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Agricultural Labor Structures

**Interlinking Agricultural Transformation with Local Agricultural
Labor Structures in Ghana**

by

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Abstract: Agricultural transformation is regarded as a prerequisite for economic growth and development to be sustainable in the long run. However, agricultural workers are among the most disadvantaged workers as well as they are a distinct occupational group that forms an important part of sustainable agricultural development in terms of skills, knowledge, and experience. This paper explores how the ongoing agricultural transformation of cassava farms in the Volta and Ashanti regions of Ghana affects agricultural labor structures. The study follows an explorative qualitative research design where 41 semi-structured interviews with cassava stakeholders are conducted in the Volta and Ashanti regions. The study finds that the agricultural transformation has affected labor structures through increased demand for labor, new employment opportunities through commercialization, and increased levels of migration. Casual work continues to be the most common type of employment on farms and in factories, which deprives workers of job security and formal written contracts. Meanwhile, the wages for farm and factory workers are close to the national minimum wage, which is not sufficient to cover standard living costs.

Keywords: Ghana; Agricultural labor; Agricultural Transformation; Casual labor; Cassava; Migration

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List of Abbreviations

1D1F	One District One Factory
ACET	African Center for Economic Transformation
AGRA	Alliance for a Green Revolution in Africa
COCOBOD	Ghana Cocoa Board
ERP	Economic Recovery Program
FAO	Food and Agriculture Organization
FCUBE	Free Compulsory Universal Basic Education
GDP	Gross Domestic Product
IFAD	International Fund for Agricultural Development
IITA	International Institute of Tropical Agriculture
ILO	International Labour Organisation
IMF	International Monetary Fund
IUF	International Union of Food, Agricultural, Hotel, Restaurant, Catering, Tobacco, and Allied Workers' Associations
MoFA	Ministry of Food and Agriculture
NPA	National Plan of Action
OECD	Organisation for Economic Co-operation and Development
SAP	Structural Adjustment Programs

1 Introduction

Agricultural workers are among the most disadvantaged workers as well as they are a distinct occupational group that forms an important part of sustainable agricultural development in terms of skills, knowledge, and experience. Since agricultural workers make up a substantial share of the workforce in developing countries the recognition of these workers and their role in the process of economic growth is vital for sustainable economic growth to persist (FAO, ILO & IUF, 2007; World Bank, 2007, p.207).

The importance of the agricultural sector for growth has been recognized since the 1980s (Adelman, 1984; Mellor, 1995), and especially after the publication of the *World Development Report 2008: Agriculture for Development* (World Bank, 2007). The report reinstated the importance of agricultural development by arguing that it is needed for food security and to reduce poverty levels.

Agricultural transformation is regarded as a prerequisite for structural change to be initiated, which enables economic growth and development in the long run. Agricultural transformation in the context of structural change can be evident through growing farm sizes and increased agricultural productivity (Mellor, 1986; Timmer, 2009). As a consequence of the transformation agricultural labor structures change (Jayne et al., 2016; Jayne & Sanchez, 2021). This entails an increased amount of waged agricultural workers which are employed either by a farmer, farming company, or processing company. There is also an emergence of contract farmers. However, the work is often badly paid and many farm workers live under the poverty line. This has resulted in waged agricultural workers being recognized as one of the most disadvantaged groups of workers (FAO, ILO & IUF, 2007).

Ghana is a country situated on the west coast of Africa that is undergoing a process of economic transformation where the agricultural sector plays a major role. As such, there is an ongoing agricultural transformation taking place in Ghana. The agricultural sector is the largest employer in the country as it employs over half of the national labor force (Diao & Hazell, 2019; Opoku & Glazebrook, 2018). Ghana is characterized by declining poverty rates, high growth rates in GDP per capita and agricultural output, and achieved middle-income status in

2011. Alongside, political stability and peace have been maintained (Kolavalli, 2019; Yaro et al., 2021). Nonetheless, there is an ongoing agricultural transformation in Ghana with increasing farm sizes, increased agricultural productivity, mechanization of production, and high levels of commercialization (Diao et al., 2019b; Yaro et al., 2021). The agricultural development in Ghana has been more successful than in the rest of sub-Saharan Africa, although it has yet to exploit its potential of exporting more than oil palms and cocoa (Hazell, Diao & Magalhaes, 2019). Following, these are signs of Ghana being one of the *African Growth Miracles* (Rodrik, 2018) that is experiencing an ongoing agricultural transformation.

1.1 Aim of the Research

Agricultural transformation is still a recent phenomenon in Ghana with little empirical evidence available. The literature shows that there is a trend in expanding farm sizes and increased agricultural productivity in Ghana, which shows evidence of an ongoing agricultural transformation. The cultivated farmland in areas has doubled from 2.4 million ha in 1992 to 4 million ha in 2012 (Hazell, Diao & Magalhaes, 2019). Meanwhile, the value added per worker in the agricultural sector has more than doubled in the years 2006 - 2019 (World Bank, 2021). Jayne et al. (2016) give the first indications of the increasing farm sizes in several African countries, Ghana included. They also report a decline in the number of small-scale farmers. This shift increases output and provides more new employment opportunities as well as increased incomes (de Brauw & Bulte, 2021, p.206). However, further research is needed to see how this agricultural transformation translates to microeconomic changes on the farm level. Specifically, how it changes labor structures and employment opportunities. Understanding the labor structures is an important aspect to be able to understand the process of agrarian change (Green, 2008).

In the process of agricultural transformation, with growing farm sizes and increased productivity, labor structures change. The transformation creates a higher demand for labor and different types of employment opportunities arise as the agricultural sector transforms and becomes more commercialized. There is a large body of literature on the topic of agricultural transformation in general but how it plays out on a local level is still needed. Research on a local level is vital to facilitate a more detailed understanding of how agricultural transformation impacts agricultural labor structures (Green, 2008). This thesis contributes to the field of

agricultural transformation in the context of structural change by intending to gauge the local effect of transforming cassava farms in the Ashanti and Volta region in Ghana on changing agricultural labor structures. Cassava is a labor-intensive crop where most of its operations include harvesting and processing (IITA, 1996). Consequently, the study aims to contribute to the economic discussion by interlinking an ongoing process of agricultural transformation with local changes in the agricultural labor structures. The objective is thereby to explore how transforming cassava farms affect labor structures. Consequently this thesis aims to answer the following research question:

How has agricultural transformation affected agricultural labor structures?

To answer this question 41 semi-structured interviews with cassava stakeholders are conducted in the Ashanti region and Volta region in Ghana. Cassava is a labor-intensive staple crop that has grown in importance over the years and is currently being rapidly industrialized (OECD & FAO, 2021; World Bank, 2007, p.173). The crop is currently growing three times the rate of population growth and has improved the livelihoods of many of the rural poor in the world. Cassava has gone from being a subsistence crop to becoming a commodity that is vital for value-addition, rural development and poverty alleviation, food security and energy security, and providing income (OECD & FAO, 2021). The Ministry of Food and Agriculture (MoFA) in Ghana has promoted the cultivation of cassava since the 1990s as a means to alleviate poverty in rural areas (MoFA, n.d.). Andoh (2010) examined the socio-economic importance of cassava in the Central region and Brong Ahafo region of Ghana. The study establishes that cassava has contributed significantly to the socio-economic livelihoods of farmers since its introduction in the sixteenth century by increasing their incomes.

1.2 Outline of the Thesis

The following chapter outlines background information on Ghana in the context of agricultural transformation with an emphasis on its economic performance, the role of cassava, and their relation to changing agricultural labor structures. Section three presents previous literature on the topic of agricultural transformation and structural change and their effect on agricultural labor structures. Section four embeds the underlying research with theory to create a conceptual framework consisting of agricultural transformation and its relation to agricultural labor structures. The following section, five, is devoted to data and methodology. The empirical

results are presented in section six where the results of the study are presented and discussed. Finally, section seven concludes and summarizes the main findings of the study, possible policy implications, and presents prospects for future research.

2 Background

Agricultural transformation in the context of structural change can be evident through agricultural intensification. The recent economic growth in Ghana points towards an ongoing agricultural transformation where expanding farm sizes and increased productivity play a major role. As a consequence of agricultural transformation labor structures change. The following section provides a contextual background of Ghana necessary for a more thorough understanding of how agricultural transformation can affect agricultural labor structures. The section includes a background on the structural change and agricultural transformation process in Ghana. This also entails a description of the role of cassava in this process and changing agricultural labor structures.

2.1 Agricultural Transformation and Economic Development in Ghana

Ghana achieved middle-income status in 2011, has seen declining poverty rates, has had high growth rates in terms of GDP per capita, and agricultural output while maintaining both peace and political stability (Kolavalli, 2019; Yaro et al., 2021). The economic growth particularly intensified at the beginning of the new millennium with the help of structural adjustment programs (SAPs) (see Figure 1). This shift was caused by the implementation of an Economic Recovery Program (ERP) in 1983, sponsored by the IMF and the World Bank. The first phase focused on stabilizing the economy while the second phase focused on structural adjustment of the economy through growth and development (Boafo-Arthur, 1999). Nonetheless, Ghana is undergoing an agricultural transformation with increasing farm sizes, mechanization of production, and high levels of commercialization (Diao et al., 2019b; Yaro et al., 2021). This agricultural development has been more successful than in the rest of Sub-Saharan Africa, although it has yet to exploit its potential of exporting more than cocoa and oil palms (Hazell, Diao & Magalhaes, 2019). These are signs of Ghana being one of the *African Growth Miracles* (Rodrik, 2018).

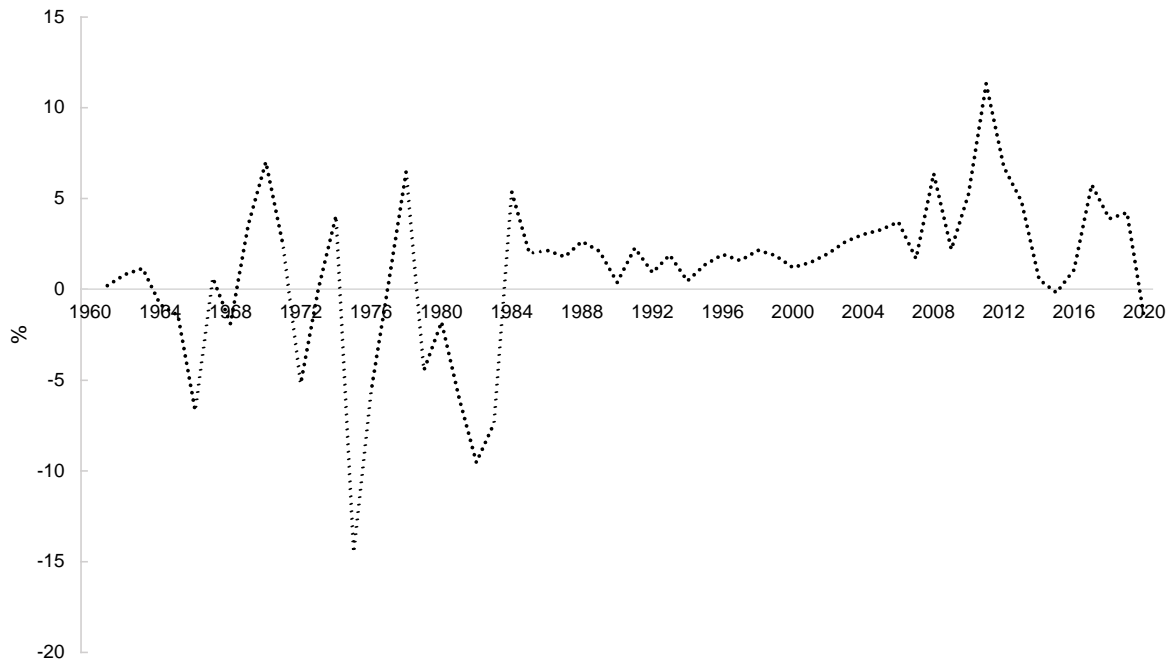


Figure 1. GDP per capita growth in Ghana

Source: calculation based on World Bank (2022)

The economic growth in Ghana is centered around its long history of extractive production that is rooted in agricultural production and mineral mining (see Figure 2) (Torvikey, 2021). Figure 2 shows that agriculture has been the most prominent sector in the Ghanaian economy until 2006 when it was overtaken by the service sector. This points to Ghana experiencing a structural change of its economy, although not the usual structural change process where the manufacturing sector comes to play before the service sector (Mellor, 1995; Timmer, 2016).

