult for novices to enter business. Social networks are important when formal institutions are not involved in trade business. Traders find in social networks a trust that formal institutions and states are unable to provide. The degree of centrality or connection of a trader in relation to other traders is determined by two factors, namely embeddedness and brokerage (Walther, 2015). Embeddedness reflects the number of ties a trader has inside her own community while brokerage refers to the degree of contact with other actors beyond her own community or group. Traders bring together disconnected groups, for example their community and another community across the border. Traders have strong social networks when they are both strongly embedded within their community and maintain ties with external actors. The more central actor a trader is in her social network, that is to say surrounded by many other actors with whom she often interacts with, the more trust between her and her peers and the less risks linked to business activities. Walther (2015) demonstrates that cross-border trade networks are rather decentralised. They comprise few ties between the actors and few highly connected actors. Cross-border trade structures being decentralised, they are therefore less efficient in information and resource flow but better 'adapted to the constant variations in the volume and direction of business activities due to seasonal and cyclical food shortages that affect West Africa' (Walther, 2015, p. 616). Decentralised networks are thus regarded as more resilient than centralised ones.

The informal quality of trade activities at the border can also participate in enhancing resilience. Close relationships with border officials, whether of a clientelist nature (Walther, 2015) or when officials are old friends or relatives (Chalfin, 2010), have the potential to facilitate and improve border crossing for informal traders, notably in regard to customs and documentation. Most government officials are usually 'pro-traders' since their own sisters, mothers or wives are traders themselves (Desai, 2009). As argued by Walther (2015), the social structure of trade networks is the key element to adaptation to constraints and opportunities generated by the border.

At the regional level, the flow of goods produced by cross-border trade has proven to be one of the main stability factors for economically fragile countries (Igue and Zinsou-Klassou, 2010). Countries in which populations are engaged in such activities benefit from them not only through financial resources but also largely in terms of food supply. Besides, informal cross-border trade benefits more to regional integration than formal trade does (Olusola and Lere, 2020).

3.3.2 Traders and agency

Entering cross-border trade activities allows poor women not only to secure a livelihood but also to 'address the inequalities created by the structural adjustment policies' (Desai, 2009, p. 380) in spite of the many risks associated to such activities. Engaging in informal cross-border trade is a means for women to overcome poverty and enhance their living conditions. According to Desai (2009), poor women have benefited from global economic openings to become cross-border traders, therefore developing regional networks that enable them to raise their living standards. Walther (2015) even argues that 'the commercial skills of traders are widely seen today as a crucial instrument for alleviating poverty due to income earnings and employment opportunities for poor households' (p. 616). For middle-class women, cross-border trade is a means of upward mobility and profits. Households with the wife or mother engaged in fish processing or trading spend a larger part of their income on food due to gains in purchasing power from these activities. Kawarazuka and Béné (2010) assert that the role and economic status of women are 'key determinants of the food security and nutritional status of households' (p. 351). Thereby, the greater control women have over the household's income and expenses, the higher proportion of income spent on food. Women's involvement in fish processing and trading activities is said to improve their children's nutritional well-being (Kawarazuka and Béné, 2010). Many women fish traders being heads of households, fish can represent the primary or sole source of income (Béné and Heck, 2005). Béné and Heck (2005) even argue that fish trade provides a form of safety net to protect them against price volatility, economic and political instability and other factors that might affect their food security.

If small-scale fisheries are globally being progressively recognized, their communities are often neglected and lack access to participation in decision-making processes that affect their lives (Zelasney *et al.*, 2020). Women in particular find themselves marginalized from these processes. Factors that can potentially improve fishworkers' agency are social organization (e.g. cooperatives), appropriate infrastructures and training. Zelasney *et al.* (2020) argue that the ability of fishworkers to participate in decision-making processes is mainly constrained by 'limited organizational capacity and unequal access to usable assets, technology, finance, education and services' (p. 2). For instance, facilitating literacy and numeracy learning among fishworkers could help them engage in formal markets, providing them with social and economic opportunities inaccessible in the informal sector such as safety nets.

Traders' agency is also limited by actors related to borders and trade processes. Most borders remain rigid and associated with interventions by occidental countries in political and

economic affairs as an attempt to benefit from African disparities, African state leaders struggle to balance spatial inequalities (Igue and Zinsou-Klassou, 2010). Developing cross-border trade and commercial activities has emerged as a bottom-up process to redirect resources to poorer regions. Trade facilitation policies targeting cross-border trade are necessary to facilitate traders' crossing of goods across borders and simplify border procedures (Olusola and Lere, 2020). The actors with the most agency to improve regional trade are regional organisations such as ECOWAS or AfCFTA (Walther, 2015). They have the power to implement place-specific policies and programmes aiming at easing administrative, tax and custom procedures, they can help encourage traders to register their business and improve transport conditions and costs.

Despite their general lack of agency, cross-border traders often enforce innovative strategies by themselves to improve their business and reduce risks. Telecommunication technology for example has proven to be useful for traders, helping them organize their activities more efficiently and save time and money (Overå, 2006; Wrigley-Asante and Agyemang, 2019). Traders' reputation and self-confidence are also improved. Traders equipped with mobile phones travel less frequently than those who are not, and transfer money electronically to their supplier, no longer travelling with large sums of money.

3.4 Borders

The concept of borders encompasses almost as many definitions as they are uses of the notion; defining the term and highlighting its components that influence cross-border trade activities and, in turn, food security, is essential.

Borders have a major influence on cross-border trade. In relation to food security, its degree of openness can influence food supply and availability. Moreover, institutions and actors at the border regulate border crossing. The border has significant agency in shaping the environment that cross-border traders work in. This is not without effects on the food system and food security for both traders and their customers.

3.4.1 Defining borders

In its first and normative sense, the border broadly refers to lines separating and compartmentalizing social, economic and cultural spaces (Newman, 2017). Highly symbolic (Mezzadra and Neilson, 2013), a border is an important geographic demarcator at the international level as it 'separat[es] the sovereign state from its neighbor and, as such,

determin[es] the nature of the political and economic development on either side of the boundary' (Newman, 2017, p. 1). In geographical studies however, the notion of borders underpins the related but inherently different concepts of boundaries and frontiers. Newman (2017) distinguishes between the different notions as follows. The term of border is a political concept, identified as the territorial limits of a state and requiring specific documents and permits in order to be crossed. The term of boundary adds to the political notion of the border social and ethnic perspectives that characterize and divide the different populations on either side of it. Unlike borders and boundaries, the frontier is the zone, or the area on both sides of a border 'within which human activity is impacted by the presence of the border' (Newman, 2017, p. 1).

Many factors determine the influence of the border, including its degree of openness/closure and the extent to which the neighboring countries are friendly. Good neighborly relations enable dynamic, prosperous frontiers (Igue and Zinsou-Klassou, 2010). The opposite is also true. A border, by means of separation between groups of population, shapes relations between neighbors (Newman, 2017). Terms of borderlands, transition zones, border zones, cross-border regions and cross-border spaces also refer to the concept of frontiers. A frontier can be perceived as either a barrier to movement or as a meeting place, or even as a space 'where cultural and social hybridity is created' (Newman, 2017, p. 10). Its function is determined by the extent of contact between the two sides of a border. Newman (2017) argues that open borders make cross-border spaces particularly effective, notably when it involves food provision and commerce activities. In this sense, open borders contribute to the availability of food by enabling traders to cross the border with their foodstuffs. According to van Houtum and Bueno Lacy (2017), the frontier is even more than that. The frontier is the 'antithesis of a limit' (ibid., p. 1); it represents hope and opportunities for the people who cross it and originates more from personal aspirations than a lived reality. A frontier indicates a zone of transition rather than an end or a beginning in itself. The frontier means imminent change, engendering 'raptures of improvisation, spontaneity and resourcefulness' (ibid., p. 1). The frontier can be represented by a space of incessant flows and possibilities, a place of expansion and a mobile front (van Houtum and Bueno Lacy, 2017; Mezzadra and Neilson, 2013). The frontier's morphology is thus more exciting than the ones of the border and the boundary which are characterized by disciplining customs and waiting lines (van Houtum and Bueno Lacy, 2017). The frontier involves a continuous tension between liberation and oppression. Borders can also

be referred to as ‘borderscapes’ which translates the dynamic nature of the border (Mezzadra and Neilson, 2013; Brambilla, 2014).

Beyond distinctions of borders and frontiers, and open and closed borders, the border is a complex legal, cultural, social and economic concept and institution (Mezzadra and Neilson, 2013). For instance, as a social institution, the border is characterized by tensions between practices of border crossing and border reinforcement. In a general manner, borders ‘regulate and structure the relations between capital, labor, law, subjects and political power’ (Mezzadra and Neilson, 2013, p. 8) through processes of blocking, confrontation, contact and passage. Through their dual nature of connecting and dividing, borders create forms of sociability and vulnerability.

Since the 1980s, the concept of the border in Central and West Africa has evolved away from colonial perspectives towards ideas of cooperation between nations (Igue and Zinsou-Klassou, 2010). The term of ‘*pays-frontière*’, or borderland, was coined as part of a regional integration initiative in 2002 in Mali as a geographical space astride the dividing lines between two or more neighbor countries where populations are connected by socioeconomic and cultural relations (ibid., p. 17). Border zones have a central role in organizing space in Central and West Africa (Igue and Zinsou-Klassou, 2010). They work as unified geographical entities or regions and each one of them rests upon specific factors and features. Igue and Zinsou-Klassou (2010) consider that a borderland exists only truly when it entails challenges and concerns for both the population and the state. The Ewe region between Ghana, Togo and Benin, the Akan region between Ghana and Côte d’Ivoire, the Gourma region between Benin, Burkina Faso, Ghana and Togo and the Lobi region between Burkina Faso, Ghana and Togo are all examples of such borderlands in West Africa. Borders can be ‘mute’ in the sense that they are marked by the absence of contestation about the border as dividing line and absence of economic activity; they can also be active when involving dynamic economic activities, strong movements of population and goods (Igue and Zinsou-Klassou, 2010).

Igue and Zinsou-Klassou (2010) distinguish between different types of border zones: (1) low-dynamic borderlands; (2) alternate borderlands, mainly sites of passage and storage; (3) national peripheries. The Aflao-Lomé border being rather dynamic (Nugent, 2021), it can be considered as a national periphery. A national periphery is a strong, dynamic entity often drawn from historical relations and is materially visible by infrastructures such as marketplaces or twin towns, a continuous flow of people, intense production and trading activities and good-quality collective facilities. Borderlands as national peripheries take advantage from political,

economic and fiscal disparities between states and are considered as partly exempt enclaves from public authorities' control. Even though they are beneficial for local populations as they provide livelihoods and improve incomes, commercial activities in these spaces are mainly informal, disrupt national economies, generate little added value and even contribute to illegal networks (Igue and Zinsou-Klassou, 2010, p. 54).

As globalization processes emerged in the 1980s and 1990s, border narratives shifted towards a 'borderless' world as a result of the appearance of global flows of capital and information and zones of free movement between states (Newman, 2017). The traditional idea of the border as barrier to the movement of people and goods has significantly been reduced. The sovereign state remains a strong actor in border politics but is challenged by new supra- and intra-state geopolitical interactions induced by the opening of borders and facilitated cross-border movement. The securitization discourse is a counter-narrative to the open border and emerged in the early 2000s after events of global terror. Closing the border is originally a means for states to prevent threats from entering the territory. For example, the Ghanaian government often closes the Ghana-Togo border during national elections in order to prevent 'foreign' nationals from voting for the opposite party (Raunet Robert-Nicoud, 2019). In literature, open borders started to be depicted as the 'good', or idealized situation, whereas closed borders were described as the 'bad' (Newman, 2017). In practice, the two narratives are not that binary, both benefiting the state and the economy in some way. Besides, contrary to received opinion, the opening of borders does not mean erasure of differences between neighboring countries. According to Newman (2017, p. 11), cross-border experiences 'strengthen, rather than diminish, the notion of difference on two sides of a border', through for instance, price of goods and language spoken. The introduction of global flows first established new frontiers spaces into territories that, in turn, created 'confusions between legal and illegal, public and private, disciplined and wild' (Twing, 2005 in Mezzadra and Neilson, 2013, p. 211), more or less violent and intense in different settings. The extent to which a border is tangible or invisible impacts border experiences (Newman, 2017).

African border zones are marked by a wide network of border markets, the emergence of twin towns and a continuous flow of people and goods (Igue and Zinsou-Klassou, 2010). Food supply and income generation are some of the major benefits from these flows.

3.4.2 Border and power

Power relations have an important role in border studies (Newman, 2017). They can relate to those who engage in delimitating the border as well as those determine how the border is managed. Deciding to open or close a border is a political decision and reflects power interests in relocating the control of borders. Moreover, the frontier is a spatial expression of power; it represents 'ideological, geopolitical, and culturally moving zones of power' (van Houtum and Bueno Lacy, 2017, p. 4). Borders are the result of the territorialization process that define the different spaces for power (Igue and Zinsou-Klassou, 2010). Changes in borders policies and administration reflect power transformations across several geographical scales and beyond the border itself (Mezzadra and Neilson, 2013). However, Mezzadra and Neilson (2013) argue that sovereign and government conceptions of power are inadequate to account for current border politics and struggles. Current regimes tend to governmentalize the border, producing 'a set of heterogeneous social practices and structures, of discourses, actors and rationalities' (ibid., p. 179). Decentralization has positive effects on border governance since it does not consider a national territory as a politically uniform space but enables adequate local policies and practices (Mezzadra and Neilson, 2013). The border is often a space for questioning sovereignty and governance as it is characterized by localized, boundary or even deviant practices. In recent decades, state power at the border has been challenged by the introduction of special economic zones, often resulting in tensions and conflicts but opening up possibilities for the 'formation of new territorial assemblages for the workings of governmentality and sovereignty' (Mezzadra and Neilson, 2013, p. 212).

If 'all borders are politically and socially constructed' (Newman, 2017, p. 8), African borders are the result of colonialism. The establishment of boundaries in colonial times and asymmetrical power relations between colonialists and populations resulted in divisions of ethnic groups across borders. Formerly homogeneous, large ethnic groups were often reduced to ethnic minorities in their new country. The dynamic nature of border zones in many countries in Africa can however be explained by the need to develop and improve the conditions of lives of the populations at the border, victims of the colonial division (Igue and Zinsou-Klassou, 2010). Populations' refusal of colonial partition gave rise to a new form of spatial structure dominated by cross-border trade and reinforced solidarity between local communities. This is especially the case at the border between a 'small state' with few resources and a 'large state' with wider economic opportunities, allowing for a redistribution of resources made possible through historical relations. The border emerges as a site of both economic reallocation and

social and economic integration of populations. Borders are now perceived as historical scars that should get erased rather than separation lines. Borders should become spaces of neutrality and assimilation.

Necessary documentation (e.g. passports, visas, customs fees, permits) has emerged as a powerful form of border control, giving state agencies and officials the ability to whether permit or prevent people and goods from crossing borders (Newman, 2017).

As borders are sites of state control, their governance is not always accepted by the populations and can give rise to border struggles and conflicts, notably in former colonial countries (Igue and Zinsou-Klassou, 2010). These tensions can show how permeable a border is, as well as they can reveal its tendency to solidify that results in shutting down paths of possibilities and negotiation (Mezzadra and Neilson, 2013). Local populations at the border can play a role of intermediaries between local and non-local traders who cross their border, collecting their own taxes from cross-border traders as a way to challenge local state authorities such as border and customs officials (Desai, 2009).

3.4.3 Trade at the border

Colonial times have had major effects on trade structures by establishing national borders and customs regulations, especially between French and British colonies (Walther, 2015). Trade became disrupted at first, but local traders quickly adapted to the situation. Transnational trade networks fully thrived after the colonial era with traders taking advantage of national discontinuities. Walther (2015) argues that national borders allow intra-regional trade to thrive due to prices differences between countries and import/export bans. The crossing of border(s) creates incentives among West African traders. Nevertheless, other reasons might prevent trade development in border regions such as poor market and road infrastructure, little business activity and lack of intermediaries inclined to develop transnational networks. Delays that traders experience at border check points are mostly due to the lack of capacity of border agencies. Besides, bribery and corruption are common practice among border officials (Wrigley-Asante and Agyemang, 2019, p. 25).

3.4.4 Border and identity

The border is not a solely spatial concept. The diverging experiences that people undergo when crossing a border translate how complex the border actually is (Newman, 2017). Different social, cultural, religious, linguistic and economic groups are treated differently at the border, influencing whether positively or negatively the disparities between those groups. Their

different characteristics (skin color, accent, material possessions, manners, diets, etc.) are politically interpreted by border officials and can lead 'manageable […] elements of socialization' or into 'obstacles for people's spatial and social movement' (van Houtum and Bueno Lacy, 2017, p. 2). For instance, in West Africa, belonging to a specific ethnic community can relatively help you in crossing the border, depending on how well the community is perceived in the country one enters (Igue and Zinsou-Klassou, 2010). Populations on both sides of a border often share a close bond (Desai, 2009).

The border produces subjectivity by exacerbating certain features of people who cross it (Mezzadra and Neilson, 2013). Gender, age, nationality and ethnicity are, among others, personal characteristics that can ease or constrain the crossing of a border, often creating situations of injustice. The border is not just a limit on pre-existing subjects but as people engage with it, they necessarily create subjectivity. Techniques and means of power at the border as well as social practices and struggles have to be analyzed in light of the multiple features that constitute people.

Gender, trade networks, and borders are relevant concepts to understand the cross-border trade system. Gender norms, trading processes and types of border, to cite a few, influence CBFT and the traders' food security in different aspects. Shifts in perceptions and experiences of these elements due to COVID-19 restrictions might in turn, alter the traders' food security condition. Using different methods, data was collected in order to discuss these theoretical perspectives in the context of the study.

4 Methods

This chapter focuses on the methodology and approach used in this thesis. The research design and means of data collection and analysis are described. Choices of sampling methods are explained. The process of fieldwork and working with an interpreter is depicted with an emphasis on the positionality of both the researcher and the interpreter. Insights on ethical considerations are included. This chapter also reflects on the quality and validity of the data and the study.

4.1 Scientific approach to the research process

The scientific approach is the basis of any research project as it builds the foundations of the research design, data collection and data analysis. This study is based on a feminist approach to geography and science. It is feminist not only through its focus on women's work and how women were impacted by the pandemic crisis, but also because it relies on feminist epistemology and methods. Working on a research project requires to think about how knowledge is produced, that is epistemology. Epistemology recognizes that knowledge is humanly constructed and that there is not one knowledge or truth waiting for us to be discovered but there is a plurality of perspectives and interpretations of knowledge (Cope, 2002). Feminist epistemology in particular considers that gender roles, gender relations and gender norms are important factors that influence knowledge production and that those who are oppressed or marginalized have different ways of constructing and legitimating the production of knowledge than those who are privileged or in power. The concept of gender has a major role in this thesis, as explained in Chapter 3.

There exists several views of feminism in geography; this project is based on notions of feminism from both feminist standpoint theory and poststructuralist feminism. Poststructuralist feminism introduces the notion of intersectionality and assert that if gender is an important factor in constructing knowledge and understanding power relations, so are other social categories such as age, class and race (Couper, 2015). Gender alone cannot shape people's experiences. It is important to recognize that 'women' is a heterogenous group of people. Ideas of feminist standpoint theory are relevant because they claim that knowledge emanates from a particular context and is situated. Knowledge is valid from the standpoint of the person who produces it (Cresswell, 2013). Haraway's (1988, in Cope, 2002) idea of situated knowledge is especially relevant here since the context for the study is different from the context I am used

to in my everyday life. The Western notions of gender and feminism that I have studied differ from those that are used in the area of study.

When it comes to methods, feminist research emphasizes the importance of being reflective all along the research process, especially during the analysis (Cope, 2002). It is important that the researcher reflects on how their position (cf. below on positionality) as well as how gender roles and norms in the context under study can affect knowledge production. Rose (1993 in Cresswell, 2013) argues for a 'politics of location', a 'politics that recognizes the location of the knower and known in relation to multiple matrices of power (class, race, sexuality, etc. in addition to gender)' (p. 156).

4.2 Research design

Research design plays a significant part in any research project. It explains 'the relationships between methods, techniques, analysis and representation' (Clifford *et al.*, 2016, p. 7). It results from all the choices the researcher makes along the research process from defining the research questions to choosing data collection methods and determining ways of analyzing and presenting data and results. It is essential to be reflexive and explicit about it.

4.2.1 Difficulties of planning a research project under COVID-19

I started working on this thesis before the pandemic started and the original research question focused on the role of cross-border fish trade to food security. The context of closed borders and the presumed impossibility for traders to cross the border made this project even more relevant. The context of COVID-19 was interesting for the thesis' topic, however, designing this research project in times of lockdowns, closed borders and travel bans has been particularly difficult. As the crisis unfolded in 2020, the possibility of a fieldwork became more and more unconceivable. Online methods appeared as the only viable option, although far from optimal for a topic on informal activities. Starting with material from journal articles, grey literature and newspapers articles, I soon realized that not only little material was available because of the novelty of the situation, but the information given was very general about food security or trade at a global level or the continental level of Africa. Two digital interviews were conducted but the lack of connection and overall quality of the calls dissuaded me to continue with digital interviews. A proper fieldwork was critically needed. I started preparing a fieldwork in November/December 2020, but the severity of the crisis and the need to prioritize my health made me take a leave during the spring semester of 2021 and postpone the fieldwork planned

in January-March to August 2021. When I eventually traveled to Ghana, the COVID-19 situation did not complicate fieldwork much. Even though data on the subject is more available now, I believe this thesis would have been different and not so detailed in regard to actual results without the fieldtrip.

