

# Understanding Sustainable Value Capture for Ghana's Cocoa Farmers on the Cocoa-Chocolate Value Chain

Kwarteng Asamoah Kwame<sup>1</sup> & Awuku Tonorgbevi Emefa<sup>2</sup>

<sup>1</sup> PolicyCON, Manchester, United Kingdom

<sup>2</sup> KOICA/Ministry of Food and Agriculture RVC Project, Ghana

Correspondence: Kwarteng Asamoah Kwame, PolicyCON, Manchester, United Kingdom. E-mail: kwame.kwarteng@policyCON.com

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## Abstract

The sustainability of cocoa farmers' livelihoods is a critical concern within the academic discourse surrounding the Cocoa-chocolate value chain, aligning with SDG goal 1 of eradicating poverty. Addressing the challenges cocoa farmers face and developing sustainable solutions is paramount, as their low-income status may lead to a shift to alternative cash crops, surrendering lands for illegal mining activities (affecting the environment negatively), and a decline in the cocoa bean supply. Existing literature has explored the limited value capture of cocoa farmers. However, it needs to fully elucidate the complex interplay between local and international interests that undermine efforts to improve farmers' livelihoods. This study uses the Sustainable Livelihood Framework and the Global Production Network to assess these dynamics. The analysis uncovers significant obstacles smallholder farmers face in achieving sustainable incomes, including power imbalances and embeddedness within firm networks. Some policy recommendations, including the de-commodification of Cocoa beans, are proposed.

**Keywords:** value capture, smallholder rural farmers, cocoa, livelihoods, Ghana, SDG 1

## 1. Introduction

It has been at least three millennia since cocoa (*Theobroma cacao*) was first grown. About 1100 BC, the Aztecs exploited this cash crop for the first time as a beverage named Nahuatl, which translates to "bitter water" in English. It is a native of Central America and some parts of Mexico. However, due to its value, it has gained international recognition. On the global front, according to the Observatory Economic Complexity report in 2020, with a total transaction of \$8.54 billion, cocoa beans were the 345th most traded product in the world. The Statista Report on Cocoa in February 2023 stated that in 2022, the market value for cocoa reached a size of over USD 14.5 billion, and it is projected to expand by 4.7% from 2023 to 2028 to reach a value of \$19.1 billion. This indicates the vital role cocoa plays in importing and exporting countries, depending on whether they produce or consume it.

In the case of Ghana, the saying "Cocoa is Ghana; Ghana is Cocoa" perfectly encapsulates the value of cocoa to Ghana's economy (GCB Cocoa Sector Report, 2022). According to the Ghana Cocoa Board (COCOBOD, 2022), the cocoa sector provides jobs for over 800,000 agricultural families in six of Ghana's sixteen regions (i.e., Eastern, Ashanti, Brong-Ahafo, Central, and Western regions). Owing to shifting rainfall patterns and declining soil fertility, output has shifted westward to the point where Ghana's Western region is now the country's top cocoa producer, accounting for 43% of all regional purchases of 766,977 tonnes of cocoa in 2019/2020 (GCB Cocoa Sector Report, 2022). On the global scale, according to the OPEC Fund for International Development (2022), cocoa contributed about 3.41 billion Ghanaian cedis (GHS), around 454 million U.S. dollars, to the country's Gross Domestic Product (GDP).

Growers (especially smallholder farmers), buyers, transporters, traders, collectors, certifiers, storage processors, chocolatiers, and distributors are all part of the extensive supply chain that involves cocoa production. One key player in Ghana's cocoa industry is the Ghana Cocoa Board (COCOBOD), which, by government policy, is the sole manager in charge of several crucial tasks such as quality control, seed distribution, certification of inputs like fertilisers, pesticides, etc and marketing for cocoa beans. At the base of this production are smallholder farmers who own family-run, medium-sized plantations with an average size of 2-3 hectares (COCOBOD, 2022). However, the livelihoods of smallholder farmers seem not to reflect the booming revenues accrued from the cocoa value

chain. According to the Livelihood Funds report on smallholder farmers in 2021, the typical yearly profit from cocoa production for smallholder farmers was about 1,275 dollars equivalent, something that is considerably lower than the decent living income estimated at about 2,200 dollars per year, making smallholders unable to make investments in the development of their farms.

Furthermore, Van Vliet et al. (2021) reported that the incomes of 73 to 90% of cocoa farming households do not meet the standard of living. According to Bymolt et al. (2018), cocoa farming households in Ghana typically rely heavily on income from cocoa sales, which accounts for 61% of total household income on average. Similarly, the farmgate price of cocoa significantly impacts these households' income. However, since their farms are typically characterised by small acreage and low productivity, their income base is also low. Regardless of the value of cocoa, the power dynamics in the value chain from production to marketing make it imperative to understand how the smallholders at the production base can capture value to sustain their livelihoods.

So, how do farmers enhance their value in this value capture within the Global Value Chain? By employing the Sustainable Livelihood Framework (SLF) and the Global Production Network (GPN), this paper assesses value capture by smallholder farmers. It suggests some policy recommendations that could enhance value capture and sustain their livelihoods. The Sustainable Livelihoods Framework (SLF) provides a checklist to dissect the elements of livelihood to aid in determining the overall level of poverty among a group of people (Ingrid, 2016; Department of International Development DFID, UK, 2008). Sustainability as a component of livelihood implies long-term self-sufficiency and reliance. It focuses on how assets, capabilities and systems that improve livelihoods can be maintained and enhanced in the long term (Ingrid, 2016). We shall adopt the Department for International Development (DFID) SLF in this paper because it is one of the livelihood frameworks most commonly used in development sectors, which concentrates on incorporating the voice of people with low incomes throughout the process as laid out in the framework. With this framework, this paper will explore the value capture for smallholder farmers in the cocoa value chain in Ghana by paying attention to how the SLF could help us understand how the power relations within the value chain favour and/or disadvantage smallholder farmers in enhancing their value capture. Furthermore, the Global Production Network (GPN) Analysis evaluates the likelihood that smallholder farmers could realise additional value to support their livelihoods.