To be able to meet the goals of eradicating hunger and poverty by 2030, agricultural transformation is required. The agricultural sector needs to become more productive and sustainable for the livelihoods of people to improve (AGRA, 2017; FAO, 2016; Timmer, 2009, 2016). Figure 2 illustrated the structural change of Ghana’s economy, figure 3 depicts how the agricultural sector has increased its productivity despite its declining share in the economy. The increased agricultural productivity in Ghana is largely derived from growing farm sizes (Holmén, 2005). This points to an ongoing agricultural transformation in Ghana. For an agricultural transformation process to be successful higher productivity levels and an entrepreneurial organization of farms are required. This in turn qualifies the country to pursue a growth strategy based on agriculture (ACET, 2021).

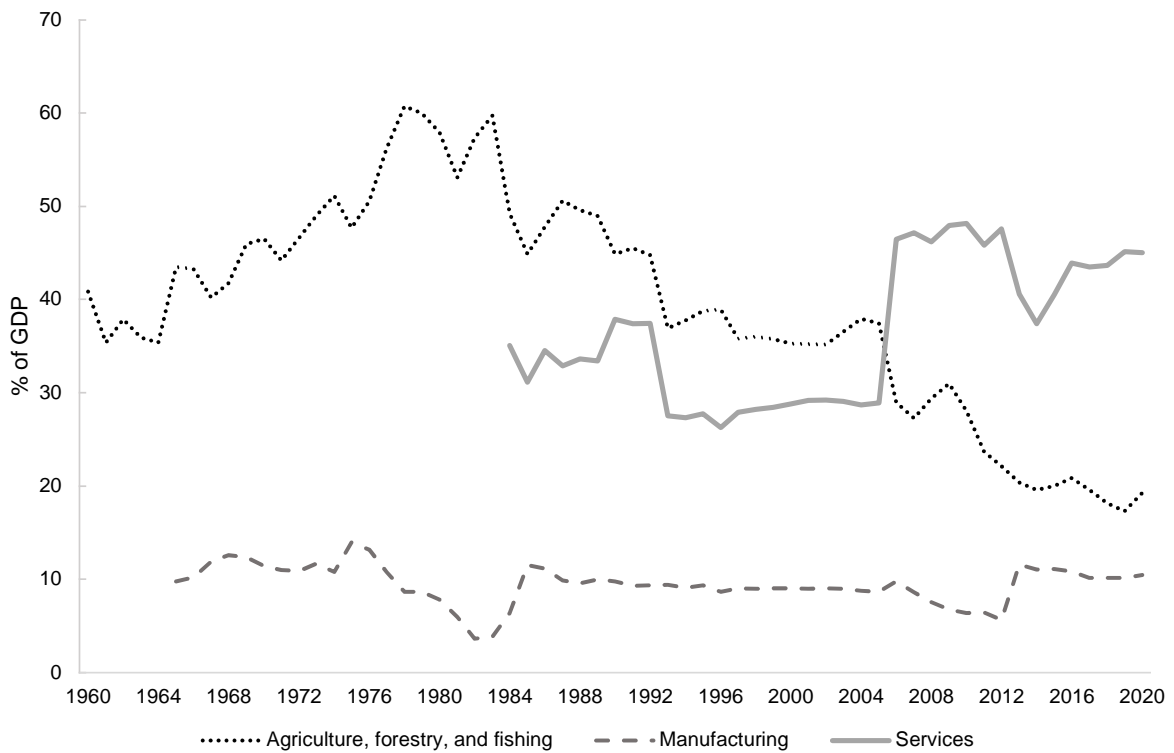


Figure 2. Contribution of main sectors in Ghana's economy

Source: calculation based on World Bank (2022)

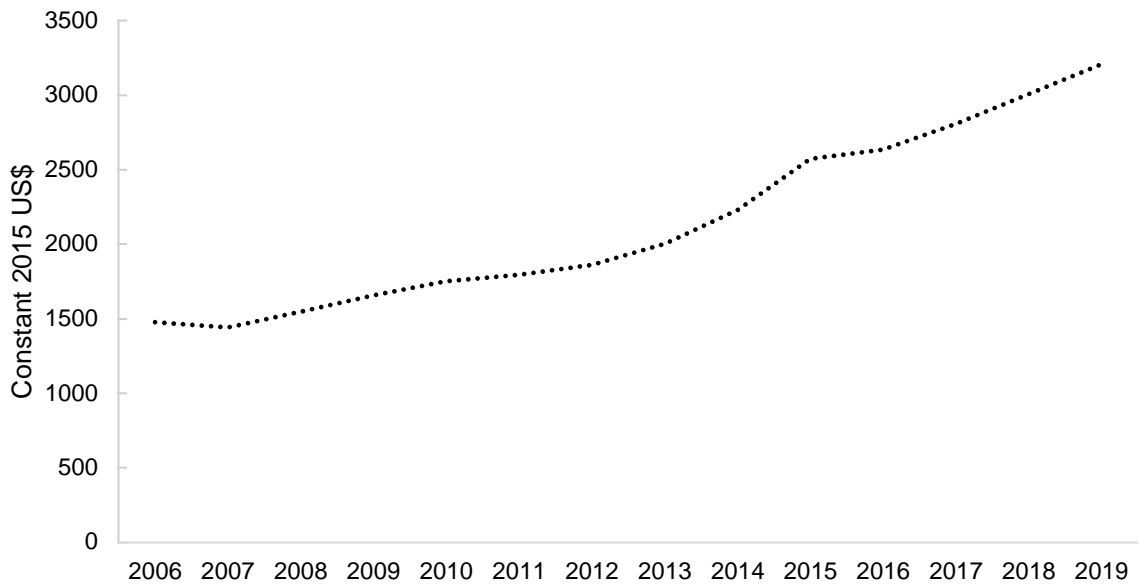


Figure 3. Agriculture, forestry, and fishing, value added per worker

Source: calculation based on World Bank (2022)

The agricultural development in Ghana has largely been caused by increasing farm sizes, increased mechanization of production, and commercialization. This transformation process has led to an emergence of new labor structures such as increased migration and increased employment in commercial agricultural production (Diao et al., 2019b; World Bank, 2007, p.47; Yaro et al., 2021). In the years 2001- 05 the growth in the agricultural sector in Ghana was 5.7 percent per year which outperformed the growth in the service sector. This growth was also faster than the overall GDP growth of 5.2 percent (World Bank, 2007, p.47). Ghana's competitive advantage lies in agriculture which includes both traditional and non-traditional crops (Andoh, 2010). Since 2001, the growth was mainly due to increased productivity in the cocoa sector which contributed about 30 percent to the agricultural growth (World Bank, 2007, p.47). This growth was mainly attributed to the rising world cocoa prices and the support of the COCOBOD to farmers. The support the farmers received included access to high-quality fertilizers and mass spraying of cocoa farms (Kolavalli & Vigneri, 2011).

The introduction of cocoa in Ghana has inevitably impacted both the economy and its labor structures. In the pre-colonial era, waged agricultural labor was present but not common. The price of labor was relatively high compared to the level of productivity which disabled the employer from gaining high returns. This resulted in the extra-household labor being in the form of domestic slaves instead (Austin, 2005). The first commercial cocoa production was established in Ghana in 1878 and by 1910 Ghana had become the largest producer of cocoa in the world (Amanor, Yaro & Teye, 2020). In the early colonial years during its growth, the slave labor had been replaced by migrant labor from the savannah north of the forest as the productivity was higher in the forest. This resulted in many migrant workers being incorporated into cocoa production. The dominant form of contracts was annual contracts where the worker received pay at the end of the year. Later, sharecrop contracts became more common where the worker would receive a third of the proceeds of the cocoa farm for doing the work of weeding, harvesting, and tending the cocoa (Austin, 2005). However, in the 1970s and 1980s, the industry nearly collapsed and Ghana experienced a rapid decline in its cocoa production. This was partly due to a scarcity of new frontier land and the farmers that had experienced hardship in the old pioneering districts had no new land to move their cocoa production to. As a result, migrant labor relocated to new frontier districts in Côte d'Ivoire instead. As migrant labor became less prominent in Ghana and farmers had no land to farm, the supply of local casual labor increased. The cocoa sector recovered again as a result of the adoption of SAPs in the 1990s although it became the second largest producer of cocoa in the world after Côte d'Ivoire. Despite the

decline in cocoa's contribution to Ghana's GDP in the past three years, it is still the most important commercial crop to the economy (Amanor, Yaro & Teye, 2020). The cultivation of cocoa in Ghana is responsible for both the introduction of employing migrant agricultural labor and local agricultural labor.

2.1.1 Cassava in Ghana

Cassava is a staple crop that is mainly grown in the poorer regions of the world and has grown in importance over the past years. Today the crop is growing three times the rate of population growth and is responsible for the improvement of livelihoods in many areas. It has gone from being a subsistence crop to becoming a commodity and vital for value-addition, poverty alleviation and rural development, energy security and food security, and providing income. Consequently, there is ongoing rapid industrialization of cassava (OECD & FAO, 2021).

The introduction of cassava in Ghana came in the sixteenth century by the Portuguese. As a consequence of the drought in 1982/83 when all crops failed, cassava became firmly established in many areas in Ghana. Since the 1990s, the Ministry of Food and Agriculture (MoFA) has promoted the cultivation of cassava as a means to alleviate poverty in rural areas. As a result, fast growth of cassava has been identified in Ghana over the years (MoFA, n.d.) (see Figure 4). The fast growth has resulted in cassava becoming a significant source of income for many farmers in Ghana and has contributed to increased livelihoods (Andoh, 2010).

Cassava is a perennial woody plant that is the base of many products and has an edible root that has become one of the world's most important staple crops. It has become a major part of many people's diets and the main source of livelihood as well as is used for the production of animal feed and starch-based products. The root is eaten raw, boiled, or processed into different pastes, flours, or granules (Tonah, 2006). Cassava is used to prepare the popular foods *fufu*, *garri*, and *konkonte*, which can today be found throughout Ghana (MoFA, n.d.). Along with cassava becoming increasingly integrated into the diets of the Ghanaian population, it has become an essential food security crop. The crop is also highly flexible in regards to its timing of planting and harvesting (FAO & IFAD, 2000).

Cassava has emerged in industrial value chains as a strategic link in Ghana. This transformation has been facilitated through private-public partnerships with increased coordination along the value chain combined with R&D. The Sustainable Uptake of Cassava as an Industrial

Commodity Project and the Food Research Institute are examples of two initiatives that have linked farmers to new markets and cassava processing facilities (World Bank, 2007, p.173). Following this, the One District One Factory (1D1F) policy was launched in 2017 to drive industrialization in Ghana through the establishment of industries and factories that provide jobs for Ghanaians (1D1F, 2020).