4.2.2 Mixed methods and triangulation

Mixed methods, as commonly understood, include both qualitative and quantitative methods (Gray, 2014). This study uses mainly qualitative methods but also includes some quantitative data and can thus be considered as a mixed method design. The main data gathering methods in this project are a survey, interviews and secondary data collection; observation and informal field discussions are also used. They are useful for capturing a more complete portrayal of the phenomenon under study and its effectiveness rests on the assumption that the weaknesses of a method will be compensated by the strengths of another one (Jick, 1979). Methods were mixed in this project for purposes of complementarity and development: the combined quantitative and qualitative methods can 'measure overlapping but also different elements of the phenomenon' (Gray, 2014, p. 241), and the results of one method are used to prepare the development of the other. Here, the results of the questionnaire were used to create follow-up interview guides. Even though fieldwork was made possible in the end, I decided to still gather online secondary data to triangulate the results from field methods and strengthen their validity. Triangulation is the 'process of drawing on different sources and perspectives' (Clifford *et al.*, 2016, p. 9). It allows the researcher to maximize the understanding of a research (ibid.). Quantitative data are found in answers from certain questionnaire questions and in data from secondary sources; qualitative data result from interviews, observation, informal discussions as well as the questionnaire which includes many open-ended questions. Quantitative data are used to draw the profiles of the traders and evaluate the different impacts of the COVID-19 crisis. Qualitative data express traders' personal views, experiences and strategies.

4.3 Working in the field

Fieldwork in Ghana lasted about eight weeks from August to October 2021. Most of the fieldtrip took place in the Volta region and some time was also spent in Accra. Due to health problems in early September and again in late September, I decided to shorten my trip by a week. Had I not been sick and decided to go home earlier, I would have had more time for follow-up interviews in the Volta region as well as additional firsthand interviews in Tema. The fieldtrip was also geographically limited since it was impossible for me to cross the border. I would have

had a better insight and overview of the whole cross-border trade process if I had been able to witness it myself. Despite these limitations, I am very glad that I was able to travel to Ghana and collect primary data.

I was lucky that I not had to trouble myself with finding an interpreter in the field. Amy Atter, partner of the SmallFishFood project through the CSIR Food Research Institute in Ghana, knew an educated, English-speaking man in a fishing community close to the border who would be able to translate interviews for me and whom she fully trusted. I hired him following her advice. We contacted him before I traveled to the border and he recommended that the Food Research Institute should write a letter explaining my stay around Aflao so I would not get into any trouble with the local authorities. In Aflao, we showed the letter to several local authorities such as the Immigration Service, the National Security and the Customs Division. Had I not been in contact with the interpreter beforehand, I would never have thought of needing such a letter and presenting myself officially to local authorities. His local knowledge was useful from day one. We went through the questionnaire I had made on the first day we worked together, to make sure he understood all my questions and would be able to translate them in the best possible way.

4.4 Sampling methods

26 Ghanaian informants were interviewed in six different communities and nine Togolese informants were interviewed in Ghana at the local market in Denu or in a local fishing community. In total, 35 informants were interviewed.

Snowball sampling is the main sampling method used in this study. Gobo (2004) defines snowball sampling as ‘picking some subjects who feature the necessary characteristics and, through their recommendations, finding other subjects with the same characteristics’ (p. 419). This sampling method is described in literature as convenient and purposive and does not depend on random or probability factors (Geddes *et al.*, 2017). In this study, the informants should be cross-border traders, specifically traders who buy fish in Ghana to sell it across the border to Togo, Benin or even further because fish trade flows essentially travel in that direction. Another characteristic was that the trader had started her business before COVID-19. Two informants did not totally fit the necessary characteristics, but I only realized it in the middle of the interview process which I politely finished until the end. They were then removed from the sample.

I assumed before fieldwork that snowball sampling would play a big part in my project since traders are usually part of a network of social relations, which is almost a requirement when it comes to snowball sampling (Geddes *et al.*, 2017). I was rather unsure about where to start and where to find the first trader that could lead me to other informants. My interpreter assured me when we first met that finding traders to interview would not be a problem and that we would probably talk to a lot of them. I was lucky, for on the day of my arrival in Denu (neighboring Aflao) I found the trader who would be my first informant. My hotel was located close to a fishing community (Community A), and my interpreter and I went for a walk to the beach on the day I arrived. We randomly found two women who sat talking close to the houses and my interpreter started engaging with them in Ewe. He asked them if they knew cross-border traders and one of them replied that she was one herself. We agreed to meet the next morning by her house on the beach. The starting point for interviews in other communities was different. My interpreter had at least one contact, often fishermen, in all the fishing communities we went to, except for Community A. He would usually call them and agree to meet one of the following days. All of my other informants were found with the help of informants we had already interviewed, or through my interpreter and his contacts. In Communities A and C, the processes were the same: I started a first interview with an informant, and other traders would show up on their own for their daily trip to the beach, or another informant or even someone else would go find them because they knew they corresponded to the profile I was requesting. The first trader I interviewed in Community C was found by my interpreter as he was a close contact of her. Community C was his home community and he knew there were several cross-border traders in his community.

For interviews at Communities B and D, I was lucky that my interpreter had contacts in those communities. In both instances, cross-border traders gathered as we arrived, and I interviewed them one after the other. At Aflao, I expected to interview only the National Fish Processors and Traders Association (NAFPTA) representative which I was in contact with, but she had brought three of her friends to the interview. If some of the questions were directed to her personally, others were not and all four women participated in answering my questions. A NAFPTA representative was also interviewed in Community D and another one in Tema.

Togolese traders were harder to find than Ghanaian traders. They would come to the market at Denu which took place every four days. I was lucky that my interpreter knew a local trader who sold a lot of her fish to foreign traders. This local trader would direct me to foreign traders to interview and ask them herself if they were available for answering questions. The

main challenges were that foreign traders did not stay for long at the market after buying fish, or they were busy taking care of the fish and packing it. I nevertheless managed to interview a few of them, but only Togolese traders. Traders from Benin were few and had even less time to spend than Togolese traders.

Most interviews with Ghanaian traders were held on the beach, which appears to be a very important meeting place for traders in the area. This context made it easier for me to find informants (or rather for them to find me). Every day I went to a community for interviews I talked to at least three new informants. I assumed that interviewing traders from different communities would get me more varied answers, which is the reason why I 'stopped the snowball from rolling' (in Geddes *et al.*'s (2017) terms) after conducting about 5 interviews in a community, or at least did not try to do more.

The sampling process was also facilitated by the fact that I would give a napkin as a thank you at the end of each interview. This method was highly advised by Amy Atter who had done it herself in the past. She considered it was important to give something to informants as an incentive and that it could help me getting in touch with more informants. I had only bought a few napkins in Accra before leaving for Aflao but I was not sure I would use them since my supervisor had told me that giving something to my informants was not always needed. When I met some traders on the evening of my arrival at Denu, one of them said 'We are hungry! Are you here to give us money?'. I replied that I could not give them money, but I was glad that I did not come empty-handed and I at least had the napkins to give them. A few times, traders were interested in talking to me once they realized I would give them something in return. I believe I would not have interviewed that many informants had I not given them this token at the end of each interview. At the same time, I felt that some traders only accepted to grant me an interview so that they would get the napkin and did not give much interest in answering my questions.

As Geddes *et al.* (2017) explain, it is expected with snowball sampling that the researcher will keep on interviewing until she does not get any new information. In my case, I reached a saturation point after about 30 interviews. I decided to focus on follow-up interviews in order to get better in-depth information about certain processes.

4.5 Data collection

Several different methods were used in the project. Fieldwork enabled for questionnaire surveys, semi-structured interviews and informal talks. Observation of cross-border trade was limited for practical reasons. I was only able to watch pre-trade processes and remained unable to cross the border and accompany traders to the market across the border. Secondary data were collected both before and after fieldwork.

4.5.1 Online secondary data collection

Secondary data refers to data that have previously been collected by someone else (Tyrrell, 2016). Secondary data are usually more vast and varied than primary data. It is important to keep in mind when collecting secondary data that these data have not originally been created for this study. They are useful in this context but were produced for a different project, with probably a different scale, scope and sampling method. The main purpose of using secondary data in this thesis is to provide a context for the study and validate or compare with the primary data obtained during fieldwork.

Secondary data in this study were collected online and consist of information obtained in journal articles as well as grey literature such as newspapers, online conferences, government or organizations publications. They were found using key words or sentences such as 'cross-border trade COVID-19', 'fish trade COVID-19', 'food security COVID-19', 'intra-regional food trade', etc. The context of the collected data was closely considered. The main limitation of these data is that they most often regard traders from other African countries and rarely Ghana or Togo, or data sources were written before the COVID-19 crisis. Studies were generally written at a global or national scale. They remain useful for describing the context of CBT in African countries under COVID-19.

4.5.2 Survey

The survey using a semi-structured questionnaire with both closed and open questions was individually conducted with 30 informants in six different communities (Table 1). Most of the fieldwork and interviews took place in fishing communities in the Volta Region along the coast between Aflao and Keta, and another interview was undertaken in Tema. The goal of this survey was to acquire information about the characteristics of cross-border traders, the impacts of the pandemic on their life and business activities and their coping strategies towards CBFT since the border closed. The survey was divided in four sections. The first section draws the profile of the trader and the three other ones regard three periods, respectively pre-COVID-19, during

and after the lockdown (Appendix 1). It aims at assessing the evolution of their situation during these times. Questionnaire interviews were mostly standardized but a few other questions would often arise during the interview depending on the information given by the informant. Survey research can be beneficial when gathering information about people that is not available from other sources (McLafferty, 2016), which is the case here. All survey interviews required an interpreter which would translate for me to English as I wrote the answers down. I did not conduct the survey with one trader in Community C and traders from Aflao (italics in Table 1) because in Aflao I expected to interview the local representative for NAFPTA. Survey interviews were not recorded.

Table 1: Overview of interviews and informants.

Country of residence	**Community**	**Place of interviews**	**Number of informants (n=35)**	**Number of individual follow-up interviews**
GHANA	Community A	Community A	5	3
	Community B	Community B	4	0
	Community C	Community C	8 + *1*[6]	4
	Community D	Community D	4	1
	Aflao	*Aflao*	*4 (group interview)*	*1 (group interview)*
	Tema New Town	Tema New Town	1	1
TOGO	Lomé	Denu market / Beach in community C	7	0
	Community outside Lomé	Denu market	1	0

The questionnaire was designed as simply as possible, as recommended by McLafferty (2016), for several reasons. Long sentences and complicated words would make it difficult for my interpreter to translate and for the informants to understand, and I did not want the interview to take too much of my informants' time. Both open-ended and fixed-response questions were included in the survey. Open-ended questions allow informants to respond in their own words

[6] Italics in the table correspond to informants whom I did not conduct the questionnaire survey with.

and elaborate on topics they want to mention while fixed-response questions, if limiting the range of answers, are easier to answer and analyze (ibid.). An ordinal scale was used to interrogate the extent to which informants were impacted by some effects of the pandemic such as fish prices, loss of customers or change in diets. The questionnaire was revised after conducting it with a few informants as I realized that some questions were too complicated or repetitive, or that some topics were missing.

Questionnaire interviews took place in informal settings with Ghanaian informants and one Togolese informant, most often at the beach as traders were waiting for men to come back from the sea with fish, or in front of the trader's house on a bench. I believe that traders did not consider the beach setting as informal as I did because it is a public space and their workplace. Moreover, plastic chairs were brought for the interpreter, the informants and I, whereas most people at the beach just sat on the sand or on straw mats. Interviews with Togolese traders were conducted at Denu market. I had imagined before conducting the questionnaire that interviews would be individual. If they were all individual in design, very often other traders would sit around us and listen to the process, or even add remarks to some answers. Many of them had just been interviewed or were waiting to be interviewed. Attending other traders' interviews probably influenced some answers but it also helped making traders more comfortable than if they were alone with the interpreter and me. I had awareness for the amount of time I was taking from the traders, so the aim was to hold the interviews concise and less time-consuming. Interviews usually lasted between 20 to 60 minutes, depending on how comfortable or talkative the trader was and how much time she could spend with me.

As argued by McLafferty (2016), questionnaire interviews can be time-consuming. I spent the first two weeks of fieldwork conducting the questionnaire in different communities, but the main reason why I decided to stop with questionnaire interviews was because I felt like I had reached a saturation point where I had enough data on the particular issues addressed in the questionnaire. Continuing with questionnaires would have been repetitive and would not have given me any new information. This was especially the case with informants from the Volta region. I conducted the questionnaire to a few more traders from Togo because I considered that I did not have enough information about them, as well as a trader from Tema, which I thought would be a good case for comparison.

At the end of almost every questionnaire interview, I would ask the informant if she would be available for a follow-up interview and all of them said yes. I only asked that question

to a few of Togolese traders because it was highly unlikely we would be able to meet again, especially if they did not come to the local market to buy their fish on a regular basis.

4.5.3 Follow-up interview and group interview

Semi-structured follow-up interviews are the second method I used on the field. I held nine follow-up interviews as well as a group interview. The interviews can be considered as semi-structured because they follow a predetermined order of questions but allow for flexibility in answers and in the way the interview might develop (Longhurst, 2016). Semi-structured interviews are generally 'conversational and informal in tone' (ibid.: 145).

I conducted nine follow-up interviews with traders I had already interviewed with the questionnaire. I created interview guides drawing on their answers from the questionnaire and added questions that were too specific to be in the questionnaire survey. Each follow-up interview was thus unique because designed specifically for the particular trader targeted. During the interview itself, I would then add questions if I needed more details or remove questions if she had already answered them through another question. Some questions were nevertheless asked to several traders. Examples of follow-up questions are found in Appendix 2. Only some of all the questions found in Appendix 2 were asked during one follow-up interview. All follow-up interviews were recorded. I specifically selected a few traders I had had the questionnaire interview with to have a follow-up interview, for different reasons. Some talked a lot and seemed very interested in sharing their thoughts and experience. Some gave me information I needed clarification about. Sometimes, a lot of questions came up in my head as I was transcribing their interview. Besides, I mapped the different strategies from the survey answers and realized that several had the same coping strategy towards the situation, so interviewing only one or two from each different strategy would make sense. There were a few informants that I would have liked to talk more with but seeing how vulnerable or even traumatized they were by the effects of the pandemic, I took the decision not to select them for a follow-up interview in consideration of their mental health.

My interpreter was very helpful in calling and setting a date to meet with the selected informants from a particular community for both questionnaire interviews and follow-up interviews. I had planned on conducting more follow-up interviews than I actually did but encountered difficulties. Time became limited towards the end and traders did not always have time or were unavailable. It was especially complicated to conduct follow-up interviews with the Togolese traders as they seldom came to the local market in Ghana, and no one from the

market knew when they were coming back. Fieldwork is also about adapting to obstacles as they come, and when an informant was clearly not available for a follow-up interview, I would reconsider the list of informants and select new ones to interview. Each interview guide being prepared for a specific informant, it was easier to dig deeper into the informants' feelings and experiences with follow-up interviews than through the questionnaire.

The group interview I conducted was, as mentioned before, unexpected. The first questions of the interview were directed to the NAFPTA representative herself, but the other questions I had prepared for her had a more general purpose (Appendix 3). Her friends were then able to answer too and the interview quickly became a group discussion. The informants seemed to feel more comfortable than when I was having individual interviews. Other than the fluid interaction between the members of the group, group interviews (or focus groups when prepared as such in design) are beneficial in that they allow to gather the opinions of several people in a short amount of time (Longhurst, 2016). The role of the researcher in a group interview is to start the discussion on a particular topic and allow the participants to explore the subject as they please without drifting away from it (Longhurst, 2016). In this case, it could be hard to follow the flow of the discussion because the interpreter could not translate everything since the informants were talking a lot, sometimes at the same time. They also had a tendency to shift to other subjects and since they were speaking Ewe, it was not easy to redirect the interview to relevant topics. However, they would often take a different angle at the topic during their discussion than what I had in mind and getting their new perspective was very enriching.

4.5.4 Other methods: observation and informal discussions

Observation and informal discussions on the field are two other methods used in the study, but not to the same extent as the three main methods above. Observation in qualitative studies is commonly undertaken in the form of participant observation as it combines 'participation in and observation of places, practices and people' (Laurier, 2016, p. 169). Participant observation would have been one of the main methods in this study if I had been able to follow cross-border traders all along the border crossing and trading process. As mentioned earlier, I was not able to cross the border and accompany them to the market abroad. Processes of transport, border crossing and fish trading at the marketplace in Togo and Benin were thus not observed. It was considered too dangerous by locals that I could observe other border crossing points since border officials stood there. I was only able to watch pre-trading processes such as fish catch arriving at the beach, distribution of fish, fish drying and fish smoking. It was undoubtedly interesting to witness such processes to understand the context of the study, but these processes

are not exactly what this project focuses on. Observation was used at different beaches before and/or after interviewing informants, close to and inside some of their houses, as well as at the border at Aflao beach. I believe it would not be appropriate to call the type of observation I undertook in the field as participant observation, since the 'participant' part was not fulfilled. Rather, it can be characterized as 'legitimate peripheral participation' (Lave and Wenger, 1991 in Laurier, 2016, p. 172). It is considered that researchers are rarely non-participant at all when observing; this type of observation involves a minimal amount of participation.

Informal discussions with people at the beach and with my interpreter helped deepening my understanding of the context and processes under study. We would talk about the amount of fish caught that day, fish species or the role of certain people in the community for instance. Informal discussions were not that common during the fieldwork period because few people spoke English (or French) well enough to communicate with me. Observation and informal talks were often combined; as I was observing the area around me, I would ask my interpreter or other people present about what I was witnessing. Detailed notes were taken during both observation and informal talks.

4.6 Positionality

Knowledge is always situated and the researcher's positionality always affects their research project (Mullings, 1999). When an interpreter is involved in a study, their positionality will also have impacts on the research process (Kapborg and Berterö, 2002). This section is directed towards discussing first the positionality of the researcher and then the positionality of the interpreter(s).

4.6.1 Positionality of the researcher

Positionality refers to the researcher's perspective that is shaped by their personal identifiers such as age, gender, race, nationality, occupation, name and language (Mullings, 1999). The production of knowledge by a researcher is therefore biased and limited, and can be explained in light of their identifiers. The importance of positionality in research is two-fold: it can explain choices made by the researcher all along the research process (concerning the scientific approach, the data production methods, the sampling method, etc.), and it affects the relationship between the researcher and their informants. It is essential in any research project that the researcher is aware of their positionality. In my project for example, I try to be as mindful as possible as to how my positionality as a young white French woman and student has

affected and still affects my research. I consider myself as a feminist and I think it has influenced not only my choice of thesis topic but many other aspects of the project.

My encounters with informants were especially impacted by my positionality. I believe I was always considered as an outsider by the people I met. Outsiders, in contrast to insiders, are people who do not belong to the group of people they study (Mullings, 1999). They are considered neutral and more objective by informants than insiders. Positionalities are fluid and the researcher can sometimes be considered an insider and other times an outsider or even something in between. During an encounter between the researcher and the informant, each assigns social categories to the other based on visible or disclosed markers (Carling *et al.*, 2014) (or 'personal identifiers' as Mullings (1999) calls them). Based on those markers and categories, the informant might perceive the researcher more as an insider or an outsider. In my case, my skin color, my nationality, the language I spoke, my occupation as student as well as my age are the main markers that determined my positionality on the field.

I definitely felt that my skin color and the fact that I was speaking English when most of my informants could not gave me a more or less permanent position of outsider. To establish trust and try and distance myself from this complete outsider position, I learned a few basic words in Ewe such as 'thank you' ('akpe') and the reply to 'you are welcome' ('yoo'). This was far from enough and I quickly realized that there was not much I could do to get rid of the outsider position. Effort was put into establishing trust in other simple ways during the interview process as I tried to look open and smiled. Informants would appreciate and sometimes even laugh when I spoke a couple of Ewe words, but I hardly felt like anything else than an outsider, especially when interviewing Ghanaian traders. Communication was very difficult without my interpreter so I could not present myself on my own or have any small talk with my informants. Only two of the twenty-three Ghanaian informants spoke a few words of English and were able to talk directly to me before and after the interview. However, after visiting some communities a few times, people seemed to be more used to seeing me around and I did not feel like a total stranger anymore. I felt that my positionality was slightly different when interviewing Togolese traders since most of them spoke at least a bit of French. I engaged with some of them in French and they seemed more comfortable talking to me. I sensed that they perceived me less as an outsider and it was easier to get acquainted with them and gain their trust.

Being an outsider definitely benefitted me in several instances. My position as student influenced the way informants were involved in the interview process. They often thought I

could have some agency in improving their situation and were not reluctant in sharing information they thought would be useful to my project. Many of them thanked me for taking interest in their situation. Moreover, I know that at least once I was able to get specific information because of my position as outsider. I was asking a trader how much of the profits she was earning by working for someone else, and she made sure I would not share this information with anybody else from the community before answering the question.

4.6.2 Positionality of the interpreter: advantages and challenges

All interviews required an interpreter. I worked with one interpreter for all the interviews in the Volta region.[7]

My main interpreter was very helpful. He was a fisherman and was thus not new to the topic under study. He had many contacts in different fishing communities from Keta to Aflao. I believe I would not have been able to talk to so many informants in such a short time if he had not been so helpful. I interviewed about 16 traders in the first three days of my stay. It is also largely thanks to my interpreter that I was able to interview foreign traders at the local market. He knew a fish trader who sold a lot of her fish to Togolese and Beninois traders. She was able to link us to those traders in the market, where we interviewed them. I thought in the beginning however that I might want to find someone else to translate for me because his profile was not the one I would have chosen for this project. I was afraid that his identifiers as a middle-aged man would influence the data and I assumed that it would be easier for my informants to talk to a woman instead of a man.