## 2. Method

This paper is based on secondary data gathered from online journals, online and hardcopy books, media articles, stakeholder reports, and stakeholder background information available on websites. World Bank and International Cocoa Organisation (ICCO) reports were among the notable stakeholder reports analysed. In this paper, the Global Production Network 1.0 framework by Henderson et al. (2002) and (DFID)'s Sustainable Livelihood Framework (SLF) were used in the analysis. The Global Production Network (GPN) framework allows for an examination of power relations, concentrations, and tensions within the value chain and how it benefits and disadvantages some actors in capturing and keeping additional value in the cocoa business, which is why the realism is being evaluated here (Ostrom, 2012). Additionally, Peprah's (2015) research findings on the analysis of cocoa farmers' livelihood assets were used in the analytical discussion of farmers' livelihood assets. A value chain mapping was also carried out to visually represent the actors along the cocoa-chocolate value chain and explain how they are connected and how inputs, services, money, and value are distributed along the chain.

## 3. Results

We first begin with a value chain mapping, which aims to identify the actors in the value chain, their unique duties and responsibilities, and how value is distributed. The mapping clarifies how the primary input transforms into the consumable final product. Additionally, it directs the researcher in deciding which value chain segments to emphasise and pay particular attention to when examining value capture. (IRBC, 2018). Two mappings are shown below. Figure 1 depicts the mapping for cocoa bean farming, and Figure 2 depicts the Cocoa-chocolate Global Value Chain (GVC) in the Ghanaian context.

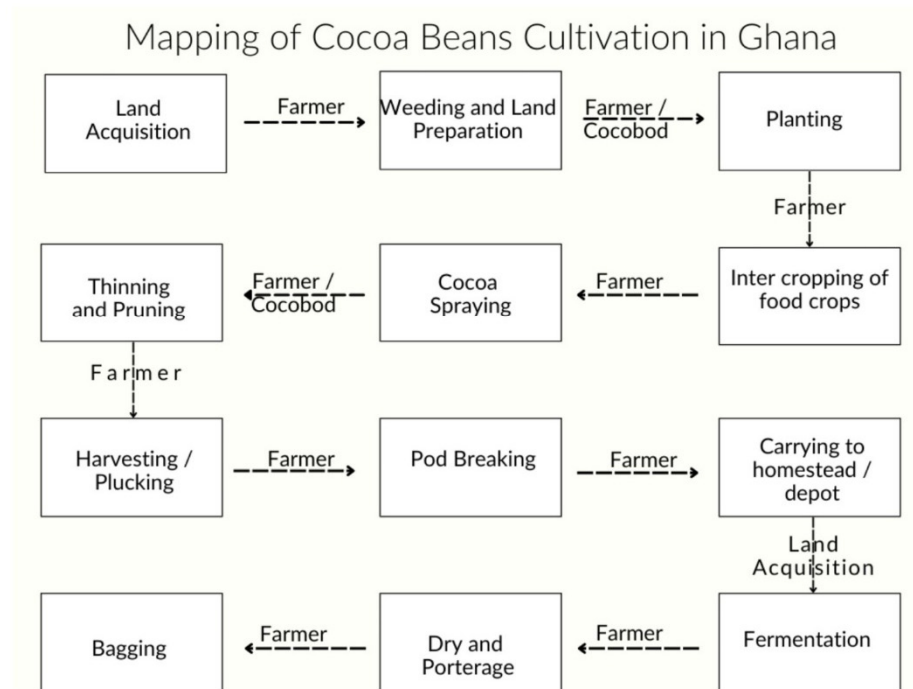


Figure 1. Mapping of cocoa beans cultivation in Ghana

Source: in Kwarteng (unpublished master thesis), Adapted from Barrientos (2013)

A farmer in Ghana goes through a series of steps (presented in Figure 1) to cultivate dried cocoa beans. It also shows how the cocoa grower undertakes almost all farming activities. Land acquisition was represented in the mapping because of the type of land ownership or land tenure systems practised. It directly impacts a farmer's income. According to Asamoah Kwarteng (unpublished master thesis), Farmers who rent their farmland typically enter into a production-share agreement with the landowner that is either 50/50 (worst-case scenario) or 1:2 (best-case scenario). Therefore, if the farmer owns the land, the income already below the poverty threshold is entirely his or her. However, if someone else owns the land, Ghanaian custom dictates that the produce be divided according to a 50:50 or 1:2 landowner-farmer yield-splitting ratio. The Cocoa Seed Production Unit (SPU), a division of COCOBOD, is responsible for growing seedlings for farmers to plant. Additionally, the mass spraying of cocoa and farmers' assistance during the early phases of the cocoa plant's growth was handled by COCOBOD's subsidiary, the Cocoa Health Extension Division (CHED). (COCOBOD, 2019). The mapping of cocoa bean cultivation was essential because it provides background for using the SLF and GPN framework to comprehend the livelihood of smallholder farmers who grow cocoa beans.