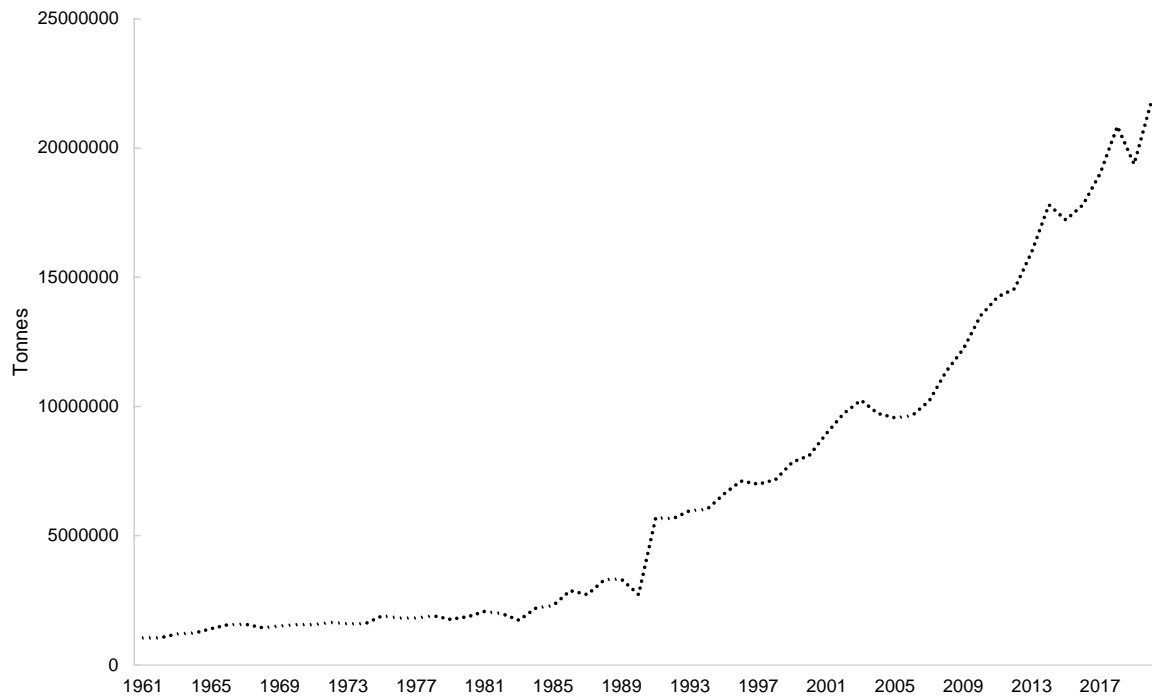


Figure 4. Cassava production in Ghana
Source: FAOSTAT (2022)

As cassava becomes industrialized it becomes part of the ever-expanding extractive agriculture. Ghana’s agricultural policies are centered around extractive agriculture to increase production despite the worsening working conditions of agricultural workers (Torvikey, 2021). Cassava is a labor-intensive crop where most of the operations include harvesting and processing. It is known that one hectare of cassava farmland with 10 million tons of cassava roots requires approximately 720 hours of manual work for harvesting and processing. Out of these 720 hours, 212 hours are allocated for harvesting, handling requires 155 hours, and 350 hours are needed for processing (IITA, 1996).

2.2 Agricultural Transformation and Labor in Ghana

In Ghana, the agricultural sector outperformed the service sector in 2001-2005 largely due to expanding farm sizes and increased productivity which is a sign of agricultural transformation (World Bank, 2007, p.47). A study by Beals and Menezes (1970), finds that the temporary migration in Ghana has led to an increase in output in the agricultural sector. The economic relationship between the south and north in Ghana is dependent on the seasonal migration between the regions. Northerners mainly move to the south for agricultural work on a seasonal basis but some settle down. This interregional migration has been evident in Ghana since 1900. This labor system grew remarkably in the years 1945-54. An average of 92,000 seasonal laborers migrated between the years 1945-1948. By 1954, the seasonal migration had increased by fivefold to more than 200,000 laborers. After 1954 it continued to grow but at a slower pace. Beals and Menezes (1970) argue that seasonal migration has been key to the growth in Ghana in the form of efficient allocation of resources. The migration between the two regions persists because the income generated in the south exceeds the full-time income a northerner would earn in the north.

Torvikey (2021) conducted a qualitative study on the establishment of an industrial cassava company in south-eastern Ghana to explore the impact of commercial agricultural production. It was found that the consequences are threefold — food security, land dispossession, and labor exploitation. The workers of the company explained that a truckload was used as a measuring standard for cassava which they got four times less for than if they sold the same amount in the market. They would receive even more if they processed the cassava into *garri* or *agbelima* (cassava dough). Most workers employed at the company were casual workers which worked on individual tasks usually from 7 am to 5 pm. The tasks included planting, harvesting, carting, loading, weeding, and spraying. Both men and women did these tasks except for the spraying which was only done by men. Most of the work in the company was manual and the casual workers wore no protective gear nor did they receive any social security, sick leave, or maternity leave. If someone was absent from work due to illness, no compensation was given. Similar to Ouma (2018), Torvikey (2021) argues that capitalist enterprises intentionally create division between workers to prevent solidarity and unison which is seen as a high risk to the company. The company in south-eastern Ghana did this by giving different working conditions for men and women. The few permanent workers were men and worked as supervisors or

administrators while women had different conditions and worked longer hours, as well as, received less pay than their male equivalent.

One of the most alarming issues in the context of agricultural labor in Ghana is the use of child labor. However, Ghana was the first country to ratify the UN Convention on the Rights of the Child and all of the vital Conventions on child labor. In particular, the ILO Conventions on Worst Forms of Child Labour (C182, 1999) and Minimum Age (C138, 1973). In 2010, the first National Plan of Action (NPA1) on the Elimination of the Worst Forms of Child Labour (2009-2015) was approved by the Cabinet. Ghana has now completed the second National Plan of Action (NPA2) on the Elimination of the Worst Forms of Child Labour (2017-2021) where significant attention was put on providing education to children. As a result, this legal framework is accompanied by policies to improve the livelihoods and development of children in Ghana. Such as the Free Compulsory Universal Basic Education (FCUBE) policy, the national social protection strategy, and the early childhood development policy. In Ghana, 22 percent of the children are involved in child labor, where many are found in the rural areas working in the agricultural sector. More than 60 percent of the children not attending school are engaged in child labor and some children work alongside their studies (Government of Ghana et al., 2017). However, the quality of education the children get when combining school attendance with work is compromised as they do not have time for leisure or homework. A combination of providing free education with withdrawing children from work is therefore needed (Government of Ghana et al., 2017; ILO & Unicef, 2020).

3 Literature Review

Agricultural transformation is regarded to be a prerequisite for structural change to take off. In the long run, this enables sustainable economic growth and development. Agricultural workers are among the most disadvantaged workers and they are a distinct occupational group that contributes to agricultural transformation in terms of skills, experience, and knowledge. The following section presents the empirical literature on agricultural transformation in the context of structural change and the relation to agricultural labor structures. Firstly, literature on the role of agricultural transformation in structural change is presented to facilitate an understanding of the structures of a transformation process. Following, evidence of agricultural labor structures is evaluated.

3.1 Structural Change — Agricultural Transformation

The survival of mankind has always been dependent on agriculture since it is a source of heating, food, clothing, and a source for employment (Giovanni, 2008; Rhone Till & Andersson, 2017). The importance of the agricultural sector for growth has been recognized since the 1980s (Adelman, 1984; Mellor, 1995). The majority of the world's poverty is located in rural areas in developing countries where the agricultural sector is the backbone of livelihoods in terms of both employment and food provision (Alston & Pardey, 2014; de Brauw & Bulte, 2021, p.206; Perkins et al., 2013, p.611). The large share of the agricultural sector in developing countries suggests that agricultural development is crucial for the overall economic development of the economies (World Bank, 2007, p.28). Agricultural development and sustainable agriculture are also necessary components for economic development to be viable. Sustainable agriculture consists of three aspects of development — social, economic, and environmental. When agricultural development is economically viable, ecologically sound, socially just, humane as well as based on a holistic scientific approach it is regarded to be sustainable (FAO, ILO & IUF, 2007). A way of increasing the livelihoods of the people living in rural areas is through agricultural transformation (Timmer, 2009, 2016).

Agricultural transformation is regarded to be a prerequisite for structural change to take off. In the long run, this enables sustainable economic growth and development. Timmer (1988) theorizes that agricultural transformation occurs when its contribution to GDP declines over time. This emphasizes that the interdependence between the agricultural sector and the modern sector is necessary for economic growth. As productivity increases in the agricultural sector, both capital and labor can be released into the industrial sector and the service sector. When a country experiences a successful structural change, the agricultural sector contributes to the economy in the same way as the other sectors, the industrial and service sector, in terms of productivity of labor, land, and capital. This accelerates the process of agricultural transformation further, which in turn accelerates economic development. This is especially applicable to developing countries due to the agricultural sector's large absorption of the national labor force and large share in the national income, as we observe in Ghana (Timmer, 1988, 2009, 2016). Timmer argues that a change in the input-output ratio in agricultural production, through capacity expansion or technical innovation, is required for agricultural productivity to increase. This implies that growing farm sizes can be a way to extend capacities to stimulate economic growth. In turn, this creates more or new employment possibilities. However, this is only possible if adequate development policies along with sufficient economic resources are present.

Jayne and Sanchez (2021) argue that so far, the agricultural development and increased agricultural output in sub-Saharan Africa are largely due to expanding farm sizes rather than increased productivity. However, according to Boserup (1965), smaller farms are likely to be more productive than larger farms as they can be more intensely farmed. This is because smaller farms are farmed by family members to a larger extent and there are no issues of labor incentives that can slow down productivity. Although, Suri (2011), presents an example from Kenya where smallholder farmers lacked access to information and inputs which compromised their productivity as the fixed costs of adopting hybrid seeds were too high for them. The relationship between growing farm sizes and development is theorized by Johnston and Kilby (1975) who emphasize that along the development process, the per capita farm size increases while the agricultural labor force decreases, which stimulates growth and productivity. In this line of thought, it is the farm size that enables the farmers' ability to commercialize their production and take part in the market. This accelerates economic growth and provides new types of employment, which increases the livelihoods of the rural population. This implies that growing farm sizes is a manifestation of the agricultural transformation process which includes a fall in

subsistence farming and a rise in agricultural productivity. As such, this paradigm fosters an agricultural-led development process.

For economic growth to be initiated, Mellor (1986) highlights the importance of technology in the process of agricultural transformation as well as expanding farm sizes and increased productivity. Johnston and Mellor (1961) differentiate between the different stages of development in the agricultural sector where expanding farm sizes is a prerequisite for output levels to increase, as observed in Ghana. Hence, they suggest that more efficient use of existing resources, such as land and labor, initiates structural change as it links to other sectors.

The *World Development Report 2008: Agriculture for Development*, published by the World Bank (2007), reinstated the academic spotlight on the importance of agricultural transformation for development. The report emphasizes the need for an agricultural revolution in sub-Saharan Africa to spur modernization and increase smallholder productivity, which in turn changes agricultural labor structures. Improved access to land is presented as a crucial tool to promote the development of a modern agricultural sector. However, due to sub-Saharan Africa's distinctive institutional and agricultural characteristics, the transformation process is expected to look different from that of East Asia and the Western world. In the same vein, both Timmer (2009) and Losch, Freguin-Gresh, and White (2012) agree that the transformation process in the developing world today, especially in sub-Saharan Africa, is more challenging than previously witnessed transformations in the world. Losch, Freguin-Gresh, and White (2012) attribute the challenges to an increasingly globalized world and a commodity market where the emerging economies of today face competition both from the domestic and the international market. This combined with the anticipating challenges of climate change makes the development path look different from before.

3.2 Agricultural Labor

Kofi (1977) argues that the agricultural sector is intentionally kept traditional and underdeveloped in Africa as a reservoir of cheap labor to cater to the more modern sectors. The agricultural sector is thereby lacking a smooth transition to capitalism or socialism. Asamoah (2001) conducted a study on the depeasantization of the rural economy in Ghana. The study finds that the characteristics of the rural economy have remained since colonial times when the use of hoe and cutlass are the main farm implements. Since agricultural production has

remained mainly subsistent, the majority of farmworkers are family members. On the other hand, Austin (2005) argues that waged labor became more prominent already in the early colonial years as the cocoa industry expanded in Ghana and slaves were replaced by migrant labor. We can now see that farms are generally getting bigger with a concentration of ownership and a larger number of waged agricultural workers (FAO, ILO & IUF, 2007).