As Kapborg and Berterö (2002) state, the role and positionality of the interpreter are important in a research project. My interpreter was a former National Best Fisherman which, I believe, made him quite famous in his community and maybe even in neighboring fishing communities. I was not able to ask local people how they perceived my interpreter because many of them did not speak English, but also because he was most of the time with me. I am therefore very unsure whether the informants (especially those in his community) could have given me different information if he had been a different person. He had a lot of knowledge on topics related to fish activities which also appeared as biases as I noticed that he was expecting certain answers from informants in some instances. This was the case for example when asking about the type of support traders needed; he would sometimes directly follow the question by

[7] A second interpreter assisted me in Tema but only for one interview (see last paragraph of the section).

asking if loans were needed, without giving informants the freedom to answer with their own words and ideas.

Crane *et al.* (2009) assert that the translator has a powerful role in a project where the researcher does not fully understand the language their informants speak. The translator appears then as a gatekeeper of information. They know the exact meaning of the informants' speech and can only translate it to a certain extent to the researcher. My interpreter seemed to have problems switching between languages because of the difference in language structure and wording. In my project, my interpreter seemed to give a good overall translation of both the questions and answers, but I experienced a few challenges. For instance, the informants would give a long answer, but the interpreter would only translate a few words. I would usually ask some questions about the words he was using and how he would translate certain questions, especially when the answer that I got did not really fit the question. English was also not my interpreter's mother tongue and even though he spoke really well English, I needed to clarify and simplify some questions for his sake but also for the informants' sake.

Cultural factors can affect the interview process and the more the researcher is familiar with the informants' culture, the more the researcher is capable of understanding and interpreting body language and other non-spoken communication (Kapborg and Berterö, 2002). For this study I had read about Ghanaian culture, and I would often talk about it with my interpreter, but one cannot become familiar with a culture before immersing oneself in it and I was puzzled sometimes about my interpreter's and informants' reaction or behavior. There was one question in particular to which the informants would start to smile and laugh when conducting the questionnaire. I would ask if there was a change in their diets since COVID-19, the interpreter translated the question, and the informants would start to laugh. The interpreter explained me early on that it was a rather nervous, dry laugh because they were obviously eating less than before the crisis. In the following interviews, my interpreter would start laughing even before translating the question to the informant. It was a way to prepare the informant and make them more comfortable. It made me uncomfortable sometimes but I assumed he knew best how to behave since he knew the culture and situation.

The main challenge I encountered when working with my interpreter was the way he would sometimes describe me and my work to the informants. The first day we met I asked him to tell the informants that I was a student from Norway and to simply explain them what the project was about. Once, an informant seemed to have some questions about the study and he further explained it without consulting me first. When I asked him about it, he answered that he

told her that my study will be read by the government of Norway and maybe even the government of Ghana, or that the Norwegian government would talk to the President of Ghana about it. He insisted on the fact that my study is very important and has the power to change things for them. I had to explain to him that this is only a master thesis with limited impact and that he should not be saying that without making sure that I agree with what he says. I did not want the informants to get their hopes up by thinking that disclosing me information would definitely mean that I would be able to improve their situation.

I conducted the questionnaire to only one trader outside the Volta region and she requested that her son does the translation between us, although I had been in contact with her directly in English beforehand. She answered my questions a few times in English. Most of the time, the son would translate to her in Ewe and she would reply to him in Ewe, then he would translate to me in English. A few times, he added to her answer without consulting with her, or just explained what she was saying. Having her son translating in this situation, seemed to make her feel more comfortable sharing information with me. I was not aware that he would be interpreting for us so we did not go through the questionnaire beforehand, but he did not seem to have any trouble translating, and the answers I received fitted the questions.

4.7 Ethics in practice

Ethics are important when working in another cultural setting (Hay, 2016). As a researcher, it is important to behave according to local expectations and remain sensitive as to how our research can affect local populations. Avoiding or at least minimizing harm is the main ethical consideration to keep in mind (ibid.: p. 31).

Ethical considerations first materialized when asking for consent and disclosing information about the project to the informants. Before every interview, I would explain what this project was about, what being interviewed entailed and how the information I would receive would be used in the thesis. Informants were made aware that their names would not appear in the thesis. I would then ask for their consent to participate in this study. I have used alternative Ewe sounding names to anonymize the informants in the findings and discussion chapters (see Appendix 4). The traders' consent was also required before I would take pictures or record the interview. Informants were informed that they did not have to answer a question they did not feel comfortable answering and that they could withdraw from the interview at any time. They were usually very interested in talking to me and none of them withdrew from the study. Names

of fishing communities were also anonymized to ensure the traders' security. Only the names of Aflao and Tema were kept because they are rather large communities.

Ethics played a bigger role in this study than I originally thought. It was clear from the very first interviews that their situation was worse than I had imagined. To be considerate of the informants' discomfort or trauma is an important part of ethics on the field (Hay, 2016). I always tried to make the informants as comfortable as possible and to maintain trust between us. Some informants showed vulnerability and I tried my best to ask questions that would not harm them. Nevertheless, in most of the interviews, informants would tell me that they appreciated that someone would listen and take interest in their situation especially because it was so bad. There is one question for follow-up interviews in particular that I only posed to a few informants that I felt were comfortable enough with me. The question was "How many meals a day would you eat before COVID-19 and how many now?". I expected that the most vulnerable informants could get troubled with the question, and I did not want to cause them any harm.

4.8 Analyzing data

Different approaches of data analysis were used as different types of data were used, not only both quantitative and qualitative materials but also different qualitative data and sources (Cope and Kurtz, 2016). It is important to keep the research questions in mind when analyzing data (Cope and Kurtz, 2016). However, the researcher should keep an open mind when reflecting on their data so that themes they had not thought about can emerge. The quantitative data produced by the questionnaire were input and analyzed in Excel. This study includes both pre-existing and self-generated qualitative data. Self-generated, qualitative data in questionnaires and interviews were first analyzed while entering data from the questionnaires into Excel and transcribing audio recordings in the afternoon or evening after conducting the interviews. This was important not only to make sense of the words while my memory was fresh, but also to remember non-verbal expressions and gestures (Cope and Kurtz, 2016). Early reflection on data was necessary to produce and improve interview guides.

The process of coding was used with both secondary source data and self-generated data. Coding allows to identify the participants' meanings and representations and organize data according to themes. It helps 'reveal[ing] categories and patterns, such as similarities and differences […] and relationships between key factors or characteristics' (Cope and Kurtz, 2016, p. 650). The main themes and categories used when coding correspond broadly to the

different sections in Chapter 5. The coding process was rather time-consuming and not linear as it involves going back and forth between categories and data. It is however highly valuable in the way that it allows the researcher to familiarize themselves with their data and quickly find recurrent themes (Cope and Kurtz, 2016).

Descriptive graphics are used to explore and present data and findings (Field, 2016). Tables are here used to succinctly display results and avoid long descriptive texts. Maps were created to produce a better visual understanding of some findings. Certain points on the maps for places such as marketplaces are approximate because informants only gave me the name of places and markets are often spread between several streets. Google Maps was useful in finding more accurate locations.

4.9 Data validity and reliability, and limitations of the research

Validity and reliability are two key elements in any research (Cypress, 2017). These two concepts can also be referred to as rigor and are necessary to ensure quality of research. Rigor relates to the 'strength of the research design and the appropriateness of the method to answer the questions' (Morse *et al*., 2002, in Cypress, 2017, p.254). Rigor is especially important in qualitative research because it implies a certain level of subjectivity and helps ensuring that readers will trust the results. Validity, reliability and rigor help distinguishing between 'good' and 'bad' research (Golafshani, 2003 in Cypress, 2017).

Validity is concerned with issues of relevance, meaningfulness, truth and authenticity (Cypress, 2017; Kapborg and Berterö, 2002). It is important to consider the validity of a research at both the internal and external levels. Internal validity is achieved when the research is able to provide evidence for the results. It should be easy for the reader to recognize and understand the progression between data, interpretation, analysis and conclusions (Kapborg and Berterö, 2002). Quotations can be used in that aim, as is the case in this study. Besides, mixed methods help strenghtening validity of the results (Jick, 1979), but the mere combination of both quantitative and qualitative methods does not necessarily ensure valid results (Gray, 2014). It can be argued that this study has a rather solid internal validity as it involves mixed methods as well as triangulation and the use of quotes in several instances.

External validity, or reliability, in research generally refers to ability of the research methods to be replicated in order to study the phenomenon in another context (Cypress, 2017). This appears difficult in qualitative research like this one that relies on understanding

phenomena in context-specific settings, notably when the characteristics and settings play a considerable part in explaining the results. Cypress (2017) argues that reliability in qualitative studies is based on 'consistency and care in the application of research practices' (p.256). Reliability is supposedly ensured by the explanation, visibility and reflexivity of the entire research process, its partiality and limits. This methodology chapter helps enhancing transparency of the research process, reinforcing in turn reliability. Transferability, which is the capacity of transferring findings and data to similar studies, remains limited and should be carefully evaluated in the light of its context and social, economic, cultural characteristics (Kapborg and Berterö, 2002). In this case, it could appear relevant to discuss results from this study in relation to other cases of COVID-19 consequences on cross-border food trade.

The purpose of this methods chapter is to maximize the level of validity and reliability of the research, especially through the description of research design and methods chosen and reflections around the researcher's positionality. As explained in Kapborg and Berterö's (2002) study and mentioned above, the interpreter's positionality can also influence the validity of the study.

5 Findings

This chapter is dedicated to the findings of the study. The results are mainly based on data collected during fieldwork. The traders' characteristics are first presented to introduce their reasons for engaging in CBT business. The second subsection elaborates on the findings relating to cross-border trading before the COVID-19 pandemic, while the third subsection examines processes and experiences of cross-border fish trade since the pandemic. The last section investigates the effects of the pandemic on food security. Sections concerning the pre-COVID-19 and lockdown periods are written in past tense while general information and sections about after the lockdown (the 'now') are written at the present tense.

5.1 Characteristics of cross-border fish traders

26 of the 30 fish traders involved in the questionnaire survey have been in the fish trading business for at least ten years, some even since childhood. Five were in the business for less than ten years. Some started by helping their mother or other family member and took over or started their own business. They did not necessarily start trading at the local market. As many of the Ghanaian traders started fish trading at Denu market in Ghana as across the border in Togo in Lomé markets. Apart from Denu market, the market in Keta is the only other mentioned market in Ghana where Ghanaian traders started working as fish trader. Those who started their business in Ghana have usually engaged in cross-border trade after at least five years of trade experience in local markets. Five Togolese traders engaged in cross-border trade right from the beginning; others in markets in cities such as Tsevie or Vogan.

Their reasons for engaging in cross-border fish trade are several. The most common one regards economic attractiveness. Exchange rates between the cedi in Ghana and the West African CFA franc often favors trading with the CFA currency. Besides, markets in Togo tend to be more profitable:

> '*When you take the fish to Denu market, the customers they will come from Lomé. We would rather instead send it to Lomé market to go and sell, in order to benefit from that price, that margin that is making the colleagues to come to Denu market. […] We feel that there is something that they are getting*' (Delasi, 61).

Ghanaian traders can sell fish for more money there than they would in Ghana, since Togo is not a considerable fish producer. Informants cited many other reasons such as bigger markets in Togo and Benin, and a large variety and big amounts of fish produced in Ghana. Types of

fish brought from Ghana such as smoked anchovies are not commonly produced in Togo. Furthermore, household items tend to be cheaper in Togo markets, making it attractive for foreign traders to engage in CBT so they can buy these items to bring home. Personal reasons like taking over her mother's business, having relatives in Togo or personal taste were also evoked. 'Yawa' (see Appendix 4), a trader working for another trader, explained that she would go trading wherever her 'Madam' (her boss) would send her. Some traders chose to engage in cross-border trade because of a lack of alternatives. A few mentioned for example that there was a lack of customers and space at local markets due to the already considerable number of fish traders established there. For Ghanaian traders, Lomé has the closest markets after Denu.

Table 2: Socioeconomic profile of informants. Source: Fieldwork.

ITEM	FREQUENCY (n=35)
ETHNICITY	
Ewe	35
Other	0
AGE	
20 – 35	4
36 – 50	17
51 – 65	14
MARITAL STATUS	
Married	26
Widowed	5
Unknown	4
HEAD OF HOUSEHOLD	
Yes	28
No	3
Unknown	4
NUMBER OF CHILDREN	
1 – 3	13
4 – 6	17
7 or more	1
Unknown	4
NUMBER OF HOUSEHOLD MEMBERS	
1 – 2	1
3 – 5	9
6 – 8	12
9 or more	9
Unknown	4

LEVEL OF EDUCATION	
No schooling	18
Primary	9
JSS (Junior Secondary School)	3
Secondary – Tertiary	-
University	1
Unknown	4

Traders very commonly define themselves as head of household, even if 26 of the 35 traders are married. 28 informants provide in total for 205 people in 28 different households. Only three informants were not head of household. For them, being head of household implies buying food, paying for school fees and hospital bills and taking care of children and domestic tasks. The husband often contributes but not to the same extent. More detailed features of cross-border traders are to be found in Table 2.

5.2 Cross-border fish trade before the pandemic

This section paints the picture of the situation without COVID-19 related containment measures and particularly with open borders. It aims at exploring the first sub-research question: *What did cross-border fish trade look like before COVID-19 and how were traders benefitting from it?*

Traders' organization with people from their community as well as from other communities and abroad is depicted. Information about amounts of fish and forms of processed fish is described. I lastly explain processes of border crossing and identify the destinations markets for cross-border traders.

5.2.1 Organization and structure

Cross-border fish traders are part of a larger system and relationships. Traders in the Volta region buy fish directly from fishermen at the beach, in barrels or baskets depending on the community and on the amount they want. Only the trader in Tema buys from women whose work is to be intermediary between fishermen and fish processors/traders. While most of the informants are working alone and for themselves only, I met the 'Madam' of 'Yawa'. She is the head of a business that employs ten representatives to '*work more quickly and deal with large amounts of fish'*. The advantage for Yawa of working for her is that since profits tend to be higher when dealing with large amounts of fish, she gets a lot more money than when she was working on her own before. She is one of two very trusted representatives as she is the only

one that is sent to the market along with the Madam's daughter. It also explains why Yawa earns more than the other intermediaries employed by the Madam. Others help with processing the fish.

Traders can also be organized around money and loans. 'Gameli' is part of a rotating saving group that brings together around 30 traders from Ghana and Togo. Gameli explained to me that on the day they all go to the market, they decide on a specific amount that each will contribute to in a common pool and at the end of the day one of them collects the money. The next market day another trader will collect it and after each of them have collected it, after a few weeks, they start over again. It is open to everybody who wants to participate. The main advantage is that it is easier for them to save at the bank because of the large amount of money, compared to smaller daily profits. Unlike banks, there is no interest rate. However, if one day they are not able to pay the whole amount, they will have to pay it the next time they contribute. Gameli spends about 50% of her profits on contributing to the saving group.

Traders in Aflao described a different organization around a 'money box':

> *'Traders come back from the market, deposit a certain amount of money in the box. They would discuss issues. When you want to go buy fish, if your capital is not enough, you can use that money, you don't pay it back necessarily'* (Akorfa, about 60)[8].

19 of the 35 informants are members of a fish trader association. NAFPTA (National Fish Processors and Traders Association) is the most important fish trader association in Ghana and 15 of the informants are part of it. Three of the eight Togolese informants are part of an association in Togo. A trader in Aflao was the local representative of NAFPTA. 22 traders in Aflao are members of it and all of them used to trade in both Ghana and Togo. NAFPTA helps mostly with fish processing methods; it cannot help traders financially because it does not get any funding:

> *'The organization gathered in the very first place to be able to get a loan, but no institution (government, bank) approached us with a loan. It was officials in Accra who promised that. They didn't keep that promise'* (Yomawu, about 50).

The organization representative I met in Tema explained that the organization used to hold workshops '*where [traders] are taught personal hygiene, how to handle their work, finances, […] how to handle the fish well, clean it very well before your process it*' (Afefa, 59). I also

[8] Quotes are from Ghanaian traders if not specified.

encountered a representative of the organization in Community D who indicated that the association could help with more than just fish processing; they teach about children's education, social life, customer relation, how to add value to fish, even house and marriage matters.

5.2.2 Fish: which, where and how

Small fish species were the most traded fish. 29 traders regularly traded in anchovies and 25 in herrings. Barracuda, sardinella, tuna and mackerel were other common traded fish species. Other more rarely mentioned fish species are rainbow runner, yellow tail, salmon, plain bonito and shrimps. Many traders were not choosy about the type of fish they sell. Fish being seldomly available in large quantities, they accepted whatever species fishermen bring back from the sea. If more fish than the traders needed was landed, they sent the surplus to other communities. Most of the cross-border fish traders from Ghana are from fishing communities and bought their fish at the beach (or harbor in Tema) from fishermen from their community (Photo 1). The typical containers used on canoes are big barrels of a capacity of around 64 liters that are called J2 (Photo 2). Traders could buy the amount of a whole barrel or part of it and use their own baskets to transport fish. All Ghanaian traders also processed the fish themselves or with help from other women. Togolese traders usually bought their fish already processed; only one of them would process it herself and come all the way to Community C to buy fish fresh from the beach so she could fry it herself at home.

Photo 1: Traders waiting at the beach for fishermen to come back from the sea. Source: Fieldwork.

Photo 2: Fishermen on a canoe with a J2 barrel. Source: Fieldwork.

Processing methods depended on the fish species and how the trader was used to doing it. Drying, smoking and salting are the most common fish processing methods and can be

combined. Around half of the sampled traders dealt in only smoked fish. According to an informant, mackerel was very commonly sold salted. Only one trader would fry her fish. Fish processing methods can vary from one community to another. Fish needs first to be cleaned or rinsed. If the fish will be dried then smoked, the head is not removed. In some communities, traders dried fish at the beach on concrete platforms (Photo 3) then smoke it using Chorkor ovens in houses or sheds. If fish will be traded as dried, it needs around 24 hours of sundrying. If it will be smoked, it is dried for one hour before being arranged on ovens racks (Photo 4). Sundrying can be done directly on the concrete or on ovens racks. Smoking is a time-consuming process and the whole procedure can take more than a day. The racks need to be rearranged several times on the oven to obtain an even cooking process.

The quality of processing is very important for trading. Well-processed fish will last longer and will look more attractive for buyers:

> *'The smoked one, depending on how you smoke it, you make sure it's dry, there's no moisture in it anymore. When there's no moisture, I keep it up to 6 months. The dried one, when you dry it well, the moisture is out of it, it takes 1 month. Immediately after 1 month, you realize that the color is changing to brown'* (Gameli, 48).

> *'Those who buy in bulk they can come and look at the beauty of the fish. It's the beauty that tells a person she should buy all, or not. If it's beautiful, nice, presentable, the person says 'Oh, I will buy all' because she is also going to resell'* (Feyi, 56).

Fish will then be packaged in brown paper in baskets or barrels to be sold or stored.

Photo 3: Anchovies and herrings sundrying on a concrete platform. Source: Fieldwork.

Photo 4: Small fish drying on oven racks. Source: Fieldwork.

Traders use different packages for transport, usually baskets or barrels (Table 3). Although barrels are bigger than baskets, it remains difficult to compare volumes of fish between the different types of packaging. The trader in Tema was able to weekly trade 200-300 baskets which, according to her, each contains three kilos of fish. Apart from her, traders commonly bought or sold between 10 and 20 baskets per trip, a few buying less and others a lot more (from 50 to 300 baskets). Traders using barrels typically bought or sold between 6 and 20, again with some trading less and others more, up to 100 barrels. The type of basket used at Denu market where many Togolese traders buy their fish can be seen in Photo 5.

Table 3: Average amounts of fish sold/bought at the market per trip. Source: Fieldwork.

Average amount	Frequency (n=30)
< 5 baskets	2
5 – 10 baskets	3
11 – 15 baskets	4
16 – 20 baskets	3
21 – 100 baskets	3
> 100 baskets	1
< 10 barrels	8
11 – 20 barrels	4
21 - 50 barrels	1
50 – 100 barrels	1

Photo 5: Baskets at Denu market bought by Togolese and Beninois traders. Source: Fieldwork.

The amount of fish can say a lot about the scale of trading; when the trader brings along many barrels or baskets and sells them whole, she is considered a wholesaler. When she does not bring so many baskets or barrels and sits at the market with open baskets, she is a retailer. It is sometimes not such an easy distinction because periodic lack of fish makes it difficult to buy a lot from fishermen. Many of these traders can be considered wholesalers because they do not find it worthwhile to travel to only sell small amounts of fish and would rather wait until they have enough before going to the market.

5.2.3 Crossing the border

Traders used to cross the border regularly before the pandemic, most often two or three times a week for Ghanaian traders. Some would cross one or two times a week, others one or two times a month. Togolese traders mostly traveled to Denu on market days, every four days. Many

traders point out that they would travel as often as possible when fish is available. A few who were not going often explained that they were restricted by lack of fish. Traders would usually travel themselves, often with other traders. At the border, carriers were there to help them. Carriers are people whose job is to pass goods from one side of the border to the other, all day long. They help transport the fish across the border and are '*personalities at the border'* as 'Akorfa' put it, meaning that they are part of the category of people typically present at the border just like border officials. Only one trader used someone else to go trading. 'Eyra' hired the local doctor to replace her because she is elderly and needs to teach processing and trading practices to her daughter.

Most traders used shared taxis to cross the border; some transported the fish on top of the taxi or in the trunk, others might have sent another vehicle that carries only fish. Traders from Ghana traveling to markets in Togo only used taxis or cars; those traveling to Benin used a bigger vehicle such as a pick-up or a Kia truck. Togolese traders used taxis, trucks and even motorcycles. 26 informants would cross the border at Aflao, the official crossing site. Three would use unofficial routes up to ten kilometres north of Aflao.