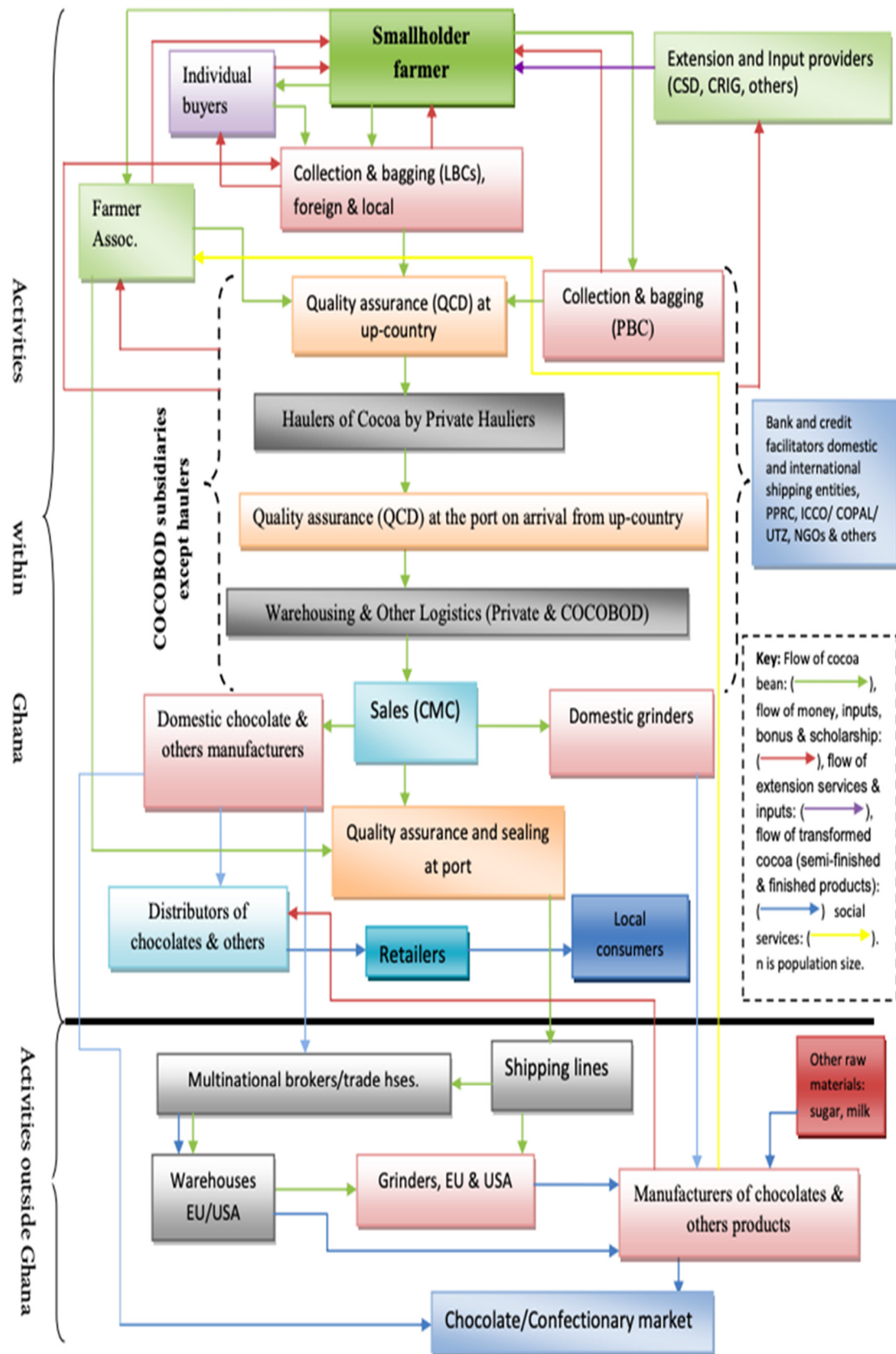


Figure 2. A comprehensive cocoa-chocolate GVC map in the Ghanaian context

Source: (Mohammed et al., 2012)

Moreover, Figure 2 depicts the cocoa-chocolate Global Value Chain (GVC) in the context of a Smallholder cocoa farmer from Ghana being included as an actor. Thus, the green arrow on the map depicts how cocoa beans, as the primary input, are transported from smallholder farmers to the confectionary market as chocolate. It also employs the red arrow to represent the flow of funds along the value chain. The purple arrows also highlight the movement of extension services and inputs to farmers. The yellow arrows also show how social services travel across the value chain from Multinational Corporations (MNCs) to grinders and manufacturers. The blue arrow depicts the flow of semi-processed cocoa beans. Therefore, the Global Value Chain (GVC) mapping provides context for using the Global Production Network analytical methodology. Now that we understand the cocoa-chocolate value chain, let us begin discussing the SLF and GPN and how they can help us understand sustainable value capture for smallholder cocoa farmers.

### 3.1 Sustainable Livelihood Framework (SLF)

Livelihood refers to a means of gaining a living. The concept of livelihood brings up three fundamental components that must be present. These are Capability, equity and sustainability (Chambers & Conway, 1992). According to Ingrid (2016), capability is the ability to embark or pursue a functioning or an activity. To Sen (1985), basic capabilities refer to one's ability to pursue certain basic yet crucial functions to survive and escape poverty and deprivation. He also linked capability as the freedom to the existence of valuable alternatives available not just legally or formally but effectively to everyone. Equity, on the other hand, looks at how assets, opportunities and capabilities are distributed. Equity captures issues around gender and minority discrimination, abundance and inadequate public resources in urban and rural areas (Ingrid, 2016).

Sustainability as a component of livelihood implies long-term self-sufficiency and reliance. It focuses on how assets, capabilities and systems that improve livelihoods can be maintained and enhanced in the long term (Ingrid, 2016). Consequently, SLF as a framework function as a checklist to dissect the elements of livelihood to aid in determining the overall level of poverty among a group of people (DFID, 2008). It researches to take a broader, systematic, and investigative look at a range of factors that cause poverty, whether these factors are shocks, adverse trends, ineffective institutions, inadequate assets, etc. To DFID, their SLF is more of a framework to be used in assessing and reviewing ongoing projects in a case-by-case scenario rather than being used just as a tool for planning programmes and projects as depicted by the United Nations Development Program (UNDP) and CARE's Approaches (Krantz, 2001).

To begin, the SLF's key concepts are that it is people-centred and bases the investigation on how internal and external environmental factors affect people and their households. Second, it takes a holistic approach in attempting to identify most, if not all, of the pressing demands encountered by all and the potential opportunities available to all. Third, it is dynamic because it recognises the dynamic nature of people's livelihoods and the institutions that shape or impact them. Fourth, it is based on strengths rather than needs. It examines the stakeholder's potential and how these strengths are used, what inhibits the use of the strength, and then aids in developing a strategy to eliminate the impediment. The fifth notion is the macro and micro linkages, which emphasises the importance of macro-level policies derived from concerns and insights gathered at the micro/local level. However, this work will use the micro and macro in different settings. The cocoa bean cultivation mapping indicated in Figure 1 would recognise the micro-level concerns. The macro-level concerns found along the Global cocoa value chain map (shown in Figure 2) will be investigated further using the Global Production Network framework analysis. The sixth element is sustainability, which emphasises the ability of environmental resources, economic conditions, social and institutional processes and structures to stand the test of time. (DFID, 2001).