The report *Agricultural Workers and Their Contribution To Sustainable Agriculture and Rural Development* by FAO, ILO, and IUF (2007) shows that waged agricultural employment is increasing in the rural areas of the world, Ghana included. The report aims to provide information to stakeholders to explain the role of agricultural labor in agricultural development, how the agricultural sector can become more sustainable, as well as it outlines the existing different types of labor that can be found on farms. There are farm owners who work on their lands and hire waged labor as well as there are waged farm workers who then work on someone else's land. Waged farm workers are both women and men who work on small- and medium-sized farms and industrialized farms. Waged farm workers are distinct from farm owners because they do not own the land they are working on. The terms and conditions they work under vary depending on the category of employment. They either work for a wage of cash or in-kind payment, or a combination, that they receive from a farmer, farming company, or a labor contractor or sub-contractor. However, the work is often badly paid and many live under the poverty line (FAO, ILO & IUF, 2007).

The report by FAO, ILO, and IUF (2007) finds that waged agricultural workers are among the most disadvantaged workers and are not acknowledged by the policymakers in the government. The work of agricultural workers is generally highly physically demanding with long hours of standing, bending, and carrying heavy. Technology has relieved some awkward and demanding working positions but it has also introduced other risks such as exposure to dangerous chemicals and risks associated with the more sophisticated technology. The exposure to pesticides even spreads to the rest of the family. Still, agricultural workers are some of the least protected workers in terms of workers' compensation, access to health care, survivors' benefits, and long-term disability insurance. These agricultural workers are a distinct occupational group that needs more recognition as they form an important part of sustainable agricultural development in terms of skills, knowledge, and experience (FAO, ILO & IUF, 2007; World Bank, 2007, p.207).

3.2.1 Variations of Agricultural Labor

Most waged agricultural workers are seasonal workers that are employed on a casual or temporary basis. Casual work refers to work that is paid at the end of each day or when a specific task is completed. Temporary workers are those who are employed for a limited period. The casual and temporary workers rarely receive any unemployment benefits or social security, holidays with pay, or maternity leave. Many permanent workers lack these benefits but it is more common among casual workers. Some employers rotate casual workers to avoid having to give them permanent status. Both casualization and outsourcing are becoming more common in the agricultural sector. Outsourcing can be seen in terms of contractors (FAO, ILO & IUF, 2007).

Migrant agricultural workers often work as casual, seasonal, temporary workers, or sometimes full-time workers. Migrant agricultural workers are often heavily disadvantaged in regards to social protection, pay, medical protection, and housing. Globalization along with structural adjustment has created a more export-oriented industry that relies heavily on migrant labor. As supermarkets press down costs farmers have to lower their costs on labor which results in more migrant labor. Migrant agricultural workers often come with the entire family but it is often only the man who is employed but the entire family helps out with the work (FAO, ILO & IUF, 2007).

There are also wage-dependent smallholder farmers who work extra as waged agricultural workers on other farms than their own. This is to supplement their income which is too low to make ends meet (FAO, ILO & IUF, 2007).

Article 16 in the ILO Safety and Health in Agriculture Convention, No. 184 (2001) states that “the minimum age for assignment to work in agriculture which is by its nature or the circumstances in which it is carried out is likely to harm the safety and health of young persons shall not be less than 18 years”. However, with consultation from representative organizations of workers and employers concerned the national government can authorize legal work from the age of 16 if appropriate training and safety and health protection are provided. In 2020, 9.6 percent of the world’s children were involved in child labor whereas 70 percent of these are found in the agricultural sector. The majority of these children (72 percent) work within their family unit. Sub-Saharan Africa has the highest prevalence of child labor, with 24 percent of the world’s child laborers (ILO & Unicef, 2020). The children working in the agricultural sector

can both be found on plantations of large enterprises and family farms. Children often participate in home-based agriculture but it also occurs that the child works alongside their parents where the parent is the one that is officially employed (FAO, ILO & IUF, 2007).

3.2.2 Wages

The wages in the agricultural sector are on average lower than in other sectors because the majority of the work is low-skilled labor (World Bank, 2007, p.202). The waged agricultural workers and their families often live under the poverty line and constitute the core of the rural poor in most parts of the world. Most casual and temporary waged agricultural workers are paid on a piece work basis. This can be per row weeded, hectares sprayed, or kilos of vegetables picked. The permanent full-time agricultural workers are paid the most and they have higher job security, better housing, and better work and health benefits than other waged agricultural workers. However, many of these workers still live under the poverty line, and finding a permanent full-time contract is not easy as permanent contracts are the least common types of contracts. In general, written contracts are not common in the agricultural sector. The majority of contracts are verbal contracts or agreements between the worker and the employer, which then lack security. The type of employment contract a worker receives is often linked to the skill requirements of the work. Seasonal migrant labor and casual labor are often involved in low-skill harvesting and processing activities. As such, the most common type of contract is a verbal contract among these groups. There is an ongoing trend in the agricultural sector where permanent contracts are becoming less common and seasonal and casual work is becoming more prominent. This is commonly referred to as “flexibilization” or “casualization” of employment which suffers from little or no social protection (FAO, ILO & IUF, 2007).

3.2.3 Migration

In Africa, circular, seasonal, and short-term migrations that are connected to the seasonal calendars of agriculture are common forms of movement. These migrations occur both across and within countries (FAO et al., 2018). As farming becomes more mechanized and industrialized the demand for labor decreases and migration emerges (de Brauw & Bulte, 2021, pp.189–190). Migration is often seen as a one-way street from rural to urban areas in the context of transformation. While migration is contributing to urbanization, the process of agricultural transformation and its effect on migration is far more complex and there are gaps in our

understanding of internal migration processes due to lack of data, which this study will contribute to. Cattaneo and Robinson (2019) find that the magnitude of internal migration is associated with the level of development of an economy. Rural-to-rural migration is most dominant during the earlier phases of development, such as in sub-Saharan Africa and South Asia. For countries that have already experienced structural transformation, rural-to-urban migration is greater. These migration patterns are also more diversified. As a result of the development of the agricultural sector, livelihoods for the rural poor and levels of education are increased, which eventually leads to people moving to the urban areas in search of better jobs. A potential effect is decreased productivity and output of the agricultural sector as the youth exits and what is left is an aging agricultural labor force (Diao et al., 2019a, p.173; World Bank, 2007, pp.216, 202).

4 Conceptual Framework

The following section embeds the underlying research with theory to create a conceptual framework consisting of agricultural transformation in the context of structural change and its relation to the transforming agricultural labor structures.

The industrial fundamentalist Bruce Lewis (1954) was mainly concerned with rapid industrialization which is enabled by relocating labor from the unproductive subsistence sector. He presents a two-sector model of economic development that particularly suits resource-poor developing countries with labor surplus. This theory assumes that the subsistence agricultural sector has vast amounts of surplus labor which result in low productivity. Meanwhile, the capitalist sector has an abundance of resources and capital in relation to its labor force. Due to the low productivity in the subsistence sector, the wages are low because the agricultural wage rate is equal to average productivity (institutional wage). The capitalist sector can employ labor at a higher wage rate due to its higher productivity. The role of agriculture in development is not neglected but agriculture is not viewed as a driver for industrialization and development. This view was criticized by Ranis and Fei (1961) who argue that the agricultural sector and the industrial sector are interdependent and the growth of the agricultural sector is important for the economy to take off. As a result, Ranis and Fei (1961), formalized Lewis' two-sector model in combination with Rostow's (1956) three 'linear-stages-of-growth' theory to contribute to the discussion on economic growth with an understanding of how a developing economy moves from stagnation to self-sustaining growth. Ranis and Fei take on Rostow's take-off process which entails a period of two to three decades in which economic growth becomes automatic. During this time, the rural population is reduced, saving rates are doubled, and the industries grow with the help of the availability of surplus labor. Ranis and Fei's theory of economic development dissembled Lewis' two stages into three. The first stage is when the economy takes off and the industrial sector begins to form but is still extremely small. The surplus labor from the subsistence sector begins to relocate to the industrial sector but productivity is still low. After some time, when the labor has relocated, the marginal productivity of labor starts to increase and the economy enters the second stage. In the second stage, the remaining surplus labor in the subsistence sector is absorbed by the industrial sector. At the conclusion of this

process, the economy is at the point of commercialization and enters the third phase where the agricultural labor market is fully commercialized. In the context of Ghana's ongoing agricultural transformation, its economy is situated somewhere around the second stage of Ranis and Fei's theory. This implies that some of the agricultural labor is still located in the subsistence sector but more and more labor is being absorbed by commercialized agricultural production which has created new labor structures.

Most studies of the integration of the subsistent family farms in the market are rooted in the works of Vladimir Lenin (1982) and the Russian agro-economist Alexander Chayanov. They were concerned that along with the commercialization of agricultural production, the peasant family farms would disappear. Lenin (1982) argued that market forces were responsible for dissolving the Russian peasantry into rural capitalists by the late 1800s. Chayanov, on the other hand, argued that family farming survived the introduction of capitalism and remained the dominant form of production. (Shanin, 1982). As a result of these opposing views, the topic of agricultural structures in rural Africa gained academic attention. Despite varying theoretical angles, the general view is that until the late 1980s, the partially integrated peasant family farm survived as the main form of agricultural production (Green, 2008).

Berry (1984) criticizes the standard paradigms of agrarian change for being inconclusive and unsatisfactory to the African context. The way linkages between resource mobilization and the use of resources at the micro level are not representative of the African realities. Instead, Berry claims that the increased agricultural commercialization has impacted the African peasants, Ghana included, differently because of other social, economic, ecological, and political factors as well as colonial prices in the twentieth century.

According to Kofi (1977), the agricultural sector is maintained traditional and underdeveloped as a reservoir of cheap labor to cater to the emerging modern sectors. This implies that commercialized agricultural production adopts more traditional forms of employment to keep costs down. As emphasized by the FAO, ILO, and IUF (2007), agricultural workers are among the most disadvantaged workers with physically demanding work during long hours with low wages. Both Ouma (2018) and Torvikey (2021) reason that capitalist enterprises create a division of labor intentionally to prevent solidarity and unison between workers which is regarded as a high risk to companies. This translates to that along with commercialization employers have more power over their workers. Unison and solidarity can be disabled by creating division of labor by the employers by providing different working conditions for men

and women and permanent workers and casual workers. Another way of creating division of labor and keeping labor costs down is to rotate casual workers to avoid being forced to give them permanent employment. The work contract the worker receives is often dependent on the skill requirements of the job. Both casual labor and migrant labor are often involved in low-skilled jobs such as planting, harvesting, and processing activities. As such, informal verbal contracts are most common among agricultural workers, which then lack social security. Both casualization and outsourcing are becoming more common in the agricultural sector where outsourcing can be spotted in terms of contractors (FAO, ILO & IUF, 2007). Following, today, it has been observed that contract farming is an outcome of a transforming agricultural sector in Africa. This is a form of relationship between farmers and agro-processing industries which is seen as a vehicle that contributes to the development of agricultural value chains. Contract farming arises as a result of buyers, often in the form of agro-processing companies, who need a specific amount of an agricultural product of a specific or the same quality. The buyer may require smallholders to provide some or all of that product. This creates a new form of employment. However, some critics suggest that contract farming is a way for rich entrepreneurs or large companies to exploit marginalized farmers. The benefits of the introduction of contract farming can be in the form of partial insurance, welfare, or increased access to markets for farmers. At times this also translates to the rest of the community in the form of increased labor opportunities. The poorest farmers are most likely to be excluded from these arrangements though. It is also important to take into consideration that many of the farmers in Africa that are involved in contract farming may not have been able to sell their crops if not to the company. This results in smallholders being beholden to their buyer which can be taken advantage of and the buyer becomes the price setter (de Brauw & Bulte, 2021, pp.70–71).