At the Aflao border, traders would have to show their passport and pay a small fee of around 10 cedis[9] to customs officials for crossing with fish: '*the more fish you carry, the more expensive'* (Yomawu, about 50). The border fee was an unofficial, bribing fee. The process is as follows:

> *'When you cross, you have the fish in baskets, usually small fish like anchovies and herrings; the [customs] official sees fish, he knows the trader and her business, and he asks her to pay. Sometimes it's expensive so we have to bargain […]. But we struggle bargaining, it takes a lot of technique. Border officials recognize traders, and traders also recognize border officials. […] We can ask who is there, but we feel threatened if the person working is not one that we like'* (Yomawu, about 50).

The border at Aflao would only open at 6 a.m. and some traders would then cross through the beach to enter the market early. This practice was illegal and traders had to bribe officials to be able to cross.

When asked what the main challenges were when crossing the border before COVID-19, most traders would reply that there were no difficulties or challenges. The border would only close during Togolese and Ghanaian elections for a full week.

[9] $1,35 / 1,25€ (all rates in this chapter were converted on 3rd May 2022).

5.2.4 Markets targeted abroad

A large majority of both Ghanaian and Togolese cross-border traders sold fish in a market in Lomé right across the border (see Map 4). Many different markets were mentioned: Assigamé (‘Big Market’), Atikpodji, Agoe Assiyeye (‘New Market’), Kodomé, Adidogomé and Hanoukope. They are of different sizes and are located in different parts of the city. Two Togolese traders did not sell their fish at the market but from their own house instead; one of them even sent fish to traders in Kara, a city in the northern part of the country (see Map 5). For these traders, the whole trip takes one day; they leave early in the morning and come back in the evening. The stay was longer for the trader from Tema who would leave home at 2 p.m. on the Sunday and be back home on the Monday at 11 p.m. For her and her fellow traders, accommodation was organized within the marketplace so that they are able to sleep safely.

Map 4: Destination markets of cross-border fish traders in Lomé, Togo before the pandemic. Source: Data collected during fieldwork.

Two Ghanaian informants traveled to a large market, Comé in Benin, with other traders and spent about two days away. Their journey started at about 4 a.m., they crossed the border around 8 a.m. and arrived in Benin at 5 p.m. where their customers were waiting for them. They would be back home next day around 7 p.m. At night, they would sleep in the car because they did not have time to sleep anywhere else.

Traders would try and stay as little time as possible away from home, as being away from home means leaving someone else to take care of the children but also missing some fishing days and the opportunity to buy more fish.

Map 5: Destination markets of cross-border fish traders in Togo and Benin before the pandemic. Source: Data collected during fieldwork.

Only one Ghanaian trader would spend much more time across the border and target other markets. She would leave between three and seven days – the duration of her stay depending on the availability of fish and expected profits from the different markets. Her husband and oldest daughter would take care of the family in the meantime. Kpalimé, Glei, Abgo, Datcha, Anie, Atakpamé and even sometimes Dapaong all the way in Northern Togo were markets in Togo she would travel to. She would go from market to market and if fish is sold cheap at the first market, she would also buy more fish there in addition to the fish she brought with her and send it to another market. Comparing prices at each market was a big part of her work. She has relatives in Togo and a family house in Datcha made it easier and cheaper for her to stay abroad such a long time.

Many traders did not have relatives or close contacts abroad. Four of the Ghanaian traders have relatives in Togo while only one of the Togolese traders have relatives in Ghana. Those who mentioned having contacts abroad also specify that those contacts were mainly customers who bought their fish, other traders who went to the same market (Ghanaian traders)

or traders whom they bought fish from (Togolese traders). Traders usually had two types of customers: traders who would buy fish to sell it somewhere else in the country, and ordinary people who would buy fish for personal consumption. Keeping in contact was important to exchange information about availability of fish, prices of fish at the market and make sure that customers will show up at the market so that cross-border traders do not spend money on the road for nothing. A trader pointed out that she could not afford to stay in contact with other traders abroad because international calls are expensive.

5.3 Cross-border fish trade during the pandemic

This section examines the second sub-research question: *What are the changes brought by the pandemic and how are traders responding and coping with the situation?*

The first two-three weeks after the border closed on 22 March 2020, or lockdown[10], were a particularly difficult period where traders suffered from constraints and violence. The situation somewhat stabilized afterwards, although fishing communities were facing a general lack of fish which added challenges to the COVID-19 related restrictions. This part highlights the different experiences in border crossing and at the marketplace now[11] compared to before the pandemic.

The effects of the pandemic were especially intense during the lockdown when restrictions were at their strictest. Even though the restrictions were reduced after some time, the impacts were not totally disrupted, and traders still suffer from them at the end of 2021. A report by Atkins *et al.* (2021) found similar results in other African countries.

5.3.1 Restrictions, constraints, and violence of the first weeks

After the land borders of Ghana closed on 22 March 2020, only seven of the traders had tried to cross the border. Many of them stopped crossing the border, for different reasons. The most common reason was the fear of getting infected by COVID-19 by crossing the border and going to crowded markets. Another important reason was the control and harassment by border officials at the border checkpoint described by traders that did cross the border: '*I let my people [traders] over at the Volta River, they say when you want to cross, you suffer at times, it's very*

[10] The term 'lockdown' is used here even though the area at the border was not strictly speaking under lockdown like Accra or Kumasi, as it is easier to differentiate these first very hard weeks with the following months/year during which the situation gradually improved.

[11] 'Now' is used throughout the chapter to refer to the time of data collection between August and October 2021.

risky' (Afefa, 59). Others did not try crossing because they wanted to respect the decision of closing the border; some said that they were not getting enough fish from the beach. Wearing a mask became mandatory in the market in Lomé one trader was going to. She was often suffocating when wearing a mask and by fear of getting charged for not wearing it, so she decided to not cross the border anymore.

12 traders who suspended their CBT activities started trading fish in local markets instead, such as Denu market and Keta market for Ghanaian traders, and a Lomé market for a Togolese trader. This alternative was not available for all of them, since one of the reasons they engaged in CBT in the first place is lack of space at the local market. 'Afefa' from Tema stopped going to Togo and continued trading in other markets in Ghana (Kumasi, Techiman, Agbogbloshie in Accra and Denu) where she already traded at before COVID-19. 'Mawusi' decided to trade in salt rather than fish. 'Ye' moved her fish trading business from Togo to Kadjebi, a town in Ghana about 250km north from Keta. Instead of trading in dried, smoked and salted fish, she started frying her fish because contact persons told her that fried fish was a lot more lucrative than CBFT (more on this innovative strategy on page 81).

Those who could not trade at the local market were facing very few alternatives to make an income. Six traders were not able to find other income sources. Four of them managed to find another job: as 'standing woman', buying fish from fishermen and selling it directly to traders; in salt mining; in a store; as chalk manufacturer and trader.

Two traders managed to send their fish across the border, about as regularly as they used to. One of them explained the process:

> '*Fish would be sent with a driver to be given to customers in Lomé. He would send the money back to me. I did this once a week during two/three months then went back myself. The driver goes to the market where an agent collects the fish and oversees the sales. The agent calls me each time a customer comes, and we bargain together. The agent packs the money, and the driver comes back the next Monday. I know the agent from the market and the driver from around here'* (Gameli, 48).

As trucks drivers were officially allowed to cross the border, it was less risky for the trader this way than trading herself. However, paying a driver remains more expensive than if she crossed the border herself.

Of the traders who did not stop their CBFT activities, three crossed the border a couple of times and four went regularly abroad during the lockdown. Mostly, they just could not afford

to not engage in trading at all: '*As head of household you need money to eat, you have to find a way*' (Tafa, Togolese, 55). One of the traders who trades in Benin would go to the market in Comé once a week. A trader even crossed the border three times a week to go to the market in Lomé. Of the Togolese traders, only two would manage to come every market day in Denu or every other market day. The traders who tried once or twice to cross the border mentioned too little profits as well as violence from border officials as reasons for not trying again. A trader explained that harassment, violence and beatings were so terrible that '*the pain is not out of my body yet'* (Esinu, 35). Another trader was explaining:

> '*We took a taxi to Aflao, and on the beach we have to walk around 200 meters with the [fish] load that is really heavy. If people start saying 'akayi akayi'*[12]*, we have to run back because it means that the border official who controls that area is coming. We will get arrested, we must hide. It's a different border official than the one who takes money from us'* (Gameli, 48).

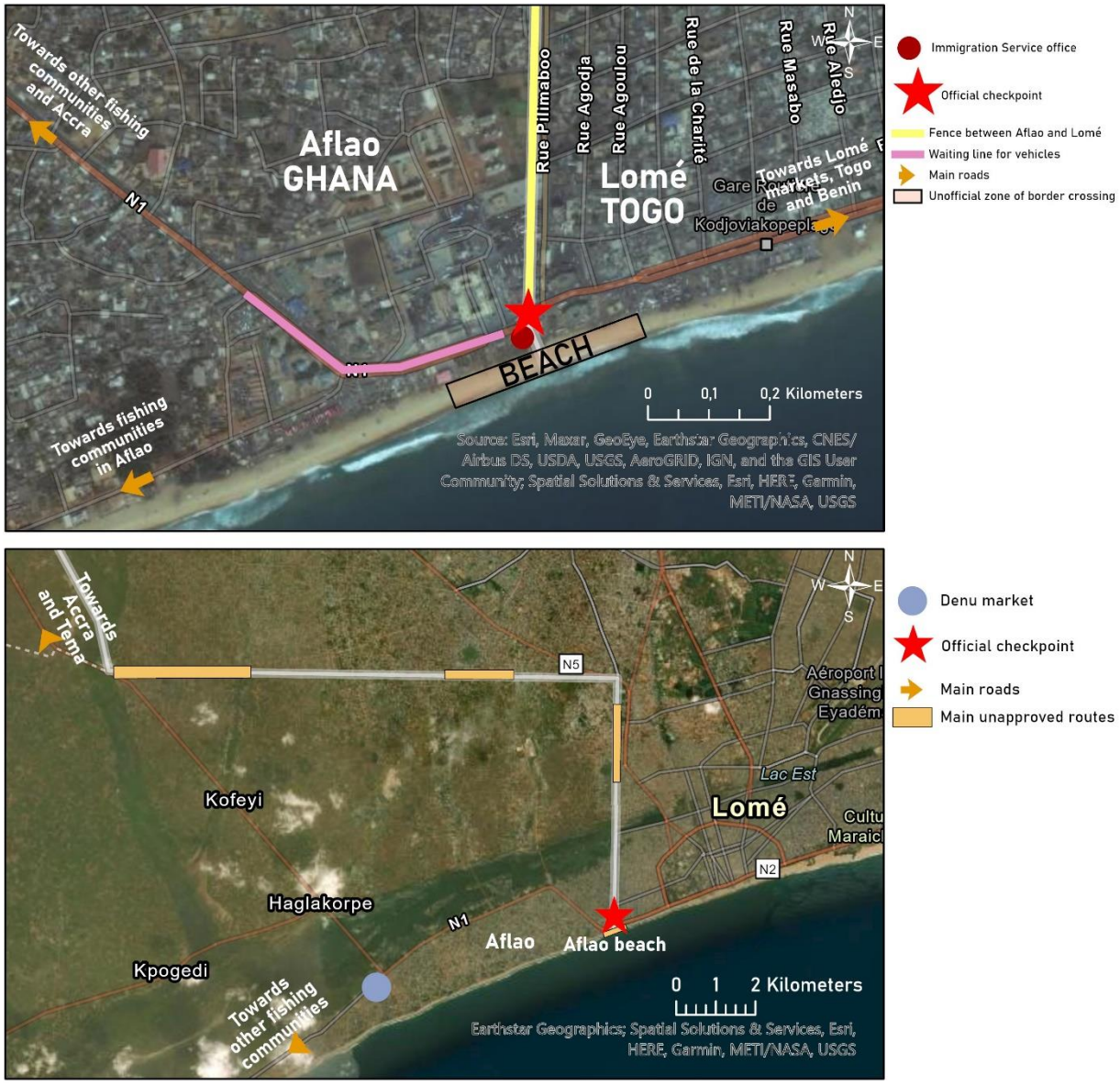
Some officials would follow people who were crossing with a gun. As border controls increased, more arrests were made. However, the degree of violence depended on which border official one would meet; a trader explained that she had not been victim of any physical violence, but she had to bribe border officials so they allowed her to cross.

If it was in theory legal to cross the border only when carrying foodstuffs both from and to Ghana, it was not necessary for traders to bring any food back from abroad to trade it in Ghana. Those who did would only carry foodstuffs for their own household.

While a few of them still crossed the border at Aflao, using the beach (see Map 6a) or paying a higher fee to cross at the official border, many started to use unapproved routes to make their way into Togo: '*After the lockdown came, you couldn't pass the official border, but there are 'beats', illegal routes to enter'* (Afefa, 59). The names of the unapproved routes were names of neighborhoods in Lomé, up to 10 km north and north-west of Aflao. The unapproved routes are within border communities (see Map 6b); there are very often houses or roads just a few meters from the border on either side. I was not able to check these routes myself for security reasons, so I only have an approximate idea of where they are located. And since there does not exist official crossing roads around Aflao, the exact crossing points would often change in the same neighborhood. Traders had to unload their goods from the taxi or other transportation vehicle, cross the border by foot often by helps of carriers while bargaining and

[12] "The big man has come".

bribing border officials. Once they were allowed to enter the neighbor country, they would find another vehicle to take them to the market. Bewiadzi Akakpo (2021) explains that some carriers are young men who have an arrangement with the Togolese military officers and the Immigration officers of Ghana. They own carts on which they load the traders' goods when they arrive at the border and drag them through the 'beats', the footpaths. Traders pay them 2 000 CFA[13] and men carriers give 500 CFA[14] to Togolese officials and 500 CFA Ghanaian officials. Taxi cabs are awaiting on the other side of the border to transport both traders and their goods. Other carriers are women head porters who assist informal traders in transporting goods on foot across the border.



Map 6a (above): Aflao border. Map 6b (below): Main unapproved routes between Ghana and Togo. Source: Data collected during fieldwork and Google Maps.

[13] $3,20 / 3€
[14] $0,80 / 0,75€

5.3.2 Lack of fish

Almost all informants reported a lack of fish during the 2021 season: '*When we have fish in abundance, we keep some to sell later. This year, there is no fish in the house to sell later because the fish is not available'* (Yawa, 59). Fishing was forbidden all of July as it was the closed season, whose purpose is to regenerate fish in the sea. It appears as the closed season did not have the expected effect on levels of fish in the sea: '*Right now, anchovies are not fetching. I'm struggling to get herrings*' (Delasi, 61). Fishermen, who usually make several trips at sea in one day, would now only make one trip and come back with small amounts of fish. Seasonal fluctuations and annual variations are nevertheless common. The previous fishing season in 2020 was apparently a much better season than the 2021 season. A trader who used to send 100 barrels to the market said that she is not able to even send 5 barrels nowadays. When catches are low, the available fish becomes expensive. The one who was part of a saving group had to stop contributing because fish was not available in sufficient quantity, and too expensive. Fish species and processing methods remain the same.

5.3.3 Changes and similarities in border crossing

Many traders have still not returned to their CBFT business, while others regularly engage in trade across the border. Table 4 below displays whether traders are still involved in CBFT and if so, how frequent their trips are (at time of data collection).

In addition to the official border closure, the general lack of fish impacts regularity of border crossing for some traders. When asked if they were hesitant about doing CBT because of lack of fish, 25 traders agreed or strongly agreed, while only four disagreed or were uncertain. Most of them still trade in the same markets abroad; only one switched market.

Table 4: Frequency of trips across the border now. Source: Fieldwork.

Frequency of border crossing now	Number of informants (n=35)
Never	15
Went a couple of times only	2
Once/twice a month	4
Once a week	5
Twice a week or more	9

Moreover, if many of the traders stay abroad for as long as they used to before the pandemic, a few of them have to stay longer because they do not travel that often anymore, and because the trip and crossing the border takes more time than before. Besides, it took some time for a few traders to start crossing the border again. It took a few weeks after the lockdown for

some, a few months, or over a year. I even met a Togolese trader in October 2021 for whom it was the first time back across the border since March 2020.

Whereas traders only had to pay 10 cedis[15] when crossing the border carrying fish before COVID-19, they now have to pay at least twice, once on the Ghana side and then on the Togo side. The fee is higher because they pay for both fish and themselves as a person. Both Ghanaian and Togolese border officials are always present at the checkpoint. The border fee is still not standardized and depends on several factors: the amount of fish traders are carrying, their ability to bargain, their familiarity with border officials and often other very subjective criteria decided by border officials. In general, crossing one-way costs about 2 000 CFA[16], and traders spend about 4 000-5 000 CFA[17] on paying border officials on a round trip. One trader however informed me that she traded on a large scale and would pay 10 000 CFA[18] before COVID-19 and the same amount now but with a smaller quantity of fish. One of the traders was not affected by the increase in border fees. She is an intermediary for her Madam, and they use a driver in a tricycle that can carry up to six baskets of fish. They pay the driver 7 000 CFA[19] per basket he transports, from her place to the roadside right across the border where he offloads the fish. Another truck from Lomé will come and carry the goods to the market. The border fee is included in the amount the Madam pays the driver. Whether the driver pays 1 000, 2 000 or whatever amount of CFA to the border official, the trader and her Madam are not concerned by it since their responsibility is towards the driver only:

> *'The owner of the tricycle will go first to do that payment and clear the way before they will come and drive. You first of all park the tricycle somewhere in a hidden place then you approach [the border officials] with your intentions, with what you carry on board. You hand over the money for them, they will be watching you, then they open and then you cross'* (Yawa, 59).

The main border checkpoint remains open for traders if they accompany their goods, but it is more expensive than using unapproved routes. Paying to the Ghanaian border officials is generally cheaper than fees on the Togolese side of the border. Traders who travel to Benin reported that the Ghana/Togo border (especially at Aflao) is more expensive than the Togo/Benin border; however, one of them stated that she pays 6 000 CFA[20] in border fees from

[15] $1,35 / 1,25€
[16] $3,20 / 3€
[17] $6,40-8,00 / 6,10-7,60€
[18] $16,10 / 15,20€
[19] $11,30 / 10,70€
[20]$ 9,60 / 9,10€

Ghana to Benin and back. Spending so much on border crossing makes traders reluctant to cross.

There are now four main unapproved routes used by traders (see Map 6b above). Some traders referred to the routes as 'beats': there are seven main beats in total north of the official border at Aflao. Traders or truck drivers will try them one after the other until they find one to cross at. The names of unapproved routes are names of neighborhoods, and the exact crossing point can change from one day to the other. Unapproved routes are often recognizable by their broken fence. It is very uncomfortable to use those places: '*The place is rugged, it's not leveled. You have to struggle to walk*' (Etor, 45). 'Beats' were already used before the pandemic mainly to avoid high costs of customs duties, immigration policies and bribery (Bewiadzi Akakpo, 2021) but they are now more exploited since the border closed.

Local traders who use the beach to cross the border come at dawn to arrive early at the market. Often, they cross at the beach while the truck or car that carries their goods has crossed through the usual checkpoint. Retailers do not use a vehicle but carry their goods on their heads on the beach with help of carriers.

Crossing the Togo/Benin border is not easier than crossing the Ghana/Togo border. A trader once had to cross the border there by using a boat on the river to escape border officials:

> *'I used the river transport just once, to cross the border, with difficulty. I suffered. I don't want to take that route again. Local people operated, they made it possible for the officials not to see us, at the blindside of the officials. When we landed, we got the information that the security people were after us, so we had to run a distance of a kilometer. That was without the fish, they were after us personally; we sent the fish prior to our venue'* (Selorm, 46).

Most traders still use taxis or trucks to get to the border. A trader pointed out that it could be hard sometimes now to find a taxi so they have to take their goods to the roadside and wait until a minibus ('trotro') can carry them and their goods to the border. Vehicles are never allowed across the border at unapproved routes, so traders always have to use carriers. These rules are different for traders who buy fish in Denu market to carry to Togo:

> *'Sometimes, when you buy goods from Denu market, there are vehicles that carry your goods directly into Togo from Denu. The vehicle owner has some sort of arrangement with the border officials, maybe some documents he has. They have been given that sort of permission. […] It is interesting for the transport owner because he can get a lot of goods to carry'* (Delasi, 61).

Crossing the border now is a much different process than before the pandemic; many agree that it is harder to cross the border now than before. Even though violence from border officials reduced after a few months after the lockdown, most traders agree that control and harassment have increased compared to before the COVID-19 crisis. Violence from border officials nevertheless seems to have lasted some months after the lockdown according to the informants. Hiding to avoid getting beaten was not unusual. However, many were insisting on the intensity of harassment they experience at the border when paying border fees. Traders try and bargain, but '*if you waste time negotiating how much you pay at the border, the goods might get lost; you have to follow the carriers so that your goods do not get lost*' (Delasi, 61). Traders should remain obedient to border officials to have a better chance to cross and quickly. It now takes about 30 to 60 minutes to pay officers and cross, even longer if traders need to plead.

A trader argued that harassment was mainly due to the fact that they are women trying to cross the border and because of their status of trader. They look down upon women who undertake that kind of work. Border officials however do not discriminate based on nationality.

Border crossing can be facilitated by different factors. Experiences of crossing the border differ according to which border officials you meet. Being acquainted with border officials can be really helpful:

> *'Sometimes [border crossing] is easy, sometimes it's difficult. When you are crossing, sometimes you pay 5 cedis*[21] *at a point, then on the return if you're lucky, you come into contact with a known person as an official, that time you pay less. It's more often difficult than easy'* (Yawa, 59).

However, traders seldom know border officials. Age also facilitates border crossing. According to a trader, '*old age favors individuals [to cross the border]'* (Eyra, 55).

Other factors might facilitate border crossing. A trader argued that crossing at one of the unapproved routes was easier than at Aflao beach because that route is '*in the community'*

[21] $0.70 / 0.60€

(Gameli, 48) so border officials would not harass them so much since community members would observe the harassment. Crossing at Aflao beach is more stressful and worrisome because the police can show up and traders have to run back.