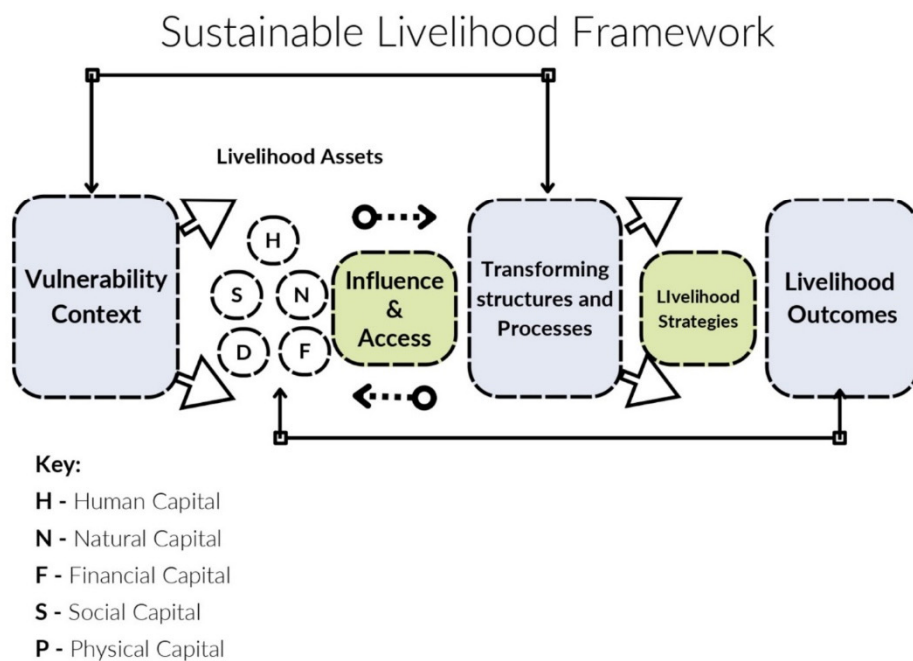


Figure 1. Sustainable livelihood framework

Source: Authour's Adaptation of DFID's SLF (DFID, 2001)

Figure 3 depicts stakeholders operating in a "context of vulnerability" with access to specific livelihood assets. The context in this case is linked to Figure 1, where the smallholder cocoa farmer and COCOBOD are the key parties and have access to some assets to carry out the described activities. The present policies, processes, and institutions at the local and national levels influence the value or weight of the assets. The effects of these forces determine farmers' livelihood strategies, which in turn influence livelihood results. These outcomes can either lessen or raise the vulnerability of farmers. (DFID, 2008). Peprah (2015), for example, conducted an SLF analysis on the livelihood of cocoa growers. (2015).

This study concentrated on Ghana's cocoa-growing districts of Asunafo North and Asunafo South. Peprah (2015) employed a case study approach to gain comprehensive insights into twenty villages and 264 farmers in the study area who agreed to participate in his research. The Ghana statistical services provided most of his secondary statistics about livelihoods in his study area, which he used to support his research. Furthermore, the research region offers an example of an excellent agrarian system in which livelihood sustainability may be demonstrated. Geographically, the research region consists of a forest reserve favourable to cocoa development, food and cash crop farmlands. However, the traditional council in the area has begun gold prospecting. This raises the issue of

the influence on livelihood assets. Farming is the primary occupation of 68.3% of the population in the study region. 42% of its people have no formal education, while 46% have completed elementary and middle school. (Ghana Statistical Service, 2005). These factors lend credibility to his research conclusions.

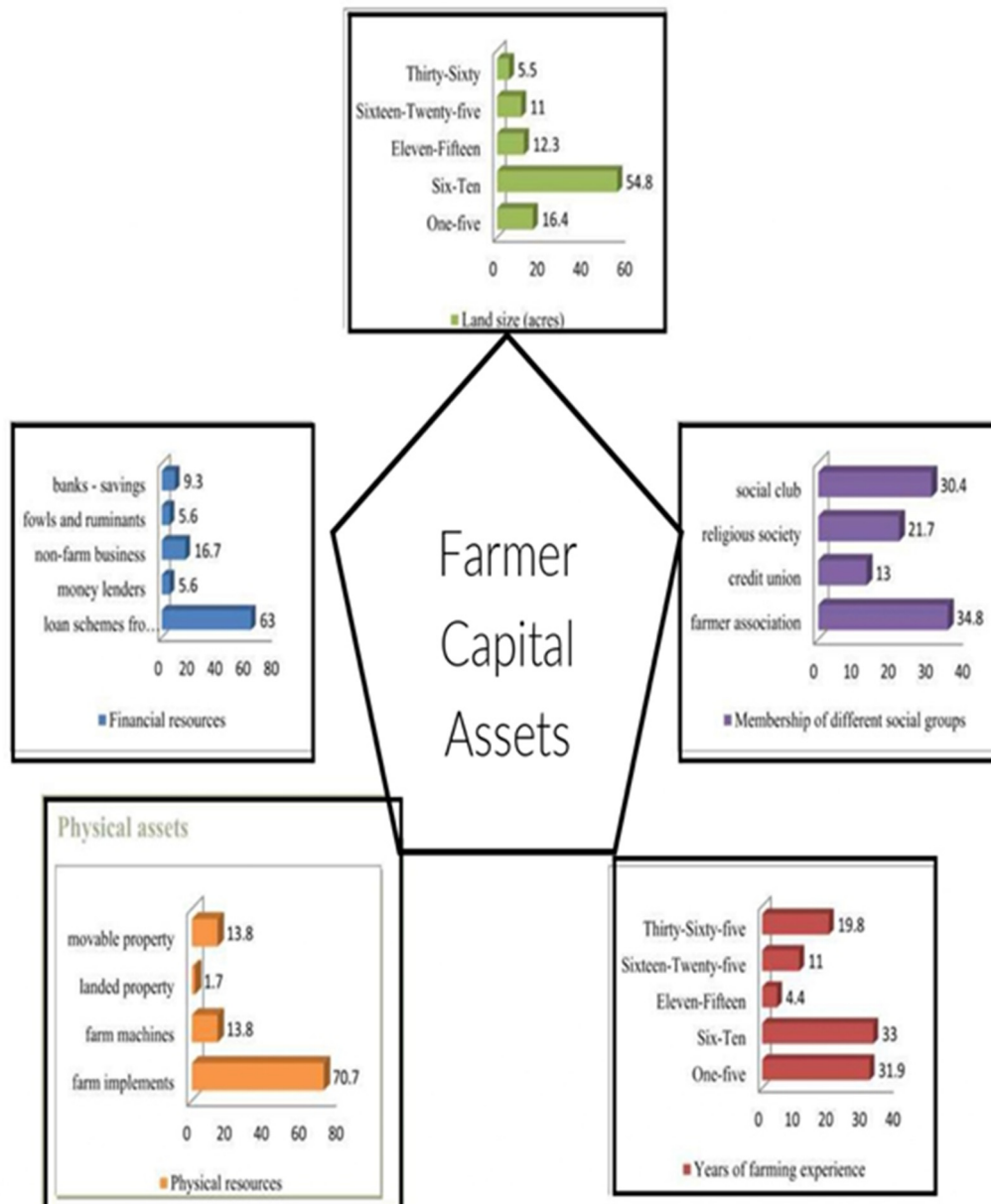


Figure 4. Indicators of farmer capital

Source: Peprah, (2015)

In terms of human capital, as depicted in Figure 3 above, his research found that the average farmer's household size was twelve (12). These household members, usually the children of farmers, are introduced to farming at various times in their lives, making them the primary source of labour for farming and one of the causes of the large family size. Regarding labour skills, more than 60% of respondents had one to ten years of farming experience, while 19.8% had thirty to sixty-five years of farming experience. Although this shows a growing interest in cocoa cultivation as opposed to the documented shift of young people away from cocoa farming (ICCO, n.d.), it demonstrates gently how few livelihood opportunities exist in the area, resulting in their reliance on farming and the cocoa sector.