Changing labor structures in the agricultural sector in the process of agricultural transformation can be seen in terms of migration. Cattaneo and Robinson (2019) argue that the magnitude of internal migration is dependent on the level of development of an economy. During the earlier stages of development rural-to-rural migration is dominant, as the country develops further rural-to-urban migration becomes more common. Migration has been key to development and growth as a form of efficient allocation of resources in Ghana. The migration between the northern and the southern regions persists because the income that is generated in the south exceeds the income that can be generated in the north (Beals & Menezes, 1970). As livelihoods of the rural poor increase along with agricultural transformation levels of education increase as

well. This eventually leads to rural-to-urban migration in search of better jobs (Diao et al., 2019a, p.173; World Bank, 2007, pp.202, 216). As youth exits the agricultural sector, an aging population is left which then increases the demand for agricultural labor, which results in increased rural-to-rural migration. Increased levels of education are also related to diminished amounts of child labor. Government interventions targeted to abolish child labor, especially those interventions focusing on increased education, result in a shift of youths out of agriculture to focus more on education (Amanor, Yaro & Teye, 2020).

To summarize, agricultural transformation is crucial for economic development to take off. During the process of agricultural transformation more and more labor is released from the subsistence sector and absorbed by the industrial sector. Commercialized agricultural production continues to adopt traditional forms of employment, such as casual labor, to keep labor costs down as well as migrant labor. As a result, farm workers continue to be among the most disadvantaged workers.

5 Data & Methodology

The methodological framework for this qualitative case study of agricultural transformation and its effect on agricultural labor structures in Ghana is explained and justified in the following chapter. The chapter begins with an explanation of the research design and a justification of the qualitative case study approach. Following, the case selection of the Ashanti and Volta region of Ghana is explained along with a contextualization of the regions. The data was collected through semi-structured in-depth interviews by the author in the context of a research team consisting of master's students from Lund University together with research assistants from the University of Ghana.

5.1 Research Design

The thesis takes on an interpretivist epistemological position as it aims to gain an understanding of the social world by focusing on the interpretations and meanings of the people being studied (Ormston et al., 2014, pp.11–13). The overall aim of the study is to understand how agricultural transformation has affected labor structures which is best done through a qualitative field study. This entails interviews and collecting words, rather than numbers, to generate knowledge through analyzing them (Lewis & McNaughton Nicholls, 2014, p.55). This is argued to be a suitable method when the study is explorative as little evidence has been published. More specifically, it is a case study of Ghana. This is beneficial because case studies can capture characteristics of agricultural transformation and their link to the labor market in a detailed and exact way without any restrictions caused when comparability is taken into account (Flick, 2009, p.134; Yin, 2018, p.15). The inductive research approach is used which enables the use of evidence to reach a conclusion. This is a bottom-up approach to building knowledge where observations are used to detect patterns or theories (Creswell, 2009, p.175; Ormston et al., 2014, pp.6–7).

5.2 Case Selection

The interviews of the study were conducted in two districts respectively of the Ashanti and Volta region of southern Ghana. The regions, together with the Eastern, Brong-Ahafo, and Central regions, produce 84 percent of Ghana's total production (Acheampong et al., 2021). As a result of consultation from the district directors, MoFA, in all districts of the Volta and Ashanti regions, the Sekyere Central district and Mampong district in the Ashanti region and Ho Municipal district and Central Tongu district in the Volta region were selected (see Figure 5 for a geographical overview). The two regions are characterized by growing farm sizes. Following, the four selected districts met the criteria of having proximity to the capital city of the region which gives a link to urbanization and the presence of the growing cassava processing industry.

5.2.1 Context of Volta and Ashanti Region

Ghana has a well-defined North-South divide with the South being economically dominant. The North predominantly has subsistence farming with a limited variety of crops whereas the South has a larger variety of crops and is subject to an ongoing agricultural transformation with growing farm sizes. The main reason for the difference between the two regions is their ecological conditions and other historical factors. The North has poorer soils and only one rainy season while the south has two. This has resulted in the South having a higher population density, better rural infrastructure, and higher levels of urbanization.

Volta region and Ashanti region are both located in the southern part of Ghana, the more prosperous part. These two regions are two of the five major cassava-producing regions in Ghana. In total these five regions contribute to about 86 percent of the aggregated national production (Acheampong et al., 2021). The Volta region is located on the west side of southern Ghana and borders the Republic of Togo. The economy of Volta is dependent on agriculture as it employs 74 percent of its population (MoFA, 2021a). The largest city in the Volta region is Ho, which is also its capital. The Ashanti region is located in the central belt of southern Ghana. It is the third largest region in Ghana and is the home region of Kumasi, the second largest city in Ghana. Approximately 65 percent of the population of the Ashanti region depends on

agriculture (MoFA, 2021b). Both of the regions are characterized by growing farm sizes with proximity to larger cities and have an increasing number of cassava processing companies as a result of the 1D1F initiative.

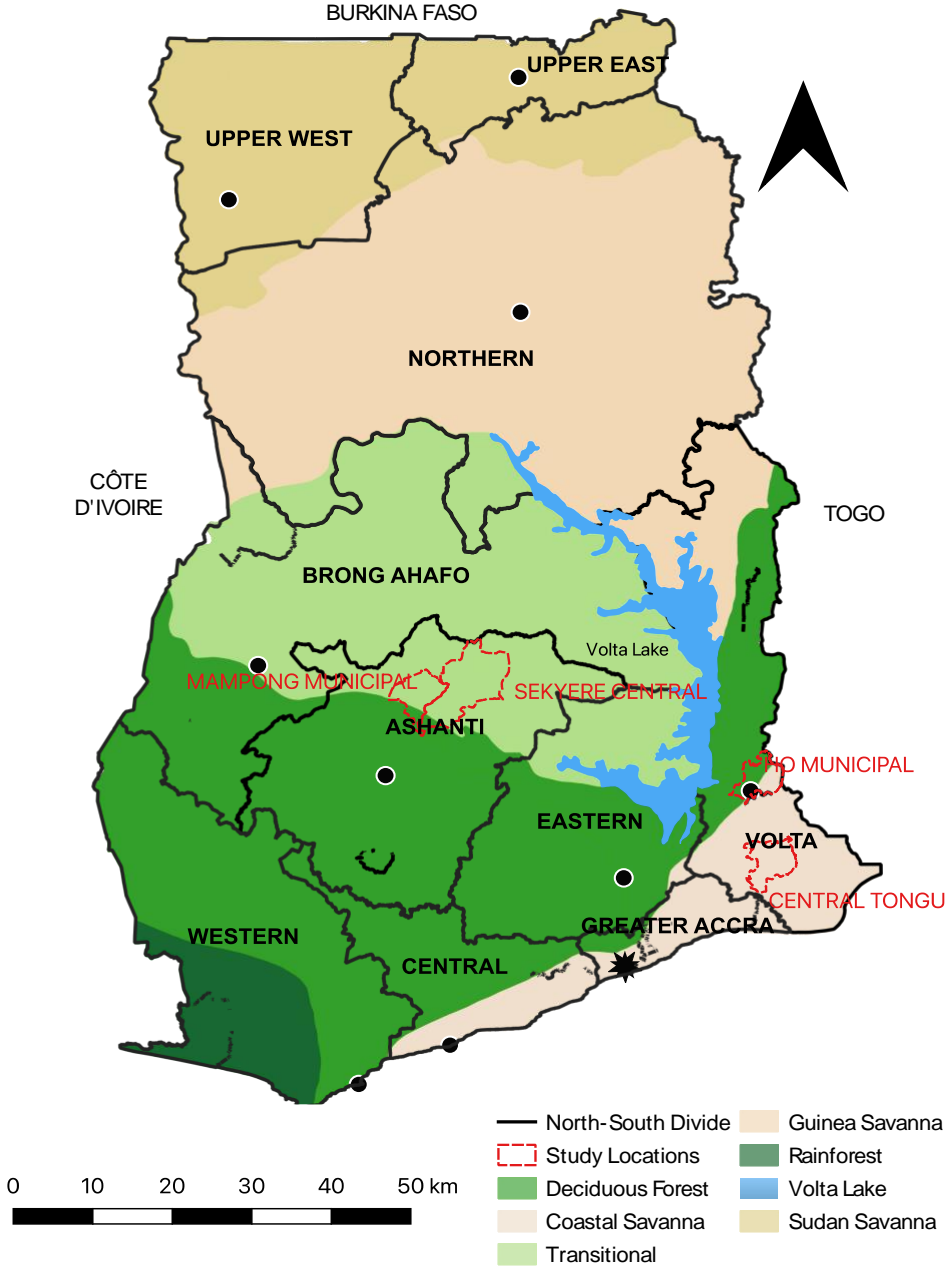


Figure 5. Administrative Map of Ghana indicating Study Districts

Source: Author’s elaboration on data from Centre for Remote Sensing and Geographic Information Services

5.3 Data Collection

The data was collected through semi-structured in-depth interviews in the Volta and Ashanti regions of Ghana in February 2022. The method of semi-structured in-depth interviews were chosen to be able to reach a deeper level of understanding and be able to touch upon more sensitive topics such as working conditions and job satisfaction. The data generated through interviews are based on spoken narratives and verbal communications. The strength of this method is based on the argument that humans actively construct their social world and can therefore communicate insights of it verbally. It is insightful as it provides both personal views and explanations. Interviewing is therefore considered to be an effective and core method of qualitative data collection (Lewis & McNaughton Nicholls, 2014, p.55). Interviewing is specifically beneficial in case studies as it allows for targeted and specific questions related to the case study (Yin, 2018, p.114).

The interviews were conducted by the author in the context of a research project on agricultural transformation by Lund University in collaboration with the University of Ghana. As such, the interview guide was constructed with feedback from colleagues at the University of Ghana to ensure its appropriateness and feasibility.

5.3.1 Sample selection

The sample contains 41 semi-structured interviews with 22 farm owners, 4 key informants, 10 factory workers, and 8 farm workers. See appendix A for a list of participants and explanation to their coding, observe that some participants have multiple classifications. 39 of the interviews were recorded digitally, with the consent of each interviewee. Two of the interviews were not able to be recorded due to the setting of the interview. The technique of purposive sampling was used for the majority of the sample with assistance from agricultural extension officers and members of the district assemblies. However, this approach is subject to potential biases. As such, the snowball technique was adopted as well by asking interviewees for other participants and talking to people in the communities. All interviewees were selected based on their suitability to contribute to an empirical and theoretical understanding of agricultural labor structures in Ghana. They were considered suitable to be interviewed if they were farm owners, worked as an agricultural worker, or had a sound understanding of the overall agricultural labor structures in the community such as an agricultural extension officer.

5.3.2 Interview design

The interviews were conducted using an in-depth interview approach as they can go further into detail with open-ended questions in a more conversational manner. This facilitates explanations of “hows” and “whys” rather than only descriptive “what” responses. However, the interviewer must lead the discussion to make sure the line of inquiry is followed. Even though the interview is conducted more conversationally, questions must be phrased in an unbiased manner where asking “how” is more appropriate rather than “why” (Yin, 2018, pp.118–119). The formation of the questions is made consciously to suit the context of medium-size farmers and farm workers in Ghana.