Besides, sharing Ewe as a common language facilitates communication and relationship with border officials: '*We are all like one family'* (Afefa, 59).

As bribing officials is common practice, even people who try to cross the border without food or goods are able to if they have enough money. For example, people from the Ashanti region are known for crossing the border very easily due to their 'cocoa money'. Many people there work in the cocoa business which is very lucrative.

Traders consider that opening the border would be more helpful in controlling the spread of COVID-19 by for example checking on people's temperature and health at the border checkpoint. There is currently no health control at the beach or unapproved routes.

5.3.4 Trade at the market

Trading at the market is somewhat different from how it was like before the pandemic. Many customers are not coming to the market anymore due to the risk of infection in crowded places like markets and some COVID-19 related protocols (especially in Benin). It is not unusual that traders in the market send goods home to people who used to come to the market before the pandemic. The expected availability of fish influences customers to come or not to the market: '*When customers hear that there is fish, they show up at the market; if they hear that there's a lack of fish, they don't come*' (Afeke, 39). Many fish traders had to find new customers.

Cross-border traders developed several methods of trading as a result of the combination of the pandemic restrictions and the lack of fish. Several of them call their customers before traveling to negotiate and agree on the price of fish, the amount, and the place to discharge it. That way, they already know to who they are selling and what quantity they need to bring along. It is common to not sell everything in one go; traders come back later in the week even though they have not bought more fish.

A few traders use middlepersons to trade for them in the market, although not more than before the pandemic. Traders who do not hire middlepersons consider that trade is their responsibility and hiring representatives can be pricey: '*We pay fish ourselves to go and sell it ourselves*' (Edem, about 60). A trader sends her goods along with a representative and when customers approach the representative, they will call her to negotiate. Another method used to

make sure she sells at the best possible price and in sufficient quantities was explained by 'Delasi':

> *'I don't sell all my fish to the market at a go. I carry bits so that when I sell below the price or sell to a loss, the remaining fish in the house I may be able to sell it and get what I lost. When my friend comes from Lomé, I ask her and she said those who bring herrings, they're getting something. If I have anchovies now, I will not send them to the market; I would rather send herrings instead. When the price for herrings is down, we will definitely come back to anchovies'* (Delasi, 61).

One of the traders does not contact customers before traveling, she travels anyway and sits at the market with her fish. She manages to sell almost all her goods in two or three hours.

For the woman who trades in both Lomé in Togo and Comé in Benin, it is the quantity of fish that determines which market to go to. She needs around four or five big baskets for the trip to be worth going to Benin.

A trader decided to not trade in Lomé anymore and she managed to get a place at Denu market because she is elderly. For that same reason she would still have a place at the market in Lomé she used to go to if she wanted to. If other traders do not have the possibility to trade at the local market, the main reason they keep on crossing the border even though it is difficult rather than trying to find a place at another market in Ghana is because of their customers. Although they are less numerous, it remains easier and more profitable for cross-border traders to make sure some of their goods will be sold to a few rather than finding new customers in a new market where they do not have contacts. As they often said, they are *'used to that'*. Many cross-border traders still have the same customers now.

Even though most traders agree that the situation is better now in terms of crossing the border and trading in general, one of them declared that she enjoyed trading during the lockdown better because as people were scared to come to the crowded market, they were very few traders at the market which made it more comfortable for her. However, profits were not necessarily higher. Local traders at Denu market were also impacted by the decrease in numbers of cross-border traders coming from abroad to buy fish: *'We have to pity these traders: if they don't come, we don't sell'*.

As expected, traders now send a lot less fish across the border. Several traders can now only get about half the number of barrels they used to get in previous seasons. One who used to send 100-150 baskets only sends between 13 and 20 baskets now; another one who would

send 100 barrels does not send more than five of them nowadays. Moreover, it has become more expensive for them to buy from fishermen or other traders, and they have had to increase their prices at the market when they want to make profits. As a result, customers tend to buy smaller amounts of fish because it has become too expensive. Low fish catches is not a direct effect of the pandemic; however, reduced fish availability further deepens effects induced by COVID-19 when coupled with border restrictions, increased border fees and other effects.

5.4 Impacts of the COVID-19 related border closure on traders' food security

This section focuses on the third sub-research question: *How did impacts from the pandemic affect cross-border fish trade livelihoods and in turn the traders' food security?*

The closure of the border has had various consequences on the traders' food security. First, traders are financially struggling from lack of incomes and high food prices. Second, the pandemic has had effect on their social relationships, and on their organization within the household. Third, their food consumption and diets deteriorated.

5.4.1 Economic aspects

Many traders pointed out that the biggest impacts that the pandemic has had on their life were of economic nature. Losses of capital have been heavy, and the little profits they make have to be spent on food. They have lost customers and are indebted after credits from customers were never repaid since customers did not come to the market due to COVID-19 restrictions. Cross-border traders spend a lot of their profits on expenses along the way as well as on food for the household. Besides, the cedi currency decreased since before the pandemic, making it hard to trade in Togo or Benin. Economic assistance has been very scarce. Out of the 30 informants who were asked how their income was impacted by COVID-19 during the first months, 29 of them indicated at least some decrease; 22 specified that it was a strong decrease. The situation has evolved since March 2020 and is more bearable now in October 2021 after about 18 months.

Selling fish on credit was common practice before the pandemic. Therefore, most customers still owed money to traders when the border closed and the lockdown started. Some customers do not come to the market anymore and have never repaid that money back; some have paid it back since then. Traders who stopped crossing the border struggle getting their credits back. One of them gets women from her community to bring the credits back little by little when they go trading in Lomé. Traders do not sell on credit anymore, nor can they buy fish from fishermen on credit unless they have a close relationship. Many of them are still

suffering from debts due to credits. According to Luke *et al.* (2020), traders particularly face debt when they trade in perishable foodstuffs.

Prices of fish were highly affected by its scarcity. Fishermen at the beach sell barrels or baskets for a lot more than before the pandemic or have kept the same price but use smaller recipients to measure fish. For example, a trader pointed out that before the pandemic she would buy a barrel for 200 cedis[22] and sell it for 350 cedis[23], making a profit of 150 cedis[24]. She now buys a barrel at the beach for 380 cedis[25] and has to sell it for at least 420 cedis[26] if she wants to make some profits and pay for travel expenses. Her gross profits are almost reduced by four while expenses along the way are higher. Nearly all informants have had to increase their prices. Profits remain small, even nonexistent. Traders spend a lot of money on the road while they do not sell as much fish as they used to. As explained by a trader, the price she bought the fish at the beach compared to the price she sold it at the market could double before COVID-19 to make profits. As of now, she buys and sells barrels for the same price without making profits.

Selling at a loss is not new and used to happen a few times a year before the pandemic. This practice is however a lot more frequent since the pandemic due to the higher uncertainty linked to trading and the closure of the border. Maintaining trust between traders and customers is more important than making profits. If you keep your customers, you can be almost certain to sell fish again once you can reasonably increase your prices. Selling fish at a high price means customers might not buy it and will be hesitant buying from you again. Changes in customer relations can have long-lasting effects.

Selling fish in Togo remains generally more profitable than selling it in Ghana. For Ghanaian traders close to the border, Denu market is less attractive than the big markets across the border, especially those in Lomé. Selling in these markets gives you a guarantee that you will sell most of your goods. While if you trade at Denu market, you will only sell your fish in bits and as there are many fish traders there, the sales prices are low. Moreover, Ghanaian traders consider that the profit margin is higher in markets abroad.

As most of the informants are heads of household, fish trade is the main source of income for the traders' family. Although border crossing has become difficult and expensive, several

[22] $26,90 / 25,50€
[23] $47 / 44,60€
[24] $20,20 / 19,10€
[25] $51 / 48,40€
[26] $56,50 / 53,50€

of them had no option but to continue trading in order to get some money for the household. For traders who have representatives, most of the profits go into paying them. The trader who sends her doctor across the border gives her 70% of the profits since she is doing the hard work.

According to informants, business has never been so bad. Hard times can happen when fish is expensive at the beach but never to such an extent. Traders spend now a lot of money on crossing the border through unofficial routes, which does not leave much of the profits for other expenses like buying food. Besides, food is more expensive to buy now than before the pandemic. Many traders spend more or all of their profits on food now and even struggle buying enough: '*There is no more money. We stayed home and we ate everything* ['*Il n'y a plus d'argent. On est restés à la maison et on a tout mangé*']' (Venyo, Togolese, 45).

Economic arrangements implemented before the pandemic are now limited. The trader that is part of the saving group struggles contributing every time. When she does not contribute or only partly, there is an arrear on her. The next time she contributes, she then has to pay for the new contribution in addition to the arrears:

> *'When I send the fish to the market, if the market is not good or I sell below the price that I bought from the beach, there's no way I will contribute. I just have to bring back that capital and come and buy fish, and come to the market again'* (Gameli, 48).

When she is the one benefitting from the saving group, she shares that money with the 'trading group', with the people that are working with her. As for the money box arrangement at Aflao, they simply cannot do it anymore because of the lack of profits.

Many traders indicated a need for economic help when asked how their situation could be improved. Loans were often mentioned. Loans are particularly interesting when offered from the bank because the interest rate is generally lower than from individuals. However, financial officers tend to take advantage of the lack of literacy among traders and offer loans with high interest rates. Since the pandemic, banks have been reluctant to giving out loans because they are aware of the scarcity of fish and the difficulties for traders to do business. It was also mentioned that NGOs offer softer requirements for giving loans, which traders are interested in. Mostly, traders are desperate and would accept loans from any source. Only very few traders benefitted from economic assistance. A Togolese trader got a 20 000 CFA[27] loan from relatives because she was scared she would lose customers. The local leader of NAFPTA in Community

[27] $32,20 / 30,50€

D also managed to get a loan from a rural bank because of her position in the organization. She however advises banks to not give loans to traders because they will not be able to pay that money back and she would end up being the one who has to pay instead. Others said that when traders do get a loan now during COVID-19, if it is not enough money to cover all the traders who need it, they divide them in two groups and alternate who they give the money to.

While the Ghanaian government is not assisting fish traders in any way, the Togolese government has been more helpful towards traders. It is easier for Togolese traders to get loans from their government. In Togo, representatives of the government have also been giving out *'COVID-19 money'* (Yomawu, around 50) to traders present at the market. 5 000 CFA[28] were sent for free as mobile money on the traders' mobile phones. Officials checked their ID cards so that foreign traders could not get that money. Yet only two of the nine Togolese traders reported that they had in fact gotten money from the government.

One trader was not affected by these devastating economic impacts of the crisis. As she was scared of getting infected by COVID-19 if she crossed the border, she turned to Ghanaian markets during the lockdown. According to a friend's recommendation, she started to fry fish to sell it in a market in Kadjebi, a town about 250km north of Keta. She benefitted a lot from that change in her business. Her profits remarkably increased. She used to sell one barrel of dried or smoked fish in Togo for 35 000 CFA[29] and she now makes 1800 cedis[30] with one barrel of fried fish at Kadjebi market, generating over four times more money. She has been advising other traders to do the same, but they are reluctant to change.

5.4.2 Social and household aspects

Traders' communication with others has been impacted by the pandemic. If they still communicate with other traders from their community, they are less in contact with traders from across the border. They also have fewer contacts. They have often lost some or all of their customers and struggle finding new ones. Getting new customers depends on how well the fish has been handled and processed. It is important that traders get in contact with their customers before traveling to check that they will come. Cross-border traders are also in contact with traders that trade in the same market as them. They call to discuss current prices and conditions in the market.

[28] $8 / 7,60€
[29] $56,30 / 53,40€
[30] $242 / 229€

As traders are often heads of household, they are in charge of looking after the children, buying food and paying school and other expenses. The share of tasks within the household between husband and wife has often not changed although the volume of tasks has increased, and women are still mostly in charge. Schools were partially or totally closed, and children had to stay at home during the day, preventing women to leave the house to go cross-border trading. Many traders complain about how badly children's education has been affected.

5.4.3 Impacts of the pandemic on food consumption and diets

Changes in diets were indicated as a result of declining incomes. A lot of the cross-border traders' profits used to be spent on buying food before COVID-19. Before the pandemic, 19 of 30 traders would spend at least 50% of their profits on food. Five of them spent around 60-70% of profits on food, three of them spent everything. Only three spent less than 40% of profits on buying food. Some were not able to give me a precise number because it depends on other factors such as expenses for church and the availability of food at home. Some of the profits from fish trade would also go to the border officials. Many of the informants said that expenses along the way took a lot of the profits. Besides, traders can be head of a large household. They often did not have a choice but use a lot of money on food so that every household member has enough to eat. Some traders depended on credits from their customers and did not necessarily get a lot of profits at once which constrained them from buying a lot of food. The trader that is part of the saving group would usually use half of her profits on contributing to that and the rest on buying food.

It was very common for Ghanaian traders to buy food in their destination market because prices of some food items are usually lower in Togo and Benin. Togolese traders also often used to buy certain cheap food items at Denu market. Profits from one day at the market could be used for buying food for a month.

Concerning food habits, traders stated that they were eating well before the pandemic. Their diets were varied. All of them ate fish on a regular basis if not every day and would commonly add it in soup. They would keep some of the fish they bought for their own consumption or come back to the beach to buy some more after having bought fish for business.

The traders' diets as well as those of their families have been heavily impacted by the crisis. Drop in profits and higher food prices have made it difficult for them to manage to have a healthy diet. 29 of the 30 traders reported that they noticed a change in their diets, often very strongly. Most traders used to eat three or four times a day before COVID-19, whenever they

were hungry. Now they only eat twice a day or feel '*lucky if [they] eat twice a day'* (Enam, Togolese, 42). Many of them eat less varied food and often the same meals every day. Breakfast is now made of porridge or tea and bread, and lunch or dinner consists of yam, rice, maize, beans or akple/banku (mixture of fermented corn and cassava dough) with soup. Fish remains the main source of protein source food and is typically prepared in the soup. Traders still eat fish every day but have reduced the amount of fish in their meals:

> *'In the past, I prepared soup and put in any amount of fish I desired to eat. I ate it in that quantity and that's all for a day. But now, eating fish, I do not like it anymore. Now it's less [of it] in the soup*' (Yawa, 59).

They mostly eat small fish such as anchovies and herrings and remove the head and viscera. Fish for consumption is commonly bought separately from fish for trade business and usually after that one, when there is fish left at the beach. Other sources of protein foods such as chicken were also more often consumed before the pandemic, about twice a month on average according to the interviewed traders. Other protein sources are usually more expensive than fish. Since the pandemic, traders can afford to eat those only once a month.

Children are generally the first to eat while women are the last to eat. If every household member has reduced their food consumption since the pandemic started, women are the most impacted and have reduced it to a larger extent than other household members.

Ghanaian traders still tend to buy some foodstuffs that are cheaper in Togo and Benin markets before traveling back home. Higher food prices are not the only reason traders reduced their food consumption, according to one of them. Crossing the border affects their health:

> *'We find it difficult to eat, because of the health and border crossing. The drudgery in crossing, doing the business, the difficulty in crossing the border. Sometimes they say the police is coming, we have to drive to a different unapproved route. You suffer a lot, you have to be hiding, like soldiers in a battlefield'* (Yawa, 59).

Only very few traders reported that they ate as much fish as before the pandemic: *'You have to reduce your fish consumption, or you eat your capital'* (Tafa, Togolese, 55). The pandemic has made them vulnerable:

> *'COVID-19, it kills us! We want to eat, we can't eat! Just tea, empty water, no sugar! We can only prepare porridge for the children!'* (Delasi, 61).

Many of them insisted on how hungry they are, sometimes so much that they cannot sleep at night.

5.5 Short summary

Cross-border fish trade before the pandemic consisted of a relatively well-organized system where traders would regularly cross the border without problems and targeted markets in Lomé in Togo or Comé in Benin, or other markets further inland in Togo. Since COVID-19, several problems accumulated. The lockdown in particular was difficult, and many traders suspended their CBFT activities. Those who did not, started increasingly exploiting unapproved routes and suffered from violence and harassment from border officials. Few work alternatives were available. After a few months, violence and harassment were reduced and some traders went back to their CBFT business. At the time of data collection, trade was largely hindered by scarcity of fish and the whole process of CBT is different. Means of transportation are more or less the same, but border crossing takes longer, border fees are expensive and traders stay longer abroad; they buy and sell less fish because it has become expensive. For traders, border crossing is only facilitated by personal relations with officials. Their relations to other traders make trading processes easier. Their economic situation remains hard, and traders lack economic support. They eat less food and less varied meals. Within households, women are responsible for more household tasks.

6 Discussion chapter

This chapter aims at examining the data put forward in the previous chapters in the light of the theoretical concepts. The main research question will be explored: **In what ways can the COVID-19 related Ghana-Togo border closure highlight the important contribution of the cross-border fish trade system to the traders' food security?**

Notions of borders, scale of trade, affordability, resilience and agency will be discussed to determine how they shape and influence indirect food security for traders. A section on diets and nutrition is also included to assess changes in utilization and the traders' direct food security. Reflections on the durability of the effects, whether long- or short-term, will be introduced. A summary at the end of the chapter is put forward, following the theoretical framework of food security and its underlying six pillars.

6.1 Border(s)

The border appears now as a much different component of cross-border trade than it was before the pandemic. Crossing the border is the main limitation to engaging in CBFT activities and therefore the border can be presented as the main constraint to the traders' food security. The border played a particularly important role in shaping and reducing the availability of traded fish, therefore reducing profits.

The closed border has been extremely restrictive for cross-border traders. Before the pandemic, the border was at least just a formality on the way to business, if not a great economic opportunity to enhance profits. The Aflao-Lomé border could have been defined as Newman's (2017) definition of a 'frontier' before the pandemic: both sides of the border, sometimes areas far from the border itself, were influenced by the presence of the border. For some traders, the border also represented opportunities (van Houtum and Bueno Lacy, 2017), especially economic through the change in currency. The border used to be very dynamic, or 'active' as Igue and Zinsou-Klassou (2010) call it. Both economic activities and movements of population and goods were substantial. The Aflao-Lomé border could further be characterized as a 'national periphery' (Igue and Zinsou-Klassou, 2010). Not only it was a strong entity, but it was a zone of continuous flow of people and trade activities, and it was surrounded by marketplaces. Economic enterprises were mostly informal and outside national economies. Closing the border produced a much more political meaning of the border as a simple separating line between two states, than it used to have locally (Newman, 2017).

The border is now clearly a barrier and rather a threat or even a burden than a place of opportunity. The border is a zone of oppression where traders sometimes fear for their life. Power dynamics at the border have shifted. The border kept its informal aspect to an extent which allowed traders to cross under certain conditions. The official closure of the border coupled with continued informal practices put border officials in positions of abuse of power. The power embodied by border officials is inadequate with practices at the border. This corresponds with Mezzadra and Neilson's (2013) conception of borders in centralized states like this one. Local practices are left out of the national restriction to close land borders, leaving power and governance in the hands of officials whose interests are to financially benefit from the situation and assert their power. The extent of bribing and corruption, already common when the border was open (Wrigley-Asante and Agyemang, 2019), were exacerbated as the border closed. According to Bouët and Laborde (2020), trade corridors in West Africa faced an increase by 30% of bribe collection between March and April 2020. Bribing and abuse of power become common practice when exceptional measures are implemented. Instances of brutality by officials were also reported in urban markets in Ghana where the police brutalized people who would not comply with the lockdown directives, as well as traders who were actually permitted (Asante and Mills, 2020). The first people to suffer from bribing and corruption are powerless, poor people such as informal traders, who are lacking support from those in charge. Fish traders have for decades crossed the border on a regular basis, but they clearly still lack recognition from border officials. Unlike Desai's (2009) claim that most border officials are pro-traders because women in their families are traders, traders in this study are seldom acquainted with officials.

Corruption and harassment are common challenges for cross-border traders, even before COVID-19 (Koroma *et al.*, 2017). Other related challenges can be sexual abuse and confiscation of goods (ibid.). As is the case here, lack of order and congestion at the border exacerbates these challenges (Montalvao and Van de Velde, 2020).

The area around the border can be considered as part of a larger 'Ewe region' (see section 3.4.1) (Igue and Zinsou-Klassou, 2010). Apart from the main economic incentive, traders are drawn to trade abroad within the region because they have friends or family abroad (i.e. Ye who used to trade in markets close to her family house in Togo) and because they know that people speak their language everywhere in the region, all the way to Benin (i.e. Selorm and Yawa who travel to Comé, Benin). People on both sides of the border (Togolese traders as well as Ghanaian traders) were in favor of reopening the border, or at least easing border crossing.

Ghanaian and Togolese Ewes maintained their close bond but the obstacle emanated from border officials who are not necessarily from the region or Ewe themselves (Nugent, 2021). Little care was given to personal characteristics of traders trying to cross the border; those who were indisposed did not have a better chance to cross. Old age might facilitate crossing. Personal relationships between trader and official or wealthiness could also ease border crossing. Situations of injustice can be created as people try to cross a border (Mezzadra and Neilson, 2013), and it was evidently the case here.

At a larger scale in the Ewe region, the border zone under study could even be referred to as a single cross-border trade system, involving specific actors, networks, and processes in the area. This cross-border trade system would include predominantly cross-border traders as well as the border officials they encounter in the process of border crossing, and customers from their social network that they meet at the marketplace. Factors influencing the CBT system could be measures regulating border crossing and trade taken by governments or regional organizations, the availability of food to trade and the traders' agency and resilience.