As previously noted, the traditional council's prospecting for gold poses a substantial danger to the labour migration from the cocoa sector to gold mining, impairing the sector's access to human capital. According to the

survey, the natural assets of these farmers held primarily acres of land, with 54.8% holding between 6-10 acres of land. This confirms farmers' reliance on farmland as their primary natural asset. However, concerns such as land degradation and drought, which cause considerable harm and are recorded in the vulnerability context, impact farmers' capacity to produce enough to make a living. Rainfall is another natural resource on which farmers rely.

In terms of financial assets, as shown in Figure 3, 63% of farmers rely heavily on and have access to loans from the informal sector. However, their ability to repay depends on the money earned by the sale of cocoa beans, which, according to the research, comprised 81% of respondents' source of income. This roughly corresponds to the 70% to 100% of cocoa farmers relying entirely on cocoa income. Studies done by Anim-Kwapong & Frimpong, 2010 and WCF, 2012 all supported this assertion. Based on the SLF framework, this implies that cocoa farmers' livelihoods are prone to shocks from the inability to pay loans.

However, their inability to repay such loans hurts their future access to similar credit facilities and the possibility of losing their natural assets, namely land, which they typically use as collateral to secure such loans. (Chenaa, et al., 2018). Drawing on the fact that cocoa farmers in Ghana do not set their prices for their products but are set by COCOBOD, any Producer price that does not match their production costs impacts their ability to invest in farm maintenance and repay loans. The opposite is true if the Producer price exceeds the cost of production. (Anim-Kwapong & Frimpong, 2010).

The farmers' group, which producers rely on to negotiate with relevant authorities for extension assistance during disease outbreaks, new agricultural technologies, and land rehabilitation, is the largest recognisable social asset for cocoa farmers, accounting for 34.8%. (Peprah, 2014b). Another is the interaction these farmers have with the cocoa-buying clerks and other people who double as individual purchasers, as shown in Figure 1, with whom farmers can seek loans and repay with cocoa beans or interest when they sell their cocoa beans. Farmers, on the other hand, have suffered significantly due to some of these social assets from acquiring clerks.

This suffrage results from the clerk's modification of weighing scales, underpayment of bonuses to farmers, and under-invoicing. They do this under the guise of producing some extra kilos of beans to cover the extra costs they incur in managing the beans before transporting them to the port but at the expense of the farmers. (Baah, et al., 2012; Mohammed, et al., 2012). Last but not least are tangible assets. According to Peprah (2015), 70.7% of the assets owned by these farmers were low-cost assets such as "go-to-hell", hoes, and machetes. These insufficient physical assets confirm why farmers use their lands for collateral loans, fearing their loss of such natural assets if they default in payment.

In summary, the Sustainable Livelihood Framework (SLF) revealed that farmers' livelihood outcomes influenced the state of their livelihood assets. In contrast, policies and structures at the local and national levels influenced farmers' vulnerability context, which in turn influenced their livelihood assets. However, the SLF analysis fails to thoroughly evaluate the vulnerabilities created along the GVC, where power disparities have emerged between fragmented and vulnerable farmers and large-scale Multinational Corporations (MNCs) grinders and manufacturers. Hence, we introduce the Global Production Network Framework to aid us in understanding deeper the subject under discussion.

### *3.2 Global Production Network (GPN) Framework*

The Smallholder Cocoa farmer is positioned as an actor within the Cocoa-Chocolate Global Value Chain. The Global Production Network Framework Analysis evaluates the likelihood that they could realise additional value to support their livelihoods. In this study, the Global Production Network 1.0 framework by Henderson et al. (2002) was used in the analysis. The Global Production Network framework allows for examining power relations, concentrations, and tensions within the value chain and how it benefits and disadvantages some actors in capturing and keeping additional value in the cocoa business, which is why realism is being evaluated here (Ostrom, 2012).

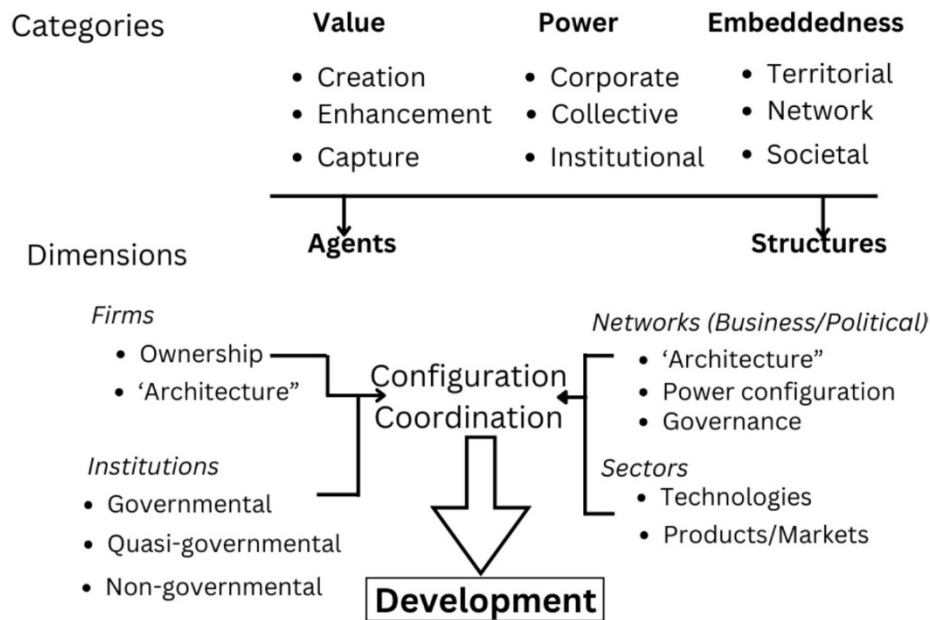


Figure 5. Global production network 1.0 framework

Source: (Henderson, et al., 2002)

According to Henderson et al. (2002), the three basic principles of a Global Production Network are value, power, and embeddedness, as depicted in Figure 5. They explain value as the more traditional concepts associated with economic rents and Marxism's surplus value (over and above profits; Marx, 1863) viewpoint. The idea of value includes the initial creation, enhancement, and capture by a single organisation within a specific Global Production Network. They clarified that while value enhancement seeks to increase the value already obtained, initial value creation is the fundamental value attached to a product produced.