An in-depth interview is a cycle where the interviewee is taken from a surface discussion to a discussion on a deeper level and then back to the surface. The interviews are conducted through the six stages presented in Yeo et al. (2014, pp.186–190). *Stage (1): arrival and introductions:* includes an introduction and small talk to make both parties settle in. The interviews are conducted on the home ground of the interviewee. Either in their home or on the farm where they work. This creates a situation where the interviewee is the host. However, the interviewer must be the host of the conversation. This stage must be relaxed as it is where trust is built between the interviewer and the interviewee and the interviewee is asked for consent to participate. The length of the interview is also communicated in this stage. *Stage (2): introducing the research:* the topic is introduced as well as the objectives and the aims. This provides context to the participant. The consent is established again and it is made clear that participation is completely voluntary. It is also clarified that it is not a survey, their experiences voiced in their own words are requested. *Stage (3): beginning the interview:* important contextual questions are asked (age, education, background in farming, position on the farm, family/household size). These questions should not be asked at a later stage as they can interrupt the flow. *Stage (4): during the interview:* this is the most substantive section where the interviewee reaches a deeper stage. The interviewer is guiding the interviewee through the topics but is mainly listening and taking notes and keeping track of the research question and objectives of the study. *Stage (5): ending the interview:* the interviewee is alerted that there are approximately 5-10 minutes left of the interview to give room for additional important information the interviewee wants to shed light on. This can work as a re-energizer and helps return to the everyday level of social interaction. *Stage (6): after the interview:* what happens next in the research is explained and questions raised are answered. ‘Doorstep’ data often arise

during this stage which is extremely valuable information that is sparked in the interviewee when moving away from the interview.

5.4 Data Analysis

To make the data more tangible to understand and analyze the interviews were transcribed. The transcriptions of the interviews were then coded with the use of the qualitative data analysis software 'NVivo'. The software tags qualitative data with themes or codes to facilitate analysis. This divides the data into manageable segments and allows for quick access to the data, it consolidates explanation and meaning (Bazeley & Jackson, 2014, pp.2–3). The codes were created based on the interview guide and aspects that emerged during the fieldwork. To be able to analyze the data the codes were organized into categories in accordance with the conceptual framework.

5.5 Triangulation

In qualitative research, the validity of evidence is concerned with how accurately the participants' meanings have been interpreted and captured. Triangulation is one of the most frequent approaches used to validate qualitative data. This approach assumes that information coming from different sources contributes to the confirmation and improvement of research findings (Lewis et al., 2014, p.258). This study compares answers from various respondents answering the same questions and provides their understanding of how the labor structures in their communities. The answers to similar questions from interviewees with different perspectives make the results more trustworthy, which enhances the validity of the study.

5.6 Ethical Considerations

The interviewees were granted full confidentiality and before the initiation of the interview, they were made aware of the aim and objectives of the research. They were also made aware that the interview was fully voluntary and could be halted at any point if necessary. Their consent to participate in the study was made before the initiation of the interview as well.

Moreover, some cultural norms and behaviors may have been unknown to the researcher coming from a context outside of Ghana. This can result in conflicting perceptions that can influence the interpretation and significance of the results. Being aware of this, the opinions of the researcher were not communicated during the study and the results have been interpreted to the best ability of the researcher to represent the perception of the participants. The presence of a Ghanaian research assistant in the study contributed to a more comfortable setting for the participants and facilitated a better understanding of cultural norms and practices for the researcher.

5.7 Limitations

The method of purposive sampling is susceptible to bias from the persons selecting the sample. Therefore, both agricultural extension offices and members of the local assembly were involved as gate openers and select the initial participants. The snowball approach was then adopted to avoid bias.

Conducting interviews in rural areas of Ghana meant that not all participants spoke English. In the cases where the respondent spoke English, they were often not fluent and perceptible to misinterpretations. This created a language barrier between the participants and the interviewer. This was solved by the use of the research assistant as a translator. The interviews were therefore conducted in the local language with immediate translation to English.

As the participation in the study was voluntary the variation of informants can be limited. There is an increasing presence of Chinese companies in Ghana and contact was established with one Chinese cassava-processing company that declined the invitation to participate in the study. Including the perspective on how the Chinese presence has affected agricultural labor structures would have added depth to the study.

6 Empirical Analysis

This chapter presents the results through the lens of the conceptual framework to form an analysis. The analysis facilitates an answer to the research question “how has agricultural transformation affected labor structures?”. The first section outlines how the agricultural transformation is evident in the Volta and Ashanti regions in Ghana. This follows with a description of the different forms of agricultural labor found on the cassava farms. Thirdly working conditions, household structures, and COVID-19 are discussed. These sections lead up to the concluding section which is the most prominent theme discovered in the study, Migration. Lastly, a discussion is presented with the main findings of the study.

6.1 Agricultural Transformation in Ghana

The farm sizes in the Volta and Ashanti region in Ghana began to expand 10-20 years ago where the cultivation of cassava has and continues to play a big role. The farm size expansions have increased the demand for labor and created more job opportunities in the regions. The main reason for the area expansions is the increased use of technology among farmers. However, the farms could be more productive if the sizes remained smaller and the costs of labor would not increase for farmers. Cassava-processing companies are being established in the regions which creates another source of demand for cassava and job opportunities.

6.1.1 Increased Farm Sizes

The general perception is that farm sizes are growing in both the Volta and Ashanti regions. The underlying reasons for the area expansions are due to the increased use of technology, which allows farmers to increase their output (10LFO; 13LFO; 19KI; 31KI). There is still land available for further expansions (10LFO; 15SFO; 05MFO; 07KI&MFO), and farmers intend to expand further when they have the resources to do so (15SFO; 37OFW&LFO). The farms began to increase about ten years ago, although large-scale farmers began their expansions 20

years ago. Only three farm owners have experienced decreasing farm sizes, which was due to extensive fire and lack of planning and labor (22SFO; 23LFO; 31KI). There are a few exceptions where the farm owners do not own their farmlands. They rent the lands from land owners. The price ranges from 100 – 320 GHS (\$12-37) per acre per year (14MFO; 15MFO; 31KI; 33MFO; 37OFW&LFO). An alternative is to pay the owner in produce, a share of the harvest (05MFO).

The cultivation of cassava plays an important role in farm size expansions. However, due to the high supply of cassava, the prices have been reduced. During rain seasons farmers have to harvest cassava or it will rot in the soil. During these periods the supply is higher than the demand and prices fall further (01SFO; 14MFO; 17KI; 28SFO; 31KI). Some farmers store their cassava to sell it when the prices increase again (22SFO). The abundance of cassava in the markets has also led to farmers processing their cassava themselves or selling it to processing companies (02SFO; 21SFO). The large supply of cassava calls for more processing companies to process the cassava and farmers express a wish to sell their produce to companies if available (01SFO; 19KI).

6.1.2 Technology

The use of technology is becoming more common on cassava farms in Ghana. The most common technology used is the tractor for plowing, spraying pesticides, and access to new varieties of cassava. However, due to the high costs, mainly large-scale farmers adopt new technologies that help them increase yields. To rent a tractor for plowing costs 150-200 GHS (\$19-25) which is too expensive for many farmers and due to the limited amount of tractors available it can be difficult to find for those who can afford it (14MFO; 15SFO; 36OFW; 37OFW). The increased use of tractors has cut costs for large-scale farmers as it is cheaper than employing labor. Most farmers agree that the increased use of technology displaces labor but at the same time, it allows for expansion of farms, which in turn generates increased demand for labor (14MFO; 15SFO; 16LFW). However, the agronomist 32MFO agrees with Boserup (1965) that smaller farms can be more productive. 32MFO argues that the cassava farmers in Ghana could increase their productivity if they focused more on advancing their use of technology instead of increasing their farmlands. The increase of farmlands becomes costly as it is more land to farm and requires more labor. The increased use of technology on farms also

allows for farm workers to move to the agro-processing industry (19KI), which reflects the second stage of Ranis and Fei's (1961) theory of economic development.

6.1.3 Commercialization

The perception of the increased commercialization of the agricultural sector in the Volta region and Ashanti region is generally positive. It is perceived that the establishment of cassava-processing companies would increase the demand for cassava (19KI; 20SFO; 8SFO; 31KI). De Brauw and Bulte (2021) argue that contract farming is a clear indicator of agricultural transformation in Africa. In the Volta and Ashanti regions in Ghana, some farmers are outgrowers and sell their cassava to companies instead of selling their produce in the market because it is a more stable source of income (20SFO; 21SFO; 23LFO; 28SFO; 30MFW; 33MFO). However, the companies take advantage of the high supply of cassava and have become the price-setters, as discussed by de Brauw and Bulte (2021, pp.70–71). The price they buy the cassava for is generally lower than what the cassava is sold for in the market which makes some farmers reluctant to sell to the companies (08SFO; 31KI). 32MFO sells their cassava to a processing company even though the price is less than in the market because they are certain of their income and they do not have to bother with the logistics of having it sold in the market.

The establishment of cassava-processing companies creates more employment opportunities which are perceived to increase the well-being of the communities (01SFO; 19KI; 28SFO; 31KI). This is perceived to be seen through increased employment opportunities, better roads for transportation, improved health facilities, better schooling for children, and better accommodation for people coming to work in the factories (19KI). However, as of today selling cassava to the processing companies and working at the factories generates less income than selling in the market or working for a farmer (08SFO; 32MFO; 34LFW&FW). One explanation for this could be that the costs of production are higher for processing companies due to the lack of industrialization in Ghana. One company explains that packaging materials are a large expense for them as it is not possible to buy them from Ghana but they import them from Turkey and Ukraine (38OFW). This is one indicator of Ghana being situated between the first and second stages of Ranis and Fei's (1961) theory of economic development as productivity is still low and production costs are high.

6.2 Agricultural Labor

The following section outlines the different types of agricultural labor that can be found on the farms in the Ashanti and Volta regions in Ghana. Agricultural labor is generally divided into two categories depending on their skills. Unskilled labor is often hired as casual labor to farm the lands and does manual work. The more skilled laborers are hired on a more permanent basis to supervise farm workers or to do office work in the cassava-processing factories (19KI). Due to the scarcity of farm workers, migrant labor is becoming more common in the Ashanti and Volta region. The migrant workers originate from Northern Ghana and Togo and have either settled in Southern Ghana because of the job opportunities or come temporarily to earn money.

Agricultural workers have different opinions about their occupation. Some appreciate it because it generates income or food (06MFW; 16LFW; 18MFO; 21SFO; 40FW). Others would rather do something else because it is too physically demanding with long working hours, which is not reflected in the income (06MFW; 16LFW; 19KI; 26FW; 30MFW; 35FW).

6.2.1 Casual Labor

Casual workers are the most common type of workers on the farms and in the factories in the Volta and Ashanti regions in Ghana, which is following the claim that casualization is becoming more common in the agricultural sector in the world (FAO, ILO & IUF, 2007). The fact that casual labor is the most common form of employment in factories as well highlights Kofi's (1977) argument that the modern sector adopts traditional forms of employment to keep costs down. This in turn can be the underlying reason why the casualization of labor continues to increase in rural areas around the world.

Casual workers are hired by farm owners or companies daily and thereby have several employers. For instance, 6MFW works for 20 different farmers. During school holidays more students can be spotted on the farms working as casual labor (12OFW; 16LFW; 37OFW&LFO). Farm owners go out to find workers when they need them unless they already have established contacts that they can call and ask for availability. A farm worker looking for work can be spotted on the roadside walking with a hoe in their hand (21SFO). However, most farm owners have an already established network of workers they call when they need their

hands but they are not always available (01SFO; 03MFO; 04MFO; 13LFO; 20SFO; 22SFO; 24SFO; 27MFO).

Some workers have to find their jobs on their own. These are mainly new workers that are new in the community and are yet to establish contacts with farm owners or factory workers. The workers new to the community are often migrant workers and they show their availability by walking by the road with a hoe or asking around for work (07KI&MFO; 16LFW; 21SFO; 31KI). Farm workers working on factory farms as casual labor instead go to the factory asking if there is work to do each day. If there is no work, they go back home (11IFW). Most factory workers do not have other sources of income.