Borders can create forms of vulnerability (Mezzadra and Neilson, 2013) and the fish traders' crossing during and after the lockdown are a good example of it. As mentioned in the previous chapter, traders claim that the border did not induce any challenges before the pandemic. Now, most of the challenges when engaging in cross-border trade are to be found at the border: paying fees, bargaining, making your way into the neighbor country. A study at the border between the Democratic Republic of the Congo and Uganda similarly indicates longer clearing border procedures since the pandemic and depending on crossing points, the process can take a few more minutes to three times the amount of time pre-COVID-19 (Mvunga and Kunaka, 2021). A drop in the number of traders crossing the border was also observed. The study points out that traders are exploiting noncontrolled crossing points due to restrictions on the movement of people and that crossing the border has become more expensive for traders now when it was free before the pandemic. In their case, cross-border traders are required to present a negative COVID-19 test when crossing. The closed border shows how vulnerable traders can become.

The border remains nevertheless dynamic as it is not totally closed, and informal practices are still common. The border presents room for adaptation, but it now presents a characteristic of unexpectedness. Every crossing is a different experience and dynamic characteristics such as 'improvisation' and 'spontaneity' are displayed but not in a positive sense like van Houtum and Bueno Lacy (2017, p. 1) implied. The border as national periphery

is challenged. Although crossing the border can be made possible, the border seems to never have been so thick. It also never had so many negative effects on fish trade. The idea of the border shifted from representing economic opportunities to representing an economic burden.

In addition to limiting traders' engagement in business thus reducing their profits, the traders' inability to cross the border considerably reduced the amounts of fish made available to people across the border. The closed border had effects not only on the traders' indirect food security but also on direct food security of populations benefitting from cheap fish that used to be available in large quantities.

6.2 Scale of trade

Scarcity of fish in combination with difficulties in crossing the border engendered changes in the scale of trade. Fewer traders travel abroad to buy or sell fish and when they do, they transport less fish than they used to. Processes of transportation and traveling also underwent changes and fewer markets are now targeted. The structure of cross-border trade in terms of scale and volume of traded goods was thus transformed.

Flows of fish trade have been generally reduced as only 19 of the 35 informants regularly engage in CBFT now and five of them do not travel as frequently as they used to. Many traders who do not engage in CBFT activities anymore turned to local markets and a smaller scale of trade.

Fish being a low-value food item, the type and scale of trade is here mostly determined by the volume of fish traded and the means of transportation following Desai's (2009) classification of traders. Before the pandemic, most traders used to buy and sell many barrels or baskets and defined themselves or can be defined as wholesalers or wholesaler/retailers depending on how they sold fish at the market. Ghanaian traders traveling to Lomé markets used local means of transportation, namely taxis, whereas those traveling to Benin, and Togolese traders coming to Denu market usually used bigger cars or trucks. Togolese traders used to trade on average in larger amounts of fish than Ghanaian traders. Eight traders used to trade in relatively small amounts of fish (3-10 baskets on average) and could be considered retailers. One trader from Togo defined herself as a petty trader as she bought little amounts of fish and traveled by motorcycle.

These classifications have been disrupted by both the closure of the border and the scarcity of fish. There has been a drop in the volume of traded fish induced by the lack of fish

which is not directly related to the pandemic. However, if the border was open or if harassment was not so present at the border, more traders would cross the border now instead of trading in local markets. Volumes of fish traded across the border would therefore not be so low.

Retailers have been affected to a lesser extent than wholesalers and wholesaler/retailers. As prices of fish have escalated, retailers tend to buy and sell a few baskets or barrels less than before the pandemic, while wholesalers and wholesaler/retailers struggle to buy more than half of the amount of fish they used to get. Some of them manage to buy now only 5-20% of the volume compared to before the pandemic. Wholesalers and wholesaler/retailers trade now in the same volumes of fish as retailers, although their method of trading remains generally the same. The few wholesalers who used to travel to Northern Togo do not travel there anymore. The targeted markets since the pandemic are located in Lomé in Togo or in Comé in Benin.

Changes in the scale of trade induces here changes in the availability of fish sold, meaning in turn a loss in profits for traders. Traders sell less fish in volume and those who reduce the scale of their trade cannot sell at the same higher price as they used to across the border. Although all types of traders have been hit hardly by the crisis, wholesalers and wholesaler/retailers are those whose scale of trade has reduced the most, limiting their profits.

Containment measures against COVID-19 completely overlooked the limited scale of informal fish trade, focusing mainly on ‘export’ fish trade. There is a need to shift the policy focus from ‘export’ fish trade towards small-scale fish trade. This was already a problem before the pandemic (Béné *et al.*, 2010) but appears even more of interest because restrictions were not suited to cross-border trade. Measures were taken for ‘formal’ food trade but ignored informal intra-regional trade. Informal trade processes are not well understood, even by regional organizations such as ECOWAS and AfCFTA who only focus on food trade as such and neglect its impacts on livelihoods.

6.3 Affordability

Negative economic impacts of the pandemic on CBFT business have been plural, negatively affecting the traders’ economic accessibility to food. The traders’ affordability was particularly impacted, both on the purchasing power side as well as on the food prices side. People’s purchasing power and food prices are major factors in influencing economic access to food (FAO, 2013; Ericksen, 2008).

The purchasing power was disrupted in several aspects. First, traders suffered from debts from unpaid credits of customers who did not want to or could not go to the market anymore. Second, buying fish became more expensive, whether it was from fishermen or from other traders. Third, traders had no choice but to sell fish for little or no profits at all or they risked losing their customer base. As fish prices are generally higher in Togo, one could argue that Ghanaian traders who had to switch their business to Ghanaian markets suffered even more from drop in incomes than traders who continued to trade abroad. Lastly, transport and border fees increased compared to before the pandemic. Incomes were therefore severely hit. Similarly, traders in Lagos reported that their income had dropped by 94% during the Lagos State lockdown (Grossman *et al*., 2020 in Resnick *et al*., 2020).

Another aspect reported in a study undertaken by Atkins *et al.* (2021) in several Sub-Saharan countries is degradation of fish and post-harvest losses due to lack of access to cold storage facilities, and restrictions linked with transportation, border closure and periodic market closures. Degradation of fish and post-harvest losses led in turn to economic losses as traders were obligated to dispose of their goods or sell at a lower price. This was notably the case right before the lockdown as traders only had a few days to prepare for the border closure (Luke *et al.*, 2020). This was not mentioned by informants in this study because they trade mostly in dried and smoked fish which, advantageously, does not necessitate refrigeration.

Increases in food prices further burdened traders. Although detailed information on fish prices were not found in secondary sources, Luke *et al.* (2020) indicate that prices of other key foodstuffs such as rice, tomatoes and peppers increased by about 50% in border towns in Ghana. Asante and Mills (2020) report that strong rises in food prices occurred in urban markets across Ghana where prices doubled or even tripled. The little income left from the traders' profits is now mostly used on buying food, although in smaller quantities than before the crisis. Traders who do not cross the border anymore are not able to buy the cheaper foodstuffs available in foreign markets, like many Ghanaian traders used to do when undertaking fish trade in Lomé.

The traders' affordability can be improved by safety nets and economic help (FAO, 2013), whether official (e.g. loans) or unofficial (e.g. the saving group, the money box). It is however very seldom that governments or banks help informal traders. As for informal economic arrangements, they are practically impossible to resume as all traders are financially struggling. The Togolese government launched a cash transfer program for workers, mainly women, who had lost their jobs due to the pandemic (Bodewig *et al.*, 2020). Resnick *et al.* (2020) mention that 'the Bank of Ghana negotiated measures to facilitate more efficient

payments and promote digital forms of payments' (p.6). However, cross-border traders seem to never have heard or benefitted from these services. Moreover, mobile money platforms often differ from country to country which restrains the transition from cash-based to digital transactions. In countries such as Uganda, Namibia or Kenya, fees for traders in informal markets were reduced or even totally waived (Resnick *et al.*, 2020).

6.4 Cross-border trade and resilience

This section aims at discussing whether the supposed resilience of the CBT system (Clark, 2000; Walther, 2015; Olusola and Lere, 2020) helped limiting the negative impacts of the pandemic, and if so, which coping strategies were implemented by the traders. Through the lens of food security, resilience mostly influences stability and sustainability.

6.4.1 Resilience through social networks and trust

Resilience of the trade system stems from the plurality and quality of relationships between traders (Walther, 2015). Before the pandemic already, traders had unequal amounts and types of social capital. Most of them had at least a couple of ties with other traders from their own community and therefore benefitted from a medium to high degree of social embeddedness (Walther, 2015). 14 of them were also connected with traders from communities in Togo, Benin or even Mali, benefitting from a medium degree of brokerage, as Walther (2015) calls it. Three traders were very well connected to foreign communities and could be considered as important brokers. External actors that traders were in contact with are mostly their customers, sometimes other traders they know from the market. Cross-border trade networks are often decentralized (Walther, 2015) and it appears to be the case here: most traders only have a few contacts, and few traders are highly connected.

Ties and relationships between traders were highly affected by the pandemic, especially between traders from different communities. As fewer customers went to the market, cross-border traders lost connection with them. In Benin for example, the COVID-19 related protocols introduced hygiene measures and social distancing requirements that constrains many customers from coming to the market. Goods were rather sent to them, and cross-border traders that sit in the market to sell fish lost many customers. Traders already lacking connection with external actors were not affected by changes in relationships. A study in Kenya also pointed out that the pandemic disrupted communications and connections between traders and with customers within communities but also with distant markets (Mbaru *et al.*, 2022).

Before traveling to the foreign market before COVID-19, traders would sometimes call the other traders to arrange a meeting beforehand for buying or selling fish. The COVID-19 crisis induced a stronger emphasis on mobile phone communication as traders want to make sure that it is worth traveling across the border. Communication through mobile phones has already been proven to be useful for trading networks and businesses (Overå, 2006; Wrigley-Asante and Agyemang, 2019).

Relationships between traders and between traders and customers rely mainly on trust (Walther, 2015). The trust that traders established before the pandemic was disrupted because of lack of access to markets for both customers and traders as well as lack of fish and induced increased prices. Traders do their best to maintain trust with their customers by calling them before they travel to the market and even sell to them at a loss if it means that they will come next time when traders can make a profit. Traders trust customers to show up each time to buy fish from them and customers trust traders to sell good quality fish in suitable quantity. When traders have lost all of their customers, it is difficult to get new ones because it induces to build trust with new people who are probably already getting their fish from another trader. Resilience is normally established by maintaining trust in trading networks. However, levels of trust have declined since the pandemic as traders do not trust their customers enough to still sell on credit.

Traders benefit from having a strong social capital in times of shocks and stresses (Walther, 2015). Traders who stopped their CBFT business during the lockdown did not necessarily lose customers if they kept being in contact as was the case for ‘Afefa’. Once she resumed her trading activities in Togo, her customers bought fish from her again. ‘Abra’, who never resumed her trading business in Lomé nevertheless managed to get her credits back thanks to connection with Togolese traders who are sending the money through Ghanaian traders from her community. Keeping connections with other traders also helps in studying the market. For example, ‘Delasi’ got information from a trader friend in Lomé who advised her to bring herrings instead of anchovies to the market because she would make better profits. ‘Ye’, who stopped her CBFT business and started selling fried fish in Kadjebi in Ghana instead, got the recommendation from another fish trader.

It is the unwritten rules and norms of cooperation between traders in the trade system (or ‘informal institutions’, see Odera, 2013; Overå, 2006) that enabled fish trade in this crisis. Customer relations and trust which constitute the basis of the trade system, became the fundamental motive and incentive for trade activities. It can be argued that the CBT system is

sustainable because it is in a way able to maintain and preserve itself when traders follow the basic practices of ensuring customer relations and trust.

Besides, having social ties with people other than traders is also beneficial, whether it is with border officials who become more lenient with traders they know (Chalfin, 2010; Walther, 2015) or fishermen who reserve some fish or allow credits for traders they are close with.

6.4.2 Resilience through food supply

Cross-border trade activities are said to be resilient as they aim at supplying food to areas that know scarcity, notably during food crises (Walther, 2015; Olusola and Lere, 2020). Resilience emanates from the flexibility and capacity of adaptation of trade at a small-scale. Through their motives to continue their business in order to provide an income, however big, to their families or at least maintain trust with customers, some traders managed to adapt to the border closure and continue their trade. Adaptation strategies implemented by cross-border fish traders to supply food across the border are exploitation of unofficial routes, increased communication with customers and full obedience towards border officials. Even though they get beaten up by border officials, they have to try crossing the border again a few days later because '*Beyond the border is where business is, where food is'* (Eyra, 55). Engaging in CBFT is not one of the alternatives they chose to make profits and supply food; it is their only alternative. Strategies implemented by traders to keep their CBFT business afloat should not be seen as a means to enhance resilience in the trading system. They were rather strategies for survival. Traders lack economic and political tools, resources and support to ease the food crisis. They suffer the double burden of lacking fish and experiencing constraints in their mobility at the border.

Besides, the Ketu South and Keta Municipal districts can themselves be considered as areas experiencing scarcity of fish in marine waters. Only Tema could be considered as a zone with higher fish resources as only the trader from Tema indicated that volumes of fish she is getting from fishermen are somewhat normal.

Traders still manage to supply fish to distant places, as is often the case in dynamic, resilient trade networks (Clark, 2000). Two traders travel regularly to Comé in Benin although they need to cross two borders and the trip is grueling.

Even in the worst of circumstances, cross-border traders find a way to supply fish. Although it does prove that traders are resourceful (Clark, 2000), it says more about the lack of alternatives and the vulnerability of traders than about the resilience of the trade system. It

should not be this arduous to engage in activities that benefit food supply and food security (Olusola and Lere, 2020) in the middle of a food crisis.

6.5 Agency and gender

Trade activities are considered as a means to enhance women's living standards (Desai, 2009; Walther, 2015). Fish traders' agency remains limited by lack of recognition and financial resources (Hasselberg *et al.*, 2020; Zelasney *et al.*, 2020). This is the case here as cross-border fish traders severely lack resources, opportunities and alternatives since the pandemic. Not only are they financially struggling from lack of profits and difficulties in securing loans, but they are also often unable to find other sources of income. They have worked in fish trade their whole lives. They lack education, information and financial resources to invest in another business. Seven informants were out of work for the whole lockdown period, with no income at all. Informal traders are said to be part of the 'missing middle', a category of workers that are usually above the poverty line and therefore not supported by formal safety nets, but lack social protection when vulnerable (Joubert, 2021; Resnick *et al.*, 2020). These workers usually have precautionary savings to last over a short period, or precautionary savings as well as longer-term savings. The informants' savings were here very limited. Besides, as the events quickly unfolded in March 2020, traders had very little time and opportunity to try and find an alternative livelihood to CBFT (Bouët and Laborde, 2020).

Traders have in general become more vulnerable due to lack of profits and increases in fees along the cross-border trading process. Fish trade used to be a form of safety net for women traders (Béné and Heck, 2005). When even the trading system fails them, traders are left with almost nothing. They lack opportunities and alternatives to undertake other economic activities, and struggle to get economic support from the state, even from relatives. Women and informal traders especially lack access to social protections and traditional safety nets. Informal traders only have a weak social contract with the state (Resnick *et al.*, 2020). If they do not hold too much responsibility towards the state, their weak relationship also prevents them from getting pensions, health insurance and other forms of social protection. Resnick *et al.* (2020) argue that the weak social contract in place has made informal workers vulnerable to the COVID-19 policy responses. Traders are neglected from local politics, not only regarding the government but also from regional organizations such as ECOWAS and AfCFTA which are prevailing actors in improving and facilitating regional trade (Olusola and Lere, 2020; Walther, 2015). Lack of intervention from major governance actors risk to further marginalize fishing communities.

Even the NAFPTA organization does not have any agency when it comes to political influence. A NAFPTA leader would for example not be allowed to talk to border representatives to discuss a more accessible border crossing for fish traders. In addition to being largely neglected, traders suffer from violence and harassment from border officials. The border officials' behavior does not necessarily originate from the traders' gender. Asante and Mills (2020) explain that violence exerted by authorities stems from their negative perception of informal traders as 'stains soiling the image of the modern African city' (p.6). As Ericksen (2008) pointed out, disadvantages in political and social power tend to weaken food accessibility.

As head of household, the burden falls on traders not only to provide for the whole family but also to make difficult decisions: is it worth going trading when there are risks of getting exposed to COVID-19? Especially when access to health services is limited in rural fishing communities (Bennett *et al.*, 2020). For several traders it is worth the risk, otherwise their families would starve. Many traders complained of the burden it is to be head of household in such a crisis. As the income from the mother or wife as fish trader affects the whole family's food provision and nutritional well-being (Béné and Heck, 2005; Kawarazuka and Béné, 2010; Hasselberg *et al.*, 2020) and most traders are heads of households, many individuals are suffering from deterioration of fish traders' livelihoods.

Furthermore, traders lack agency when it comes to making decisions about the food they buy and eat. Drop in incomes associated with the pandemic limit possibilities. Tastes and preferences are put aside when buying food; only the financial factor comes under consideration.

Gender studies include among others notions of motherhood in Africa (Cornwall, 2005) and the body (Young, 1980). These two aspects are particularly relevant here, as the pandemic brought gendered impacts. First, the importance of motherhood in African feminism is translated by the traders' predominant role as head of household and their important concerns towards their children. The well-being of their children in terms for example of nutrition and school attendance are their priority. As children could not go to school under the lockdown, the responsibility to take care of them during the day fell on them and not their husbands, increasing their care burden. As reported by another study, household expenditures, often women's responsibility, were increased as children spent more time at home (Atkins *et al.*, 2021). Second, the traders' bodies have suffered since the pandemic. Physically on the one hand, as they were sometimes beaten up by border officials, and had to travel on unofficial, rugged roads. They also suffer from hunger, so much that they struggle finding sleep at night. Psychologically

on the other hand, their bodies are exhausted from stress, fear and the weight of their families' lives on their shoulders.

Atkins *et al.* (2021) reported that on top of dietary effects, drop in incomes and difficulties in trading have led to 'significant impacts on [women's] stress and mental health' (p.12). Tension within the household and increased occurrences of violence against women were also pointed out, though never reported by informants in this study.

6.6 Nutritional aspects

Drop in the traders' affordability brought serious effects on their and their families' diets. Both decreases in quantity and in variety of food in meals were observed. They are at risk for (if not already facing) undernourishment through lack of sufficient food, and malnutrition through loss of varied foods (FAO, 2008). This could correspond to projections by the latest State of Food Security and Nutrition in the World report (FAO *et al.*, 2021) that estimates that about 118 more million people worldwide suffered from hunger in 2020 than in 2019. Concerning undernourishment, they consider that Western Africa counted 75 million undernourished people in 2020, an increase in 25 million compared to before the pandemic in 2019. About 12 percent of the world population were facing food insecurity in 2020 – an increase of 148 million more people than in 2019 (FAO *et al.*, 2021). The traders asserted that they did not have any nutrition problems before the pandemic, which indicates that they used to be food secure.

Results from a study in Sub-Saharan Africa countries showed a drop in consumption in most foodstuffs among participants (both food producers, processors and consumers) except cereal consumption (Nchanji and Lutomia, 2021a). Compared to before COVID-19, meat consumption in particular decreased by almost 31%, while fish consumption was reduced by about 20%. Other declines include beans (15%), other legumes (21%), tubers (21%), fruits (12%) and vegetables (5%).

A study in fishing communities in Kenya found similar results where people said that they ate less and less well (Mbaru *et al.*, 2022). According to FAO *et al.* (2020a), worsening diet quality is the result of the crisis in a food security perspective. They argue that, as we found here when incomes fall and/or prices rise, households will reduce their food consumption in variety, even in amount sometimes.

The traders' knowledge of and familiarity with fish as food allows them to continue to benefit from fish nutritional value. Eating fish on a somewhat regular basis at least improves

their protein and micronutrient intake (Béné and Heck, 2005; Hasselberg *et al.*, 2020). Although their fish consumption has generally reduced, fish still contributes to their direct food security.

Nutritional well-being within households has become rather unequal in terms of gender, limited by the availability of food. This is not uncommon during food crises (FSIN and Global Network Against Food Crises, 2020). As depicted in the study, children are the first to eat; husband and wife might share the rest of the food, or in other cases, the woman is the last one to eat. Women traders are the first to abstain from eating in order to let others eat more.

6.7 Scope of the effects

Although it is still too early to determine with certainty the scale of the effects on trade networks and on the traders' food security, this section aims at discussing whether the effects could induce rather short-term or long-term consequences, impacting respectively the stability or sustainability aspects of food security.

Changes in scale of trade most probably only have short-term consequences as traders were eager to see the official border reopen and for those who stopped their CBFT business, to resume that business. The official border checkpoint at Aflao reopened at the end of March 2022 which should facilitate border crossing, hopefully to the same extent as it was before COVID-19. Pre-COVID-19 trade flows should then be expected to return. Reopening the border also means that bribing and harassment will reduce. Economic hardship on the traders' profits and purchasing power should decrease along with reductions of border fees and increases in CBFT trips and flows. New ways of trading such as calling customers before traveling might become more standardized and strengthen the trading system. Resilience of the trading system was weakened, which underlines its fragility and threatens the sustainability of the food and trade systems.

Nevertheless, the pandemic definitely has long-term consequences on the nutritional well-being of traders and their household members. Lack of quality food threatens children's cognitive development and physical growth (FAO *et al.*, 2021). These effects can be irreversible.

The COVID-19 crisis is an opportunity to rethink border and the necessity to close them even to workers who depend on its openness. It might also shed light on the importance of informal traders especially when crossing border to deliver food. It is important that lessons be learnt from this crisis, perhaps better than in the past. Closure of borders and travel and trade

restrictions were already strongly disapproved by the WHO in 2019 during the Ebola outbreak in the Democratic Republic of the Congo (Price, 2020). It was argued that such restrictions push people to cross the border in places outside authorities' surveillance which does not limit the spread of the disease as people will not undergo health checks. In addition, it endangers local economies.