Value capture examines the potential for capturing value along a chain while considering the governance structure. As a second principle, power examines how actors inside a Global Production Network acquire power and how to make the most of it to capture, increase, or generate value. These might be corporate powers businesses can exercise through monopolisation and expansion into new value-adding segments. Institutional power is a further source of power used at national, regional, or continental levels. However, another kind of power is collective power, which uses the strength of numbers to exert influence over specific individuals or actors within a given Global Production Network (Henderson et al., 2002).

#### 4. Discussion

This section discusses the elements of the Sustainable Livelihood Framework (SLF) and Global Production Network (GPN) and how the frameworks explain value capture for cocoa farmers.

##### 4.1 Elements of the SLF and How it applies to the Smallholder Farmer in Ghana's Cocoa Sector

###### 4.1.1 Vulnerability Context

There are components in the internal and external environment over which the farmer has little or no control but which significantly impact the farmer's livelihood assets. In this sense, vulnerability refers to the degree of

exposure to dangers and the ability of those exposed to prevent or cope with them. These factors could be classified as shocks, trends, and seasonality. (DFID, 2008). Farmers' over-dependence on cocoa revenue is one of the internal stresses that predispose them to susceptibility, as its impacts render them subject to government actions that affect the producer price of cocoa.

#### 4.1.2 Livelihood Assets

The central focus of the SLF is that the quality of livelihood of an individual or a household relies on their access to, use and ability to develop different forms of assets (Carney, 1998; Scoones, 1998). The livelihood assets in the SLF context define the strength of a person using their status and level of possession of some assets, which is required for a positive livelihood outcome. These assets are categorised into human capital, social capital, natural capital, physical capital and financial capital. Human capital looks at the availability and quality of labour. However, human capital also delves more into the person's household size, educational level, health status, skillset, etc.

Social Capital focuses on the rights or privileges an individual is entitled to by being a group member. This includes the ability to access group resources and or the ability to call a friend as a group member for help or support in times of need. On the other hand, natural capital refers to natural resources like water, land, trees, wildlife, maintenance, etc. Also, Physical resources look at what the economy of the people has created or made available to support the people's economic activities. Examples of the creation of infrastructure include electricity supply, irrigation technologies, roads, machinery, etc. (Bosompem et al., 2011). The reason behind the measure of livelihood assets is to find out how we can convert the strengths of these farmers into a more positive livelihood outcome (DFID, 2008). As explained above, the potency of some of the assets is shaped by the shocks and stresses in the environment.

### 4.2 *Elements of the Global Production Network Framework and How It Applies to the Smallholder Farmer in Ghana's Cocoa Sector*

#### 4.2.1 Value

Ghana's emphasis on producing high-quality beans to earn price premiums of 3% to 6% might be categorised as value enhancement, another word for creating economic rents (Henderson et al., 2002; Gilbert, 2009). There is a dichotomy of the economic value ascribed to Ghana's cocoa internationally. So, whereas Ghanaian cocoa beans may be of higher value internationally than any producer in Sub-Saharan Africa, the farmers are among the least paid; hence, their value capture becomes less. For instance, in terms of revenue, the International Labour Rights Forum stated that the average net earnings for growing a two-hectare cocoa plantation in Ghana in 2020 were predicted to be US\$2.69 per day. Even though this net earnings of \$2.69 are higher than the worldwide poverty level of US\$1.9, each cocoa farmer is anticipated to have an eight-member household (COCOBOD, 2020); therefore, individual household members survive on \$0.33 per day. A further understanding of this is displayed in Figure 6. In the graph (refer to Figure 6), the conversion of the world market price into Ghanaian cedi (Gh¢) was carried out using the annual average exchange rate between the United States dollar (US\$) and Gh¢ for each crop year. This conversion was a crucial step in understanding the world market price trend in Gh¢, as it facilitated the subsequent percentage calculations. Given that the producer price is disbursed in Gh¢, this conversion allowed for more relevant analysis.

The data depicted in Figure 6 reveals a significant finding: smallholder cocoa farmers in Ghana receive only a fraction of the world market price as their producer price. For example, in 2021/22, crop-year farmers specifically received only 60.34% of the world market price. This percentage was the portion of the world market price directly allocated to farmers by the Ghana Cocoa Board. Conversely, it is evident that the Ghana Cocoa Board retained a substantial share of the world market prices, amounting to 39.66%. This retention by the regulatory body raises critical concerns. It prompts us to contemplate a scenario in the business world, excluding historical contexts like slavery, where nearly 40% of the revenue generated from one's sales is held by a regulatory entity.

Consequently, this leaves the cocoa farmers with 60% of the revenue, from which they must cover their production costs, address labour-related expenses, and sustain their livelihoods. Given these circumstances, a pressing question emerges: How can these smallholder farmers realistically sustain themselves and their families? This disparity in revenue allocation warrants a comprehensive examination of the cocoa industry's dynamics, emphasising the need for equitable practices and policies to enhance value capture and the economic well-being of Ghanaian smallholder cocoa farmers.