6.2.2 Permanent Labor

Permanent positions in the agricultural sector are less common than casual positions, they are mainly found in agro-processing companies. Most office positions in the cassava-processing factories are announced online and the recruitment process includes several steps (12OFW). Other permanent positions in the factories include processing, packaging, security, and supervision positions. These positions have emerged with the commercialization of cassava and do not exist on noncommercialized cassava farms. The role of the supervisor is to manage the casual workers on the farms and assign work to them. This is a position that a farm worker can advance to by studying in-house while the other higher-ranked positions in the office often require university degrees (36OFW). The supervisor can also be sent out to the farms of outgrowers to monitor their work and teach them more efficient ways of farming (34LFW&FW).

6.2.3 Migrant Labor

It is known from the outside that there is labor scarcity on the farms in the southern part of Ghana, which makes it quite easy for migrant workers to find work (02SFO; 06MFW; 09MFW; 29MFO). Most local farm workers have their farms which makes many of them, as well as factories, dependent on migrant workers (02SFO; 08SFO; 12OFW; 23LFO; 29MFO; 36OFW). There are two categories of migrant labor, those who have settled and those who come temporarily to earn money (27MFO; 28SFO). Some have come to settle because the livelihoods

are better in the south than in their home towns or countries (06MFW; 11IFW; 25FW;31KI; 35FW;). Others come as seasonal workers to earn money and then go back home to be able to start a business or buy their own farmland (02SFO; 09MFW; 22SFO; 30MFW; 34LFW&FW).

The majority of agricultural workers migrate from the Northern part of Ghana, Togo, and a few from Burkina Faso. The migration from the Northern part of Ghana began more than 20 years ago and has increased ever since and more workers are expected to come (25FW; 30MFW; 31KI; 32MFO; 35FW). The farming season in the north is uni-modal while the farming seasons in the south are bi-modal, meaning two rain seasons. The northerners come to the south to work when it is not farming season in the north (34LFW&FW). Although, due to the implementation of the FCUBE policy¹ not as many students come from Northern Ghana to work to earn money to be able to pay for their school fees (31KI). However, students still come from Togo during their holidays to earn money to pay for their school fees (01SFO). They also come to send remittances back home (06MFW; 07KI&MFO; 11IFW).

6.2.4 Child Labor

To see children working as waged agricultural labor is not common in the Ashanti and Volta regions (09MFW; 11IFW; 35FW; 41IFW). The few children that work on farms are children that do not want to attend school (30MFW). Children can mainly be seen working on their parents' farms during holidays and weekends to help out (01SFO; 02SFO; 07KI&MFO; 08SFO; 16LFW; 21SFO; 32MFO). The implementation of the FCUBE policy has enabled more children to attend school and thereby liberating them from working (31KI). This is consistent

¹ The Free Compulsory Universal Basic Education Policy was implemented by the government in 2005 to increase the level of education among children in Ghana (Coverghana.com.gh, 2022).

with the argument that increased levels of education are related to diminishing rates of child labor (Amanor, Yaro & Teye, 2020).

6.3 Working Conditions

Written contracts are rare in the agricultural sector in the Volta and Ashanti regions of Ghana., Most farm workers have verbal agreements with their employers. The few written contracts that can be found among permanent farm and factory workers only include the salary and duration of the contract. The casual nature of agricultural work deprives workers of job security. The wages for farm and factory workers are close to the national minimum wage, which is not sufficient to cover standard living costs. Factories also struggle to pay their workers on time due to their revenues being delayed. This puts factory workers in difficult financial situations. Farm owners are often part of associations, which are yet to be established for farm and factory workers. This results in farm and factory workers lacking a place to turn to for support.

6.3.1 Contracts

Written contracts are extremely rare in the agricultural sector in the Ashanti and Volta region. This is in line with the FAO, ILO, and IUF (2007) report that states that informal verbal contracts are the most common type of contracts among agricultural workers as flexibilization of labor is becoming more preferred by employers in the agricultural sector. Casual workers and some permanent workers do not get written contracts, their work is based on verbal agreements. This concerns casual workers on both family farms and factory farms (05MFO; 07KI&MFO; 09MFW; 10LFO; 11IFW; 12OFW; 13LFO; 14MFO; 16LFW; 18MFO&LFW; 19KI; 21SFO; 22SFO; 23LFO; 25FW; 26FW; 27MFO; 28SFO; 29MFO; 30MFW; 33MFO; 34LFW&FW; 37OFW&LFO; 39FW; 41IFW). Communities have common rates for farm work and many farm workers and farm owners are illiterate (19KI; 38OFW). Some workers have never heard of the possibility or seen a job contract (18MFO&LFW; 30MFW) while there are workers who have heard of it and wish to have one (16LFW; 25FW; 26FW). A farm owner, 29MFO, would like to pay his farm workers monthly but because they are from the northern part of Ghana coming to work temporarily they would like their work to be as flexible as possible. Another farm owner, 33MFO, has considered writing contracts with his farm workers

to secure their work as he is aging. The farm owner is getting older and cannot take care of his farm alone but he is afraid he will not find enough labor to work on his farm. By providing his workers with formal written contracts he can be more sure he will have farm workers and he can retire.

Permanent workers can have written contracts, both workers in factories and at family farms (23LFO; 25FW; 31KI; 32MFO; 35FW; 37OFW&LFO; 38OFW; 40FW). Some permanent workers have verbal agreements, such as the security personnel at a factory (39FW). The contracts include their monthly wage and the duration of the contract. Sick leave, paid vacation, or overtime is not included (23LFO; 38OFW; 40FW) (see appendix B for an example). It occurs that it includes rules and regulations of the workplace as well (37OFW&LFO). The factory worker, 35FW, has a written contract that states how much he/she earns a day but not how much he/she will work that month. The monthly salary, therefore, depends on how many days he/she worked that month.

6.3.2 Wages

In January 2022 the national minimum wage was raised from 12.53 GHS (\$1.45) to 13.53 GHS (\$1.56) (WageIndicator, 2022). However, the minimum wage is still considered too low despite all respondents earning more than the minimum wage. Both farm owners and farm workers struggle to cover their living costs (17KI; 18MFO&LFW; 27MFO; 28SFO; 30MFW; 35FW; 36OFW; 40FW; 41IFW). Some respondents feel that they work more than they are paid (30MFW; 35FW). Factory workers have been promised raised wages by the management but it has yet to occur (35FW). At this factory, it is possible to borrow money at the end of the month and they deduct it from the following salary without any interest rates. This puts workers in constant debt to the company as the same will happen the following month. To be able to cover living costs, factory worker 40FW works as a farm worker on family farms alongside their full-time permanent employment at a factory.

Lewis (1954) argues that the capitalist sector, the factories in this context, can employ labor at a higher wage rate due to their higher productivity. However, the wages at factories in the Volta and Ashanti regions are lower than the wages at family farms but they can be considered a steadier source of income (09MFW; 36OFW). However, factories struggle to pay their workers on time, which is not a problem for farm owners. As the inflow of revenues to factories is

delayed, so is the payment to their workers. Workers are not compensated but asked for understanding and patience (11IFW; OFW; 36OFW; 40FW). Farmworker 09MFW prefers working for family farms because of the daily payment, which also accumulates to a higher monthly income.

Depending on the community or which factory the salary is calculated differently. There are five main ways of determining payments: per area covered, per day, per quantity, other compensation, or a seasonal agreement. In the Volta region, it is common for farm workers to be paid for the amount of land they have covered. To weed or plant one acre is worth between 120 GHS (\$14) and 200 GHS (\$23). These jobs can be taken on by several farm workers and they share the workload and they pay for it (01SFO; 06MFW; 07KI&MFO; 10LFO; 12OFW; 20SFO). For smaller jobs that require only one person, it is measured by meter square, amount of lines, or the length of an arm stretch. The farmers in the Ashanti region mainly pay their farm workers per day and time they work. This occurs in the Volta region as well but at a lower rate, a day of work (10 hours) translates to 15-30 GHS (\$1.7-3.6) (13LFO; 14MFO). The rates are slightly higher in the Ashanti region, one day of work is worth between 25-50 GHS (\$2.9-5.8). Unless the work is done for a factory, where the pay can be as low as 15 GHS (\$1.7) (35FW), in the harvesting or processing stages, farm workers can be paid per quantity. One full tricycle of uprooted cassava equals 50 GHS (\$5.8) (13LFO; 37OFW&LFO). One pan of roasted cassava is 10 GHS (\$1.2), which takes about five hours to do (26FW). It occurs that farm workers are given other compensations. Farm owner 13LFO pays their workers partly with money but also with the peel from the cassava to feed their animals. Farm owner 03MFO pays their female farm workers solely with produce. They would rather be paid in produce than in money as the money would be used to buy food anyway.

In some places, there is no difference in the work women and men do or the payment they receive (15SFO; 16LFW; 20SFO; 21SFO; 33MFO). In other places, the work of men is considered to be heavier and therefore worth more money. Men can earn 9-20 percent more than women (03MFO; 06MFW; 23LFO; 22SFO; 27MFO; 28SFO; 29MFO; 30MFW). Male farm workers often engage in weeding or uprooting activities that require more physical strength while women are often found planting or peeling the cassava (23LFO; 37OFW&LFO). According to both Ouma (2018) and Torvikey (2021), the division of labor between men and women is a way for companies to prevent solidarity and unison between workers. However, the division of labor between men in women are said to be because of difference in physical

strength in the Volta and Ashanti regions. This can be translated to a lack of solidarity and unison.

6.3.3 Job Security

Permanent workers generally earn less than casual workers due to their job security (09MFW; 31KI; 35FW; 36OFW). However, permanent factory workers that are paid monthly based on how many days they have worked can be sent home from work if there is nothing to do. They come to the factory each morning but if it occurs that there is no work, they are sent home (11IFW; 25FW; 35FW; 36OFW; 39FW). This contributes to the job insecurity of factory workers and creates fluctuations in their salaries. Job availability can be related to seasonal factors. During the dry season, there is less cassava and less work. During the rainy season, there is an abundance of cassava and it is rare workers are sent home (35FW).

Factory worker 25FW worked at a factory with a monthly contract based on the number of days worked. He came to work every morning but at times had to wait long until a load of cassava arrived for him to do his job as a loader. One day the workers were sent home and told the factory had to close down for a couple of days because of Covid-19. It has now been a year and the workers still have not been able to resume work. Today, he learned that the machine was broken and that it was not because of Covid-19 the production was halted. Most of the workers gave up the wait to be able to resume work and now work as casual workers at family farms instead.

On the other hand, casual farm workers working on family farms find it easy to find jobs due to the scarcity of casual farm workers mentioned earlier. 29MFO offers housing to his workers to secure their work because the workers will then prioritize working for their host. However, it is not a secure income since it lacks a permanent contract and thereby lacks social security (FAO, ILO & IUF, 2007).

6.3.4 Working Hours

Working on the farm is not only exhausting because of the physical work but also because of the heat. Most farm workers, therefore, start early in the morning around 6-8 am, and close during the hottest hours around midday (24SFO; 27MFO; 28SFO; 29MFO; 31KI). After a

break and lunch, some workers resume in the afternoon until 5-6 pm (09MFW; 16LFW; 20SFO; 27MFO; 30MFW). Farm owners work between 4-10 hours per day depending on if they work both morning and afternoon or not. Waged agricultural workers work between 3-14 hours. There is no evident difference in total working hours between farm workers working at family farms and factory workers. The ones working at family farms often have a break around midday.

6.3.5 Health & Safety

The most common injuries on the farms are snake and scorpion bites. Wearing boots when working on the farm is therefore the most important safety aspect (12OFW; 13LFO; 29MFO; 32MFO). Despite the lack of health insurance for farm workers, farm owners and factory owners agree that they bear the cost if any of their workers got injured while working on their farm (01SFO; 02SFO; 04MFO; 07KI&MFO; 10LFO; 12OFW; 13LFO; 14MFO; 23LFO; 24SFO; 27MFO; 29MFO; 32MFO; 36OFW). Some even claim to pay their lost salary (12OFW; 14MFO; 23LFO). At the factory of 36OFW permanent workers are given 100 percent of their pay while casual workers receive 50 percent. However, workers do not agree. The health care costs can be shared between the worker and the employer (31KI) or shared between the injured worker and their friends and family (18MFO&LFW). 30MFW claims the employer does not cover any costs while 25FW does not know how it is handled. 26FW explains how the workers at the factory chew cassava leaves and apply them to the wound when someone starts to bleed. 11IFW explains that you become replaced and lose your job if you become hospitalized. This indicates that there is no system in place in case a worker gets injured.

As a result of increased access to technology and agricultural transformation, the use of pesticides has become more common. Farm workers, therefore, spray farmlands with pesticides that are not healthy for the skin. The chemical can create rashes and irritation to the skin. To avoid this appropriate clothes are required, which is seen to be the responsibility of the casual worker (31KI).

6.3.6 Unions

It is common among farm owners to be members of associations (02SFO; 02MFO; 05MFO; 07KI&MFO; 10LFO; 12OFW; 18MFO&LFW; 22SFO; 23LFO; 24SFO; 29MFO; 32MFO; 36OFW; 37OFW&LFO). The purpose of the associations is often to share advice and provide training to farmers (12OFW; 22SFO; 23LFO; 36OFW). There are also associations in the Volta region where the members pay a fee each week and members can borrow money from the association if needed, with a small interest rate. At the end of each six months, the money in the association is distributed among the members (03MFO; 02SFO; 07KI&MFO). Due to the high frequency of burning farmlands, farmers have also come together to form fire committees to prevent and kill fires (29MFO). Farm workers and factory workers on the other hand are not part of unions or associations (11IFW; 25FW; 26FW; 30MFW; 06MFW). This suggests that farm owners are mobilized to help each other in terms of advice and money but farm workers and factory workers do not have anywhere to turn or learn about their rights.

6.4 Household Structures

The majority of farm and factory workers do not depend on their employers for housing. However, along with the commercialization of the agricultural sector in the Volta and Ashanti region, new housing arrangements are being introduced to workers to attract labor coming from outside. Farm owner 29MFO provides his permanent workers from the northern part of Ghana with accommodation in exchange for one day of work on his farm. He has this arrangement to secure their work. A company provides accommodation for their factory and farm workers for free but they have to pay the utility bills (35FW; 36OFW). Another factory assists workers in finding accommodation and pay for the first rent, which is then deducted from their first salary (37OFW&LFO; 38OFW).

In the households of farmers, there is often a clear division of labor between men and women. Men do more farm work (14MFO; 18MFO&LFW; 21SFO; 30MFW). In general, women work more than men when housework is accounted for as well (08SFO; 15SFO; 26FW). Women do the housework as well as bring food for the farm workers on the farm (05MFO; 16LFW; 21SFO). In some households, there is an uneven division of labor where the women do the

housework as well as the farm work while the men sit at home and are catered for (01SFO; 11IFW).

6.5 COVID-19

The Covid-19 pandemic has not been detrimental to the studied communities but has had some impact. Farmers in the Volta region experienced a fall in demand for cassava as the economy went down (07KI&MFO; 08SFO; 10LFO). Factories that employ migrant workers experienced a shortage of staff as many moved back home during the outbreak (07KI&MFO; 12OFW; 26OFW; 38OFW). This resulted in one factory employing external labor at a higher cost which increased their production costs and affected their economy (36OFW). Workers have started to return but the inflow is not as large as before (12OFW; 38OFW). One factory has canceled its staff meetings due to the restrictions on gatherings (12OFW).

6.6 Migration

The future of the children of farmers in the Volta and Ashanti region will look different from that of their parents. Due to the hardships, many farmers have endured they do not wish for their children to work in agriculture when they grow up (01SFO; 04MFO; 29MFO; 36OFW). The education levels of children in the Volta and Ashanti regions are exceeding those of their parents which gives them more opportunities. More children are being educated partly because of the free basic education and some are also able to receive higher education due to the increased incomes of their parents from farming (21SFO; 27MFO; 31KI). This results in more children looking for jobs outside of farming because there is a mentality that educated people should move outside of farming and pursue better jobs (07KI&MFO; 24SFO; 31KI; 34LFW&FW; 36OFW; Diao et al., 2019a, p.173; World Bank, 2007, pp.202, 216). Some children of farmers move to bigger cities to work in the service sector (03MFO; 04MFO; 07KI&MFO; 08SFO; 15SFO; 17KI; 25FW; 32MFO). Cattaneo and Robinson (2019) argue that the magnitude of migration is related to the level of development of a country. At the initial stages of development rural-rural development is more common but as a country continues to develop rural-urban migration increases. The migration of the children of farmers to cities in

search of jobs outside of farming is therefore seen as an indicator of an ongoing process of development in Ghana.

However, some farmers see great potential in farming as the agricultural sector transforms (17KI; 19KI; 23LFO; 31KI). Studying agriculture at the university level is one way of contributing to increased productivity (23LFO). They wish for their children to work as farmers if their work is less manual and more mechanized (29MFO; 32MFO; 34LFW&FW; 36OFW). This way farming can generate more money than a job in the service sector (17KI).

Children of farmers moving to urban areas to pursue careers outside of farming contribute to the labor scarcity on the farms in the Volta and Ashanti regions (02SFO; 07KI&MFO; 25FW; 27MFO). As a result, rural-rural migration increased as workers from outside the communities come to work on the farms. These are workers from other districts in Ghana and migrant workers coming from poorer rural areas in the Northern region of Ghana or Togo. Migrant workers are already common on the farms in Volta and Ashanti region and there is an expectation that the inflow will increase over the years to come (02SFO; 06MFW; 07KI&MFO; 09MFW; 14MFO; 16LFW; 19KI; 20SFO; 24SFO; 25FW; 27MFO; 28SFO; 29MFO; 30MFW; 31KI; 32MFO; 35FW). Reconsidering Cattaneo and Robinson (2019), as a result of the rural-urban migration the rural-rural migration has increased, which they did not discuss.

The migration from Northern Ghana began about 20 years ago and it is expected that it is mainly those that will continue to come (02SFO; 24SFO; 25FW; 30MFW; 31KI; 32MFO; 35FW). It is expected to be a mix of workers that come to settle permanently because of the higher living standards while others continue to come temporarily (07KI&MFO; 09MFW; 25FW; 30MFW). It is still expected that the local population will own their lands but manage them from the more urbanized cities. Most migrant workers will thereby remain waged farm or factory workers (13LFO; 19KI; 27MFO).

6.7 Discussion

Agricultural labor structures in the Volta and Ashanti regions have been affected by agricultural transformation through commercialization of the agricultural sector, growing farm sizes, and increased levels of education. This has resulted in an increased demand for labor and thereby increased levels of migrant workers.

Timmer (2009, 2016) argues that a way of increasing livelihoods of people living in rural areas is through agricultural transformation. One way of doing this is through farm size expansion, which is evident in both the Volta and Ashanti region, which also creates new employment possibilities. However, Timmer also emphasizes the importance of adequate government policies which can be exemplified with the 1F1D policy, that has contributed to the commercialization of the agricultural sector and provided more jobs and the FCUBE policy that has increased the level of education in the areas. The commercialization has diversified agricultural labor by introducing new types of jobs in factories. Mellor (1986) highlights the importance of technology adoption in the process of agricultural transformation to be able to expand farm sizes and increase productivity. This which is also evident in the Volta and Ashanti regions and farmers experience an increase in access to technology. They believe this can displace labor but at the same time enables farm size expansion because of the increased productivity. The increased farm sizes increase the demand for labor. However, the increased use of technology does not require more skilled labor yet. This explains the low wages in the agricultural sector as low-skilled labor is often associated with lower wages (World Bank, 2007, p.202).

As a result of the ongoing agricultural transformation in the Volta and Ashanti regions there is an increased demand for agricultural labor which has made the employment of casual labor more common. This labor force consists of migrant workers or local farm workers but not family members. This is not consistent with the study of the rural economy in Ghana by Asamoah (2001) who found that the majority of farm workers are family members. The perception in the Volta and Ashanti regions is that both farm sizes and migration began to increase around 20 years ago. This points to the agricultural transformation being initiated shortly after Asamoah's study and the labor structures have then shifted from consisting of family members working on the farms to migrant labor working on the farms.

The increase in migrant labor is a result of an increase in demand for labor in the regions because of three reasons; commercialization of the agricultural sector, increasing farm sizes, and rural-urban migration. The rural-urban migration is explained further by Cattaneo and Robinson (2019), as levels of education increase, rural-urban migration occurs as people look for better jobs outside of the agricultural sector. Which is evident in the Volta and Ashanti region. This local labor is then displaced by migrant labor.

7 Conclusion

There is an ongoing agricultural transformation in Ghana with increasing farm sizes, increased agricultural productivity, mechanization of production, and high levels of commercialization (Diao et al., 2019b; Yaro et al., 2021). Agricultural workers are among the most disadvantaged workers as well as they are a distinct occupational group. Half of the national workforce is employed in the agricultural sector in Ghana (Diao & Hazell, 2019; Opoku & Glazebrook, 2018). As these workers make up a substantial share of the workforce in developing countries, the recognition of these workers and their role in the process of economic growth is vital for sustainable economic growth to persist (FAO, ILO & IUF, 2007; World Bank, 2007, p.207).

The study explores how agricultural transformation has affected agricultural labor structures. This contributes to the economic discussion by interlinking an ongoing process of agricultural transformation with local changes in the agricultural labor structures in the Volta and Ashanti regions in Ghana.

The study finds that the agricultural transformation has affected labor structures in various ways. Mainly through increased demand for labor and new employment opportunities through commercialization. The farm sizes in the Volta and Ashanti region in Ghana began to expand 10-20 years ago and the cultivation of cassava has continued to play a big role in this aspect of agricultural transformation. The increased use of technology has been the main reason for the area expansions. The farm size expansions have increased the demand for labor and created more job opportunities in both regions. There is also an increased presence of cassava-processing companies in the regions which contributes to further demand for labor and creates new types of job opportunities. Casual work is the most common type of employment on farms and in factories, which deprives workers of job security and formal written contracts. Moreover, the wages for farm and factory workers are close to the national minimum wage, which is not sufficient to cover standard living costs. Factories struggle to pay their workers on time due to their revenues being delayed. This puts factory workers in difficult financial situations.

Migrant labor is becoming more common in the Volta and Ashanti region as a result of the labor scarcity in the agricultural sector. Migrant workers originate from Northern Ghana and

Togo and settle in Southern Ghana because of increased job opportunities and better livelihoods or they come temporarily to earn money. Rural-rural migration is therefore increased as a result of agricultural transformation.

The introduction of free basic education in a combination with increased incomes has increased education levels among the children of farmers. As the education levels rise more people move to the bigger cities to look for jobs outside of farming. The rural-urban migration is thereby increased as a result of economic development in the regions. However, children of farmers moving to urban areas to pursue careers outside of farming contribute to the labor scarcity on the farms in the Volta and Ashanti regions. As a result, rural-rural migration is further increased as workers from outside the communities come to work on the farms. Migrant workers are already common on the farms in Volta and Ashanti region and there is an expectation that the inflow will increase over the years to come.

The prominent rural-rural migration points to the agricultural transformation and its effect on labor structures in the Volta and Ashanti regions has effects in Northern Ghana and Togo as well. This is a topic to be researched further to facilitate an even deeper understanding of how labor structures change as a result of agricultural transformation. Moreover, the underlying