Whereas most employees around the world have resumed their work activities to somewhat 'normal' daily routines, cross-border traders are still struggling from the crisis and the associated uncertainty that make them unable to predict when or if things will go back to what they used to be. Even now that the border is open again, there is a need for more political, economic and social support towards CBT processes if we want to promote the sustainability of the trade and food systems towards food security (HLPE, 2020). Traders are on their own when it comes to ensuring their food security. Opening the border alone does not guarantee that cross-border fish traders will regain a food secure condition.

6.8 Food security through cross-border fish trade – a summary

Cross-border fish trade activities influence all six aspects of the traders' food security: *availability*, *access*, *utilization*, *agency*, *stability* and *sustainability* (Figure 4).

Availability depends on volumes of fish, degree of openness of the border and scale of trade. The more fish caught by fishermen, the more is made available both as goods for cross-border fish trade and as foodstuff for the traders' households. The context of the pandemic and related containment measures also demonstrates that closed borders constrain movement of people and flow of goods, making it particularly difficult for cross-border traders to engage in their usual activities. Declines in scale of trade can be an indication of limited availability. Cross-border traders are highly dependent on the volumes of fish they are able to buy and/or sell across the border as high volumes usually mean high profits.

Any changes in availability have therefore impacts on *economic access* of traders to food. As described in the study, a large part of the profits is directly spent on buying food. Their food security condition depends mostly on their ability to afford food. Besides, *physical access* to foreign markets influences availability of certain cheap food items for cross-border traders who used to shop for some foodstuffs in their destination market. As some of them stopped traveling to these markets after the border closed, they were compelled to buy these items in other markets for more money.

Utilization of food rests on access to food. The study emphasized that diets of traders and their household members deteriorated due to loss of income. Profitable CBFT activities such as before COVID-19 allowed for favorable consumption of food.

Traders' *agency* was already limited before the crisis. The restrictive context nevertheless revealed how powerless and vulnerable traders can become. Their capacity to improve their livelihoods emanates from personal or clientelist informal relationships. The current political climate neglects informal traders, especially cross-border traders.

The cross-border trade system is rather *stable* when exposed to single threats such as seasonal lack of fish or temporary closure of the border as these factors generally have short-term consequences. In this context, traders faced a seasonal lack of fish, and the COVID-19 crisis engendered not only the closure of the border but also the uncertainty of knowing if and when things would go back to normal. Accumulated threats generated damaging although unequal repercussions on CBFT activities and traders, and the uncertainty of determining the durability of the effects remains.

Impacts on the CBFT system and its resilience influence its *sustainability*. The trading system benefits from flexible and adaptive capacities of traders which strengthen the system, improving its sustainability. The COVID-19 crisis as huge shock exposed the system to fragility. However, the traders alone do not have the potential to adjust the flaws of the system. Traders showed resilience under the pandemic, but it was not sufficient to prevent devastating consequences. As previously argued, they need political, social and economic support.

All aspects of food security were negatively impacted by the COVID-19 related border closure. Cross-border fish traders became consequently food insecure. Their condition of food insecurity is at the moment transitory rather than chronic because it stems from short-term instability (FAO, 2008).

Figure 4 gives a summary of the above. The different consequences are arranged according to the six pillars of food security presented in the theoretical framework.

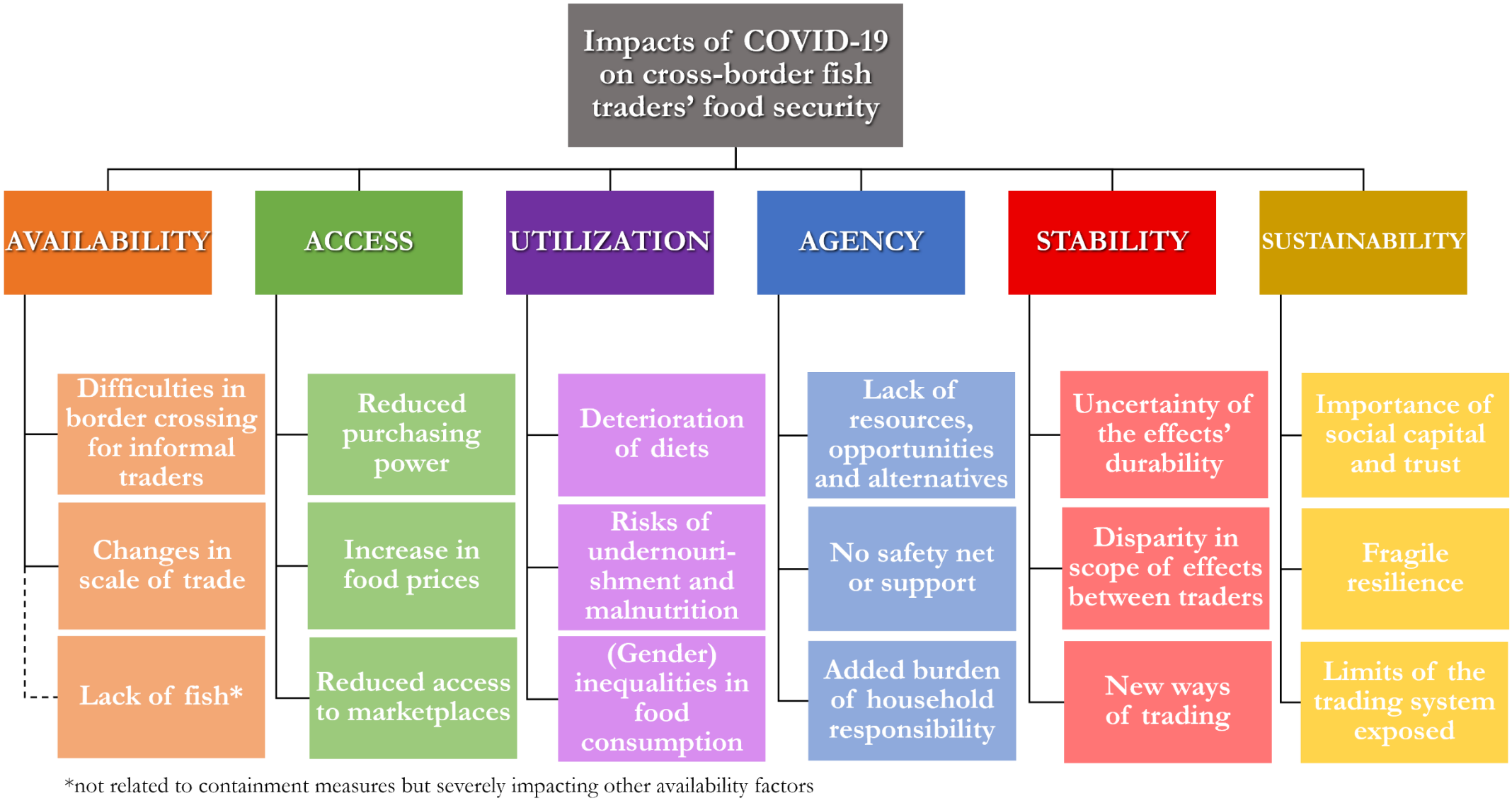


Figure 4: Summary of the impacts induced by COVID-19 restrictions on cross-border traders' food security.

7 Conclusion

The purpose of this thesis has been to identify and discuss the different impacts of the COVID-19 pandemic on cross-border fish trade and the traders' food security. After describing the background for this study, theories of food security, gender, trade and the border have been presented. This thesis has used a survey, semi-structured interviews and secondary data analysis as main methods to produce data and generate findings. The main findings and elements of discussion are outlined thereafter.

This concluding chapter summarizes the key findings of the three sub-questions and discussion that addresses the main research question. Some personal thoughts will also be presented.

7.1 What did cross-border fish trade look like before COVID-19 and how were traders benefitting from it?

The first sub-question focuses on cross-border trade processes before COVID-19. Ghanaian traders usually bought fresh fish directly from fishermen at the beach or harbor, while Togolese traders travelled to the local market in Ghana across the border to buy already processed fish. Markets in Lomé were often the destination of fish traders; a few travelled or sent their fish to Central or Northern Togo, or even to Benin. They mostly traded in small fish species, and the main processed forms were dried and smoked fish. Well-processed fish ensures good sales at the market. Many traders can be considered wholesalers or wholesaler/retailers because they trade in medium- to high- volumes of fish. The rest of them, traveling with fewer barrels or baskets, are retailers. Cross-border fish traders were in touch with traders and fishermen from their communities and sometimes with traders from other or foreign communities. A few were organized around saving groups to help each other financially.

Traders used to engage in CBFT regularly, mostly a several times a week. Crossing the border used to be a relatively easy process. Taxis, trucks, cars or motorcycles were used as means of transportation across the border. The official crossing checkpoint at Aflao was the most exploited border crossing. Bribing officials when paying for border fees was common practice.

Most traders are heads of household. Profits from fish trade were sufficient to cover household expenses and food, in addition to border and transportation fees. Their diets were adequate and varied, often containing fish. Traders were food secure before the pandemic.

7.2 What are the changes brought by the pandemic and how are traders responding and coping with the situation?

The second sub-question aims at exploring the differences in cross-border trade induced by the pandemic. Land borders closed, at least at official checkpoints like Aflao. When the lockdown was implemented, some traders suspended their CBFT business and tried to find other sources of income such as local fish trade within their home country, or other businesses not related to fish and trade. A few of them were unable to find alternatives to CBFT. Others whose household heavily depended on profits engendered by fish trade exploited alternative, unofficial routes to cross the border. Crossing the border became a lot more challenging than before COVID-19. Border officials were physically violent, sometimes arresting them; they also started demanding high amounts of money as bribes.

The situation somewhat stabilized after the lockdown but harassment and bribing remained common practices. More and more traders started regularly crossing the border again, sometimes weeks or months after the end of the lockdown. Around half of them did not resume their CBFT business and were reluctant to cross for different reasons. It also became common practice to cross through unapproved routes, although grueling and time-consuming. Border crossing can be facilitated by being acquainted with border officials.

Fish communities in the study area complained of scarcity of fish in the sea. This in addition to border restrictions caused large drops in volumes of fish traded around the border. Loss in profits as well as increased food prices made the traders' and their households' economic situation extremely difficult. Saving arrangements and allocations of loans were disrupted.

7.3 How did impacts from the pandemic affect cross-border fish trade livelihoods and in turn the traders' food security?

The main impacts on the traders' livelihoods were of economic and social nature that in turn, affected their diets. Traders saw their profits reduce and were even sometimes selling at a loss. They became indebted after some credits were never repaid. Traders received very little

financial help. As most of their profits go to buying food, they have had to reduce their food consumption. At the same time, food prices drastically increased.

The traders' communication with other traders and customers has also been impacted by the crisis. They have fewer customers and contacts but put more effort into contacting them. Keeping their customer base became their main concern. Within households, the increased care burden has fallen on women traders.

Economic hardship has been heavy on the traders and their families' food consumption. They eat less food in quantity and variety, especially women. Fish remains for them an important source of protein.

7.4 In what ways can the COVID-19 related Ghana-Togo border closure highlight the important contribution of the cross-border fish trade system to the traders' food security?

In terms of food security, shifts in perceptions and experiences at the border as well as changes in the scale of trade are influencing availability of food and reduce the traders' profits. The economic access of traders to food is also limited by declines in purchasing power and rises in food prices. Traders have become vulnerable, and their lack of agency persists. They lack alternatives and support. Women traders have had to take on more responsibilities within the household, deepening gender inequalities. Lastly, their nutritional well-being is compromised by their reduced affordability. Traders and their families eat less and less varied, and are at risk for hunger and malnutrition.

The stability of availability, access and utilization was threatened by the unpredictability character of the crisis and the accumulated problems of closed border and lack of fish. Besides, although some traders tried to maintain their social networks and implemented strategies to preserve their cross-border trading business, the resilience of the cross-border trade system was impaired, threatening its sustainability.

All aspects of food security were deteriorated by the pandemic and its related restrictions. Traders, as well as members of their households, became eminently food insecure. Traders suffer mostly from indirect food insecurity than direct food insecurity, as they still eat fish on a somewhat regular basis. Their economic access to food and agency to improve their livelihoods through cross-border fish trade were particularly affected.

7.5 Post-COVID-19 reflections: learning from experience

As the border reopened, traders – and perhaps local authorities, governments and organizations might think of improvements to prevent such hard impacts from happening again. The first step might be to recognize cross-border traders, especially those dealing in foodstuffs, as essential actors in intra-regional trade. Providing support and safety nets should imperatively follow. Cross-border traders need to be integrated in future policies. Furthermore, the importance of fish for food security is acknowledged within academia but efforts are still to be made by governments to adequately support small-scale fisheries and fishworkers.

Traders had high hopes for my study to reach national governments and actors. However limited the influence of this work might be, it can still contribute to improving awareness and perceptions of how global shocks affect local, marginalized communities. Governments need to step up and ensure their people's right to food.

REFERENCES

Akyeampong, E. K. (2001) *Between the Sea and the Lagoon: an Eco-social History of the Anlo of Southeastern Ghana c. 1850 to Recent Times. Western African Studies*. Oxford, Athens: James Currey, Ohio University Press.

Alhassan, E. H., Boateng, V. F. and Ndaigo, C. (2012) 'Smoked and frozen fish consumption and marketing channels in the Tamale Metropolis of Ghana', *Ghana Journal of Development Studies,* 9(1), pp. 21-28.

Alpha, A. and Figuié, M. (2016) *Impact of the Ebola virus disease outbreak on market chains and trade of agricultural products in West Africa. Report for FAO REOWA (Resilience, Emergencies and Rehabilitation in West Africa)*, Dakar.

Asante, L. A. and Mills, R. O. (2020) 'Exploring the Socio-Economic Impact of COVID-19 Pandemic in Marketplaces in Urban Ghana', *Africa Spectrum,* 55(2), pp. 170-181.

Atkins, M., McDougall, C. and Cohen, P. J. (2021) *COVID-19 impacts on women fish processors and traders in Sub-Saharan Africa: Insights and recommendations for building forward better*, Penang, Malaysia: CGIAR Research Program on Fish Agri-Food SystemsProgram Report: FISH-2021-12).

Ayilu, R. K., Antwi-Asare, T. O., Anoh, P., Tall, A., Aboya, N., Chimatiro, S. and Dedi, S. (2016) *Informal artisanal fish trade in West Africa: Improving cross-border trade*: WorldFish.

Barrett, C. B. (2010) 'Measuring Food Insecurity', *Science,* 327, pp. 825-828.

Belton, B., Johnson, D. S., Thrift, E., Olsen, J., Hossain, M. A. R. and Thilsted, S. H. (2022) 'Dried fish at the intersection of food science, economy, and culture: A global survey', *Fish and Fisheries,* 00, pp. 1-22.

Béné, C. and Heck, S. (2005) 'Fish and Food Security in Africa', *NAGA, WorldFish Center Quarterly,* 28.

Béné, C., Lawton, R. and Allison, E. H. (2010) '"Trade Matters in the Fight Against Poverty": Narratives, Perceptions, and (Lack of) Evidence in the Case of Fish Trade in Africa', *World Development,* 38(7), pp. 933-954.

Bening, R. B. (1983) 'The Ghana-Togo Boundary, 1914-1982', *Africa Spectrum*, 18(2), pp. 191-209.

Bennett, E. (2005) 'Gender, fisheries and development', *Marine Policy*, 29(5), pp. 451-459.

Bennett, N. J., Finkbeiner, E. M., Ban, N. C., Belhabib, D., Jupiter, S. D., Kittinger, J. N., Mangubhai, S., Scholtens, J., Gill, D. and Christie, P. (2020) 'The COVID-19 pandemic, small-scale fisheries and coastal fishing communities', *Coastal Management*, 48(4), pp. 336-347.

Bewiadzi Akakpo, S. (2021) 'Informal Trade Routes and Security along the Aflao-Lomé Border Region (Ghana-Togo)', *Journal of Borderlands Studies*, pp. 1-21.

Bodewig, C., Gentilini, U., Usman, Z. and Williams, P. (2020) 'COVID-19 in Africa: How can social safety nets help mitigate the social and economic impacts?', *Worldbank*. Available at: https://blogs.worldbank.org/africacan/covid-19-africa-how-can-social-safety-nets-help-mitigate-social-and-economic-impacts (Accessed: 06.04.2022).

Bouët, A. and Laborde, D. (2020) 'COVID-19 border policies create problems for African trade and economic pain for communities', *IFPRI Blog : Issue Post*. Available at: https://www.ifpri.org/blog/covid-19-border-policies-create-problems-african-trade-and-economic-pain-communities (Accessed: 06.04.2022).

Brambilla, C. (2014) 'Exploring the Critical Potential of the Borderscapes Concept', *Geopolitics*, 20(1), pp. 14-34.

Burite, J. (2019) 'Ebola tests resilience of Uganda's cross-border trade', *Al Jazeera*. Available at: https://www.aljazeera.com/economy/2019/10/11/ebola-tests-resilience-of-ugandas-cross-border-trade/ (Accessed: 18.04.2022).

Carling, J., Erdal, M. B. and Ezzati, R. (2014) 'Beyond the insider–outsider divide in migration research', *Migration Studies*, 2(1), pp. 36-54.

Carolan, M. S. (2013) *Reclaiming Food Security*. London, UNITED KINGDOM: Taylor & Francis Group.

Chalfin, B. (2010) *Neoliberal frontiers: An ethnography of sovereignty in West Africa*. University of Chicago Press.

Clark, G. (1994) *Onions are my husband: Survival and accumulation by West African market women.* Chicago: University of Chicago Press.

Clark, G. (2000) 'Small-Scale Traders' Key Role in Stabilizing and Diversifying Ghana's Rural Communities and Livelihoods', in Spring, A. (ed.) *Women Farmers and Commercial Ventures : Increasing Food Security in Developing Countries*. Boulder, Colorado: Lynne Rienne, pp. 253-270.

Clifford, N., French, S. and Valentine, G. (2016) 'Getting Started in Geographical Research: how this book can help', in Clifford, N., Cope, M., Gillespie, T.W. and French, S. (eds.) *Key methods in geography.* Third edition ed. Los Angeles, California: SAGE, pp. 3-18.

Cope, M. (2002) 'Feminist Epistemology in Geography', in Moss, P. (ed.) *Feminist Geography in Practice: Research and Methods*. Oxford, UK: Blackwell Publishers.

Cope, M. and Kurtz, H. (2016) 'Organizing, Coding, and Analyzing Qualitative Data', in Clifford, N., Cope, M., Gillespie, T.W. and French, S. (eds.) *Key Methods in Geography.* Third edition ed. Los Angeles, California: SAGE, pp. 647-664.

Cornwall, A. (2005) 'Introduction: Perspectives on Gender in Africa', in Cornwall, A. (ed.) *Readings in Gender in Africa*. London: The International African Institute, pp. 1-19.

Couper, P. (2015) 'Social Constructionism and Feminism', in Couper, P. (ed.) *A Student's Introduction to Geographical Thought: Theories, Philosophies, Methodologies*: SAGE.

Crane, I. G., Lombard, M. B. and Tenz, E. M. (2009) 'More than just translation: challenges and opportunities in translingual research', *Social Geography,* 4, pp. 39-46.

Cresswell, T. (2013) 'Feminist Geographies', in Cresswell, T. (ed.) *Geographic Thought: A Critical Introduction*: John Wiley & Sons, Ltd.

Cypress, B. S. (2017) 'Rigor or Reliability and Validity in Qualitative Research: Perspectives, Strategies, Reconceptualization, and Recommendations', *Dimens Crit Care Nurs,* 36(4), pp. 253-263.

Dahir, A. L. (2020) '‘Instead of Coronavirus, the Hunger Will Kill Us.’ A Global Food Crisis Looms.', *The New York Times*. Available at:

https://www.nytimes.com/2020/04/22/world/africa/coronavirus-hunger-crisis.html (Accessed: 1st February 2022).

Darkwah, A. K. (2002) *Going global: Ghanaian female transnational traders in an era of globalization.* PhD dissertation, University of Wisconsin-Madison.

de Beauvoir, S. (1949) *Le deuxième sexe. NRF*. Gallimard.

Desai, M. (2009) 'Women Cross-Border Traders: Rethinking global trade', *Development*, 52(3), pp. 377-386.

Ericksen, P. J. (2008) 'Conceptualizing food systems for global environmental change research', *Global Environmental Change*, 18(1), pp. 234-245.

FAO (2008) *An Introduction to the Basic Concepts of Food Security*, Rome: FAO.

FAO (2013) *The State of Food Insecurity in the World*, Rome: FAO.

FAO (2016) *Fishery and aquaculture country profiles: the Republic of Ghana*. https://www.fao.org/fishery/en/facp/gha?lang=en (Accessed: 02.02.2022).

FAO (2020) *The State of World Fisheries and Aquaculture 2020 - Sustainability in action*, Rome: FAO.

FAO, ECA and AUC (2020a) *Africa Regional Overview of Food Security and Nutrition: Transforming food systems for affordable diets*, Accra: FAO.

FAO, IFAD, UNICEF, WFP and WHO (2020b) *The State of Food Security and Nutrition in the World 2020. Transforming food systems and affordable healthy diets*, Rome: FAO.

FAO, IFAD, UNICEF, WFP and WHO (2021) *The State of Food Security and Nutrition in the World (SOFI) - Transforming food systems for food security, improved nutrition and affordable healthy diets for all*, Rome.

FASDEP, Ministry of Food and Agriculture (2007) *Food and Agriculture Sector Development Policy (FASDEP II).* Ghana.

Field, R. (2016) 'Exploring and Presenting Quantitative Data', in Clifford, N., Cope, M., Gillespie, T.W. and French, S. (eds.) *Key Methods in Geography*. Third edition ed. Los Angeles, California: SAGE.

FSIN (2021a) *Global Report on Food Crises 2021*.

FSIN (2021b) *Global Report on Food Crises - September 2021 Update*.

FSIN and Global Network Against Food Crises (2020) *Global Report on Food Crises 2020 September update: in times of COVID-19*, Rome.