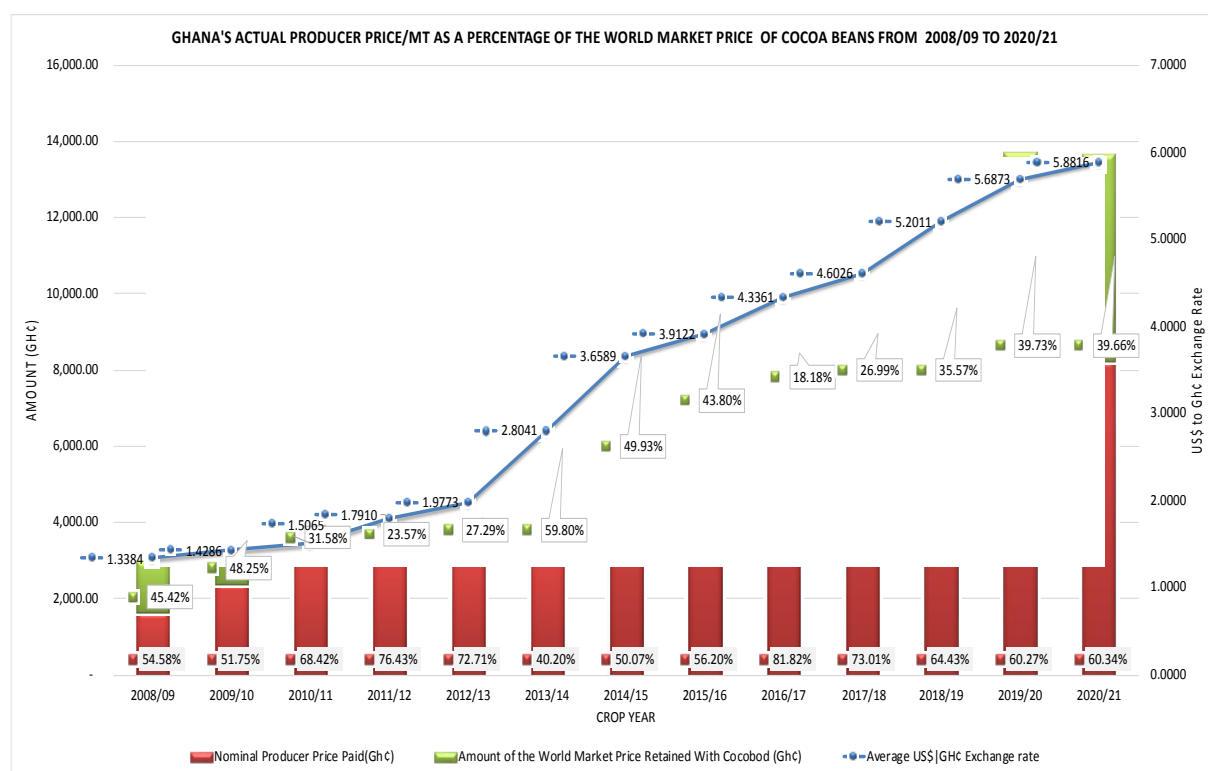


Figure 6. Producer price of cocoa as a percentage of world market price (2008/09 to 2020/21)

Source: Asamoah Kwarteng, 2022 (Raw Data from IMF & Ghana Cocoa Board, 2008-2021)

In another instance, the revenue of the cocoa grower, which is already meagre, is harmed whether the farmer owns the land or not. Farmers who do not own their property usually have a 50:50 (worst case scenario) or 1:3 (best case scenario) production-share agreement with the landowner. “So, if the farmer is the 100% owner of the land, then the income already under the poverty line is wholly his/hers. However, if someone else owns the land, then in Ghana, the practice is for the product to be shared using the 50:50 or 1:2 landowner-farmer output sharing ratio arrangement.” (Asamoah Kwarteng, 2022). Thus, the Ghanaian Government's Policy control over cocoa bean sales and retention of over 30% of the sales value, as opposed to the rest of the producers in Africa with whom the farmers can sell and gain the total sales value of their cocoa without any government deductions contribute to the deepening of the poverty levels of the smallholder farmers in Ghana.

However, concerns with farmers' and COCOBOD's reliance on outdated technology impair their capacity to earn these total economic rents. Thus, this reliance often makes it difficult for them to fulfil the required quality criteria for the beans produced in some cases (Kapoor, 2016). For instance, in 2018, when Japan rejected a 100-tonne shipment of cocoa beans from Ghana because they had herbicide residue, it became abundantly clear that there was a need to improve technology and effort to produce quality beans. To avoid more rejections, COCOBOD has to set up new quality measures for testing herbicide residue with Japan (GEPA, 2018).

Henderson et al. (2002) believe that a corporation's governance and government policy are key factors in value capture. It views value capture from the standpoint of governments establishing regulations that control the cost of goods, the ownership structure of corporations, and the repatriation of profits. As an illustration, consider how the Ghanaian government collaborated with the Ivory Coast to establish US\$2,600 as the price floor for a ton of cocoa beans (Reuters, 2019). This allowed them to generate trade-policy rents.

Both governments used their collective authority as cocoa-producing countries, which produce more than 60% of the world's cocoa beans, to boost value capture. However, due to the price fluctuation, relying on gaining value from the bean trade may not be sustainable. However, as a producing country, Ghana's government has offered hefty incentives to attract foreign investors, giving more power to multinational grinders and manufacturers with access to finance and technology.

#### 4.2.2 Power

Henderson et al. (2002) defined power as the critical factor governing value improvement and capture. They emphasised three major capabilities, namely corporate powers wielded by leading corporations to influence decisions and resource allocation to their advantage. This is obvious in how lead corporations processing cocoa for export are granted substantial benefits from the Ghanaian government, such as 100% repatriation of profits and dividends, discounts, import duty-free status, tax holidays and cutbacks (GIPC, 2013). In contrast, firms Producing for domestic/local consumption are not exempted. Although attracting foreign investors with these incentives helps the government create jobs locally and earn foreign exchange, it also results in the investor generating economic rent or surplus value (Marx, 1861-3) because these incentives cut their expenses and enhance their profits. Again, some of these leading businesses abuse the advantages bestowed upon them by these incentives at the expense of governments. To back up this claim, Angko (2014) found that the GIPC's introduction of these incentives resulted in a massive increase in imports by these investors of 73% from 2003 to 2006 and 100% from 2006 to 2008, which did not correspond to the anticipated foreign exchange the government was expected to get in return.

According to Angko (2014), Ghana's export revenues from these incentivised investors fell by 79.23% from 2003 to 2006 and 89.7% from 2007 to 2008. Worryingly, during the same period of export loss, these prominent enterprises imported massive high-value machinery, resulting in a gigantic negative net export value of 308.86% from 2007 to 2008. This is the amount of money the government loses to top corporations, affecting their ability to provide adequate incentives to farmers. As previously established, institutional power refers to the power wielded by the national or international state, as illustrated by Ghana and Ivory Coast's establishment of a price floor.

Collective power refers to the acts of a group of individuals that give them the ability to influence particular actors along the value chain. Farmers' cooperatives, for example, like 'Kuapa Kokoo', can, in collective power, obtain minimum prices and price premiums from Fairtrade.

#### 4.2.3 Embeddedness

The concept of embeddedness in Global Production Network analysis clarifies that its actors connect not only functionally and territorially but also socially and spatially in which these actors are embedded and to what extent this embeddedness influences strategies, values, expectations, and priorities of various stakeholders in the cocoa-chocolate value chain (Henderson et al., 2002). It has also been highlighted that markets do not change organically as economists portray; instead, they are socially constructed, with social ties backing market exchange rapid advancement (Polanyi, 1944; Hess, 2004).

Henderson et al. (2002) stated that businesses and network embeddedness can be classified into territorial and network embeddedness (see Figure 5). Henderson et al. defined territorial embeddedness as GPNs being absorbed or restricted by the social dynamics of economic activity in a specific site or area. They also discussed network embeddedness to emphasise the importance of the connections between individuals in a specific network, regardless of its origin of production.

In the cocoa and chocolate industry context, it is well-recognised that cocoa beans' production, processing, manufacture, and consumption are all geographically and network-embedded. As previously mentioned, cocoa production is ingrained in West Africa due to the land's appropriateness for agricultural uses (Anim-Kwapong & Frimpong, 2010). As a result, the African continent now enjoys a natural monopoly, with Ghana and the Ivory Coast controlling over 60% of the world's bean production (Oomes et al., 2016). Processing cocoa and making chocolate are traditionally rooted in Europe and America in terms of value addition. However, a further examination of the data has revealed a consistent rise in Africa's proportion of cocoa grindings, from 19.8% in 2013/14 to 20.8% in 2017, compared to Europe's 37% to 37.4% in the same period (ICCO, 2018).

Even though this suggests a progressive reduction in the geographical embeddedness of grinding, it has resulted in a significant increase in firm network embeddedness, which has concentrated far more control over Global Production Network governance in a small number of firms than in the hands of territories. Over 73% of the world's grinding is performed by Cargill, Barry Callebaut, Olam, and Ecom Agro-industrial, as demonstrated by Fountain & Huetz-Adams (2018), strengthening their position and domination along the value chain.

This shows that even when value-adding activities are transferred geographically to producing countries, as is suggested by Wallerstein's (2004) World Systems Theory, capitalist lead firms from the West that are looking for cost-saving opportunities may exert heavy control over such investments, which may not necessarily improve farmers' livelihoods. This offers them the advantages of economies of scale to manage their manufacturing costs, raising the entrance barrier for newer and smaller businesses.

Africa produces over 80% of the world's cocoa beans, while Ghana produces an annual average of between 14% and 20% of the world's beans (Our World in Data, 2021). For instance, as of 2021, Africa will produce about 3.77 million tonnes of cocoa beans. Nevertheless, Africa and Ghana are marginal in manufacturing and consumption. Chocolate production and consumption are territorially embedded in Europe, accounting for 74% and 59% of global exports and imports, respectively (OEC, 2019). However, the production of the other necessary ingredients (dairy and sugar), as well as the equipment, expertise, and finance, all contribute to chocolate manufacturing being geographically embedded in Europe (OEC, 2019a; OEC, 2019b). As a result, manufacturing in Europe is less expensive than in Ghana, thanks to all these concentrations inside the continent.

Chocolate manufacturing is less deeply ingrained in a small number of businesses than cocoa grinding is. This is particularly clear given that Mars, the world's largest manufacturer of chocolate, has a market share of less than 10% (Statista, 2019). Therefore, many manufacturers have refocused on enhancing their financial performance to preserve or improve their value capture and become more cost-competitive (Fold, 2001).

It is impossible not to emphasise consumers' importance as power brokers sufficiently. The power of consumerism, particularly from ethical chocolate consumers willing to pay more for cocoa from ethically sourced avenues, has also contributed to the establishment of certification firms that create and capture value from various value chains while others earn relational rents from partnering with them. According to research from the University of Bonn, consumers are prepared to spend 30% extra for products that bear the Fairtrade certification emblem (Enax et al., 2015).

This has given certification organisations tremendous leverage to boost the value of other participants in the Global value chain. 'Kuapa' farmers pay costs to become Fairtrade certified, just like all other certified farmers. Buyers of Fairtrade cocoa beans also pay a premium and a minimum price, both intended to serve as economic rents for the farmers. According to their relationships with Fairtrade, chocolate producers can also earn some relational rents from moral customers. According to research conducted by Enax et al. (2015) at the University of Bonn, ethical consumers are prepared to pay 30% extra for goods bearing the Fairtrade mark. However, Fairtrade also takes a portion of the relational rents collected by its certified farmers and buyers to finance its operations. This is because COCOBOD sets the price at the start of each year, giving Ghanaian cocoa producers no choice over the price they sell their products to cocoa buyers. Instead of providing benefits, this exposes farmers to many more challenges with their means of subsistence or livelihoods.

#### *4.3 Conclusions and Policy Suggestions*

Understanding the realism in the value capture strategy development by interested stakeholders requires a robust conceptualisation of how value generation and capture are governed and the power relations that influence these. The value chain mapping thoroughly describes the process, interdependence, and working relationships among all the participants in the cocoa-chocolate GVC design in the Ghanaian context. It has been established that under the SLF framework, cocoa farmers' livelihoods are prone to shocks from an inability to pay loans due to low-income constraints and the lower levels at which their voice is heard in Cocoa pricing. The SLF thus concentrated on aiding us in understanding the micro-level livelihoods of smallholder farmers in Ghana, their vulnerabilities, current strengths (concerning assets), and how policies and pre-existing structures affect their livelihoods.

According to the Global Production Network analysis, farmers were the only actors in the supply chain who could not offset the effects of producer or global market price cuts. As a mitigating measure, the other actors, like grinders and chocolate producers, might charge their customers more for inputs. According to the analysis, smallholder farmers were not influenced in any way because their ability to alter cocoa production would harm their livelihood.

Therefore, it is suggested that cocoa beans be de-commodified so that cocoa farmers can set their prices to represent their production costs and profit objectives. In this scenario, Smallholder farmers might include all costs associated with favourable working conditions, inflation, ongoing advancements in workers' compensation, and a favourable working environment in their cost of production.

Alternatively, producing economies need to introduce policies that allow certification organisations to ensure, with certainty, that smallholder farmers gain a net income if they implement their certification requirements. Like Fairtrade, farmers cannot be assured of their certified beans being procured on Fairtrade terms; hence, farmers' investment into getting certified becomes an end rather than a means (investment) to an end (increased net income). To avoid the sector being disillusioned and impacting all actors, certification organisations need to be more upfront with consumers and farmers.

In addition, governments need to support smallholder cocoa farmers in developing the cocoa circular economy, where farmers can gain substantial income from by-product processing. This will increase their economic capacity,

boost the quality of their lives, and strengthen their bargaining power if they sometimes must withhold the sale of their beans in protest of better payments.

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