Games, D. and Vickers, B. (2015) 'The Ebola crisis in West Africa: implications for trade and regional integration', *Bridges Africa,* 3(4), pp. 4-6.

Geddes, A., Parker, C. and Scott, S. (2017) 'When the snowball fails to roll and the use of 'horizontal' networking in qualitative social research', *International Journal of Social Research Methodology,* 21(3), pp. 347-358.

Ghana Statistical Service (2010) *2010 Population and Housing Census - Economic Activities in Ghana.* Ghana.

Ghana Statistical Service (2021) *2021 Population and Housing Census - General Report - Economic Activity.* Ghana.

Gobo, G. (2004) 'Sampling, representativeness and generalizability', in Seale, C., Gobo, G., Gubrium, J.F. and Silverman, D. (eds.) *Qualitative Research Practice*: SAGE Publications, pp. 405-426.

Godfray, H. C. J., Beddington, J. R., Crute, I. R., Haddad, L., Lawrence, D., Muir, J. F., Pretty, J., Robinson, S., Thomas, S. M. and Toulmin, C. (2010) 'Food Security: The Challenge of Feeding 9 Billion People', *Science*, 327(5967), pp. 812-818.

Gray, D. E. (2014) 'Research Design : Mixed Methods', in Gray, D.E. (ed.) *Doing Research in the Real World*: SAGE, pp. 234-251.

Hansen, K. T. and Vaa, M. (2004) 'Introduction', in Hansen, K.T. and Vaa, M. (eds.) *Reconsidering informality: perspectives from urban Africa*. Uppsala: The Nordic Africa Institute, pp. 7-24.

Hasselberg, A. E., Aakre, I., Scholtens, J., Overå, R., Kolding, J., Bank, M. S., Atter, A. and Kjellevold, M. (2020) 'Fish for food and nutrition security in Ghana: Challenges and opportunities', *Global Food Security*, 26.

Hay, I. (2016) 'On being ethical in geographical research', in Clifford, N., Cope, M., Gillespie, T.W. and French, S. (eds.) *Key Methods in Geography*. Third edition ed. Los Angeles, California: SAGE.

HLPE (2020) *Food security and nutrition: building a global narrative towards 2030*, Rome: The High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security.

Igue, O. J. and Zinsou-Klassou, K. (2010) *Frontières, espaces de développement partagé [Borders, spaces of shared development]*. Paris: Karthala Editions.

Jick, T. D. (1979) 'Mixing qualitative and quantitative methods: Triangulation in action', *Administrative science quarterly*, 24(4), pp. 602-611.

Joubert, C. (2021) 'Not poor and not formal: Who are the 'missed middle' of social protection?'. Available at: https://blogs.worldbank.org/africacan/not-poor-and-not-formal-who-are-missed-middle-social-protection (Accessed: 06.04.2022).

Kansiime, M. K., Tambo, J. A., Mugambi, I., Bundi, M., Kara, A. and Owuor, C. (2021) 'COVID-19 implications on household income and food security in Kenya and Uganda: Findings from a rapid assessment', *World Development*, 137, pp. 105-199.

Kapborg, I. and Berterö, C. (2002) 'Using an interpreter in qualitative interviews: does it threaten validity?', *Nursing Inquiry*, 9(1), pp. 52-56.

Kawarazuka, N. and Béné, C. (2010) 'Linking small-scale fisheries and aquaculture to household nutritional security: an overview', *Food Security*, 2(4), pp. 343-357.

Kawarazuka, N. and Béné, C. (2011) 'The potential role of small fish species in improving micronutrient deficiencies in developing countries: building evidence', *Public Health Nutrition*, 14(11), pp. 1927-1938.

Koroma, S., Nimarkoh, J., You, N., Ogalo, V. and Owino, B. (2017) *Formalization of informal trade in Africa: Trends, experiences and socio-economic impacts*, Accra: FAO. Available at: https://www.fao.org/3/i7101e/i7101e.pdf (Accessed: 15.04.2022).

Kurien, J. (2005) *Responsible fish trade and food security*, Rome: FAO.

Laborde, D., Martin, W. and Vos, R. (2021) 'Impacts of COVID-19 on global poverty, food security, and diets: Insights from global model scenario analysis', *Agricultural Economics*, 52(3), pp. 375-390.

Laurier, E. (2016) 'Participant and Non-Participant Observation', *Key Methods in Geography*, pp. 169-181.

Le Clézio, J. M. G. (2004) *L'Africain. Traits et portraits*. Mercure de France.

Longhurst, R. (2016) 'Semi-structured Interviews and Focus Groups', *Key Methods in Geography*, pp. 143-156.

Longhurst, R. (2017) 'Gender', *International Encyclopedia of Geography: People, the Earth, Environment and Technology*, pp. 1-5.

Luke, D., Masila, G. and Sommer, L. (2020) *Informal traders: A balancing act of survival*, Addis Ababa, Ethiopia.

Mbaru, E., Lau, J. and Sutcliffe, S. R. (2022) 'How COVID affected markets and livelihoods in Kenya's fisheries sector', *The Conversation*. Available at: https://theconversation.com/how-covid-affected-markets-and-livelihoods-in-kenyas-fisheries-sector-171748 (Accessed: 30.04.2022).

McLafferty, S. L. (2016) 'Conducting Questionnaire Surveys', *Key Methods in Geography*, pp. 129-142.

Mezzadra, S. and Neilson, B. (2013) *Border as Method, or, the Multiplication of Labor*. Durham: Duke University Press.

MoFA (2022a) *Keta Municipal*: Republic of Ghana.

MoFA (2022b) *Ketu South*: Republic of Ghana.

Montalvao, J. and Van de Velde, P. (2020) *COVID-19 and Food Security : Gendered Dimensions*, Washington DC: World Bank. Available at: https://openknowledge.worldbank.org/handle/10986/33813 (Accessed: 19.03.2022).

Mullings, B. (1999) 'Insider or outsider, both or neither: some dilemmas of interviewing in a cross-cultural setting', *Geoforum*, 30(4), pp. 337-350.

Murakami, E. (2022) 'Immediate impacts of the COVID-19 pandemic on household economic activities and food security in Tajikistan', *Economics of Disasters and Climate Change*, pp. 1-33.

Mvunga, N. and Kunaka, C. (2021) *Eight Emerging Effects of the COVID-19 Pandemic on Small-Scale Cross-Border Trade in the Great Lakes Region*: World Bank Group. Available at: https://openknowledge.worldbank.org/handle/10986/35159 (Accessed: 05.04.2022).

Nchanji, E. B. and Lutomia, C. K. (2021a) *Beyond Beans: examining the effects of COVID 19 on other food value chains in Sub-Saharan Africa - Data Brief*: CGIAR. Available at: https://cgspace.cgiar.org/bitstream/handle/10568/113857/Data%20Brief%202021.05.29.pdf?sequence=1&isAllowed=y (Accessed: 19.04.2022).

Nchanji, E. B. and Lutomia, C. K. (2021b) 'Regional impact of COVID-19 on the production and food security of common bean smallholder farmers in Sub-Saharan Africa: Implication for SDGs', *Global Food Security*, 29, pp. 100524.

Newman, D. 2017. Borders, Boundaries, and Borderlands. *In:* Richardson, D., Castree, N., Goodchild, M.F., Kobayashi, A., Liu, W. and Marston, R.A. (eds.) *International Encyclopedia of Geography: People, the Earth, Environment and Technology.* New York: John Wiley & Sons, Ltd.

Nnaemeka, O. (2005) 'Mapping African Feminisms', in Cornwall, A. (ed.) *Readings in Gender in Africa*. London: The International African Institute, pp. 31-41.

Nugent, P. (2021) 'Lomé and Aflao', in Mikhailova, E. and Garrard, J. (eds.) *Twin Cities across Five Continents: Interactions and Tensions on Urban Borders*.

Odera, L. C. (2013) 'The Role of Trust as an Informal Institution in the Informal Sector in Africa', *Africa Development*, 38(3-4), pp. 121-146.

Olusola, O. and Lere, A. (2020) 'Exploring the effects of women cross-border trade (WCBT) on food security in the border towns of the South Western Nigeria', *Gender & Behaviour*, 18, pp. 15892-15900.

Overå, R. (1993) 'Wives and Traders: Women's Careers in Ghanaian Canoe Fisheries', *Maritime Anthropogical Studies (MAST)*, 6, pp. 110-135.

Overå, R. (1998) *Partners and competitors. Gendered entrepreneurship in Ghanaian canoe fisheries.* University of Bergen.

Overå, R. (2006) 'Networks, distance, and trust: Telecommunications Development and changing trading practices in Ghana', *World Development,* 34(7), pp. 1301-1315.

Overå, R. (2007) 'When Men Do Women's Work: Structural Adjustment, Unemployment and Changing Gender Relations in the Informal Economy of Accra, Ghana', *The Journal of Modern African Studies,* 45(4), pp. 539-563.

Price, R. (2020) *Impacts of COVID-19 regulatory measures on small-scale and informal trade in Zimbabwe,* Brighton, UK: Institute of Development Studies.

Raunet Robert-Nicoud, N. (2019) 'Elections and borderlands in Ghana', *African Affairs,* 118(473), pp. 672-691.

Resnick, D. (2020) 'COVID-19 lockdowns threaten Africa's vital informal urban food trade', in International Food Policy Research Institute (IFPRI) (ed.) *COVID-19 and Global Food security*, pp. 73-74.

Resnick, D., Spencer, E. and Siwalem, T. (2020) *Informal traders and COVID-19 in Africa: An opportunity to strengthen the social contract*: International Growth Centre.

Sage, C. (2017) 'Food Security', in Richardson, D., Castree, N., Goodchild, M.F., Kobayashi, A., Liu, W. and Marston, R.A. (eds.) *International Encyclopedia of Geography: People, the Earth, Environment and Technology*: John Wiley & Sons, Ltd., pp. 1-6.

Togo Revenue Authority 2020. Measures adopted to manage the COVID-19 pandemic. Togo.

Tyrrell, N. (2016) 'Making Use of Secondary Data', *Key Methods in Geography,* pp. 519-536.

van Houtum, H. and Bueno Lacy, R. 2017. Frontiers. *In:* Richardson, D., Castree, N., Goodchild, M.F., Kobayashi, A., Liu, W. and Marston, R.A. (eds.) *International Encyclopedia of Geography: People, the Earth, Environment and Technology.* New York: John Wiley & Sons, Ltd.

Walther, O. J. (2015) 'Business, Brokers and Borders: The Structure of West African Trade Networks', *The Journal of Development Studies,* 51, pp. 603-620.

Webb, P., Coates, J., Frongillo, E. A., Rogers, B. L., Swindale, A. and Bilinsky, P. (2006) 'Measuring Household Food Insecurity: Why It's So Important and Yet So Difficult to Do', *The Journal of Nutrition*, 136(5), pp. 1404S-1408S.

WFP (2020a) *Coronavirus and the 5 major threats it poses to global food security*. Available at: https://www.wfp.org/stories/coronavirus-and-5-major-threats-it-poses-global-food-security (Accessed: 1st February 2022).

WFP (2020b) *COVID-19 will double number of people facing food crises unless swift action is taken*: World Food Programme. Available at: https://www.wfp.org/news/covid-19-will-double-number-people-facing-food-crises-unless-swift-action-taken (Accessed: 1st February 2022).

Wrigley-Asante, C. (2008) 'Men are poor but women are poorer: Gendered poverty and survival strategies in the Dangme West District of Ghana', *Norsk Geografisk Tidsskrift - Norwegian Journal of Geography*, 62(3), pp. 161-170.

Wrigley-Asante, C. (2012) 'Unraveling the health-related challenges of women in the informal economy: accounts of women in cross-border trading in Accra, Ghana', *GeoJournal*, 78(3), pp. 525-537.

Wrigley-Asante, C. (2013) 'Survival or escaping poverty: the perspectives of poverty and well-being among Ghanaian women in cross-border trading', *Journal of Gender Studies*, 22(3), pp. 320-334.

Wrigley-Asante, C. and Agyemang, E. (2019) 'Trading on-and-off the road: experiences of ghanaian informal cross-border traders', *Ghana Social Science Journal*, Vol. 16, pp. 23-53.

Young, I. M. (1980) 'Throwing like a girl: A phenomenology of feminine body comportment, motility and spatiality', *The Body: Critical Concepts in Sociology*, pp. 208-226.

Zelasney, J., Ford, A., Westlund, L., Ward, A. and Riego Peñarubia, O. (2020) *Securing sustainable small-scale fisheries: Showcasing applied practices in value chains, post-harvest operations and trade FAO Fisheries and Aquaculture Technical Paper*. Rome: FAO.

APPENDICES

APPENDIX 1 : QUESTIONNAIRE FOR CROSS-BORDER FISH TRADERS

Socioeconomic profile

1. Ethnicity
   ……..……..
2. Age
   ……..
3. In which city/town/village do you currently live?
   ……..……..……
4. Marital status
   (1) Married (2) Single (3) Divorced (4) Separated (5) Widowed (6) Other

5. Are you head of household?
   ……..……..
6. Number of children
   ……....
7. Number of household members
   ……....
8. Level of education
   (1) No schooling (2) Primary (3) JSS (4) Secondary (5) Tertiary (6) University
   (7) Other

Fish trading BEFORE COVID-19

9. When and where did you start working as a fish trader?
   ……
   …….
10. What is the main reason why you engaged in cross-border fish trade?
    ……..……
    ……..……
    What advantage is there to sell fish in Togo rather than Ghana? (Gh. Traders)
    What advantage is there to buy fish in Ghana rather than Togo? (Tg. Traders)
    ……..……
    …….
11. Where do you get the fish you sell?
    …….
    ……
12. Do you process the fish yourself?
    ……
13. What types of fish species do you sell?
    ……..……..……
    ……..

14. In which processed form is the fish that you sell? (dried, smoked, salted, fresh…)
    ……
15. How often would you cross the border to buy/sell fish?
    ……
    ……
16. What is the average amount of fish you would buy (Tg) or sell (Gh) across the border per trip?
    ……
    ……
17. Would you usually cross the border yourself OR do you entrust your goods to another trader or a truck driver or someone else?
    ……
    ……
18. If you did cross the border, which transportation mode did you use?
    ……
    ……
    Which route would you take to cross the border?
    ……
    ……
19. How much of your income would you spend on food before COVID?
    ……
    ……
20. Do you belong to any fish trader association? If yes, which?
    ……
    ……
21. Where do you sell your fish? Which market OR at home?
    ……
    ……
22. How long do you stay across the border?
    ……
23. Do you rent an accommodation there or do you stay with friends/family?
    ……
24. Do you have social contacts in your country of destination? Relatives?
    ……
25. Are you in contact with fish traders from your country of destination?
    ……

Cross-border trade DURING THE LOCKDOWN IN MARCH 2020

26. Did you stop crossing the border during the first weeks of lockdown in March 2020?

……
……
……

27. If YES, what was the main reason?

……
……

Did you trade within your home country instead?

……

If yes, where?

……

If not, were you able to get an income?

……

Did someone else trade for you or got the fish across the border for you?

……

28. If NO, how often would you cross the border compared to before COVID-19?

……

Did you have to cross the border carrying foodstuff both from and into Ghana?

……
……..

Would you take the route you usually take?

……
……

Cross-border trade AFTER THE LOCKDOWN

29. Do you cross the border now? If yes, how often?

……
……

If you were not trading during the lockdown, how many weeks/months did it take you to go back across the border to buy/sell fish?

……

Which route do you take?

……

How much do you buy/sell a basket of fish now?

……

How much before COVID-19?

……

Is it more expensive to pay border officials now?

……

30. Rate these declarations according to how true they are to you.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
It is harder to cross the border now compared to before COVID.	1	2	3	4	5
You were hesitant about crossing the border because of a fear of getting infected.	1	2	3	4	5
There is more control at the border since COVID.	1	2	3	4	5
There is more harassment at the border since COVID.	1	2	3	4	5
You were hesitant about going cross-border trading because little fish was available.	1	2	3	4	5
It became more expensive for you to buy fish.	1	2	3	4	5
You had to increase your prices in order to get a reasonable income.	1	2	3	4	5
You spend a greater part of your income on food since COVID.	1	2	3	4	5
You noticed a change in your diet since COVID.	1	2	3	4	5
You have to spend more time on taking care of your children since COVID.	1	2	3	4	5
You have lost some of your customers since COVID.	1	2	3	4	5

31. Do you sell the same types of fish now?

……

32. How has your income been impacted by COVID-19?

(1) Strong decrease (2) Decrease (3) Slight decrease
(4) No change
(5) Slight increase (6) Increase (7) Strong increase

……

33. Would you say that the situation is better now than during the first months?

…….

34. Is food in general more expensive now?
……..
35. What are, for you, the biggest impacts that the COVID situation has had on your life?
……
……
……..
36. Did you get any assistance (food, money, practical help) from people (family, friends, organizations, others)?
…….
……
…….
37. Do you still sell fish in the same markets in Togo/Benin? (Gh. traders)
Do you still buy fish from the same market and trader in Ghana (Tg. traders)
…….
38. Do you still stay as long as you used to in your country of destination?
……..……..
……
39. Is fish part of your diet?
……..……..

In your opinion, what could have been done and what could be done now in order to improve quality of work and quality of life for cross-border fish traders?
……
……
……
……
……
……

Anything you would like to add?
……
……
……
……
…….

Are you available for a follow-up interview with me?
……...

APPENDIX 2: INTERVIEW GUIDES FOR CROSS-BORDER FISH TRADERS

Fish trading and markets:

- How is fish catch these days?
- Is your husband a fisherman?
- Are you well connected to fishermen from the community or the harbor (in Tema)?
- What type of trader do you identify as: wholesaler, retailer, representative?
- If you work with representatives or middlemen, how much of the profits go into paying them?
- Are you as much in contacts with customers/traders from across the border as before COVID-19?
- If you trade at the local market now, how often do you go there? Was it hard to find space to trade your fish?
- Are you in contact with many traders from the community around here?
- Could you tell me about the entire process between the moment you fish to the moment you come back from the market, before COVID-19?
- What about now, is the process different?
- Do you easily manage to sell all the fish you bring?
- Does it happened that you sell to a loss?
- Do you still sell on credit to your customers?
- Has there ever been a time when trading activities were so bad?

Crossing the border:

- Do you think that you are more likely to catch COVID-19 across the border?
- Why is it still more advantageous for you to go to Togo/Benin even if crossing the border is expensive and instead of trading in another market in Ghana, even if further away?
- Is it the same processes crossing the border between Ghana and Togo and Togo and Benin?
- What did the unapproved routes look like before COVID-19?
- What do the unapproved routes look like now?
- Which type of transportation do you use now?

- Which of your personal characteristics (age, gender, ethnicity…) do you think make it easier for you to cross the border?
- Which ones make it harder?
- What were the main challenges you would encounter when going trading before COVID-19?
- Do you know any of the border officials?
- How much of your profits do you have to give to border officials?

Food and the household:

- Is food in general more expensive to buy now than before COVID-19?
- Would you say that you were eating enough before COVID-19?
- When there isn't enough food for the entire family, who gets to eat first?
- Is food consumption reduced to the same extent for every household member or are some members more affected than others?
- How many times a day do you eat now? How many times before COVID-19?
- What do you usually eat during the day?
- What amount of the fish you buy do you keep for yourself?
- What fish do you eat?
- Do you eat as much fish as before COVID-19?
- Do you often eat other sources of protein food?
- Would you say that you eat less varied food now?
- What does it mean for you to be head of household?
- What are the main household tasks shared between you and your husband?
- Do you feel like there has been a change in the share of household tasks since COVID-19?

APPENDIX 3: INTERVIEW GUIDE NAFPTA REPRESENTATIVE IN AFLAO

About NAFPTA:

- How long have you been the local representative here?
- What does the association do locally?
- How many traders are part of the association locally?
- According to you, how many of them used to go sell fish across the border?
- What types of fish are traded across the border?
- Is NAFPTA in relation with any Togolese or Beninois fish trade organization?

Trading under COVID-19 and the lockdown:

- Has there always been people crossing the border on the beach?
- Were unapproved routes used before COVID-19?
- According to you, how much of the traders who used to cross the border still do?
- Do traders use more middlepersons than before?
- Could NAFPTA help traders in any way?
- Would the association have any agency to negotiate with banks for loans? With border officials for easing the crossing of the border?
- Did you notice some form of social solidarity between the traders during the crisis?
- Why is trading in Togo still more beneficial than trading in Ghana?
- Has there ever been a crisis like this one before? Has the border ever closed?
- Do you know any traders from Greater Accra who go trading in Togo/Benin?

APPENDIX 4: IDENTIFICATION OF INFORMANTS

Name	Nationality	Age
Abra	Ghanaian	63
Esinu	Ghanaian	35
Feyi	Ghanaian	56
Etor	Ghanaian	45
Blewu	Ghanaian	34
Edotomi	Ghanaian	50
Bubune	Ghanaian	36
Agbesi	Ghanaian	52
Fenuku	Ghanaian	64
Lololi	Ghanaian	45
Afeke	Ghanaian	39
Selorm	Ghanaian	46
Eyra	Ghanaian	55
Delado	Ghanaian	30
Mawusi	Ghanaian	36
Yawa	Ghanaian	59
Gameli	Ghanaian	48
Serwa	Ghanaian	27
Delasi	Ghanaian	61
Veliane	Ghanaian	45
Xoese	Ghanaian	50
Ye	Ghanaian	51
Afefa	Ghanaian	59
Yomawu	Ghanaian	About 50
Akorfa	Ghanaian	About 60
Daasi	Ghanaian	About 65
Edem	Ghanaian	About 60
Enam	Togolese	42
Fafali	Togolese	36
Makafui	Togolese	45
Metor	Togolese	55
Seli	Togolese	43
Tafa	Togolese	55
Venyo	Togolese	45
Nevame	Togolese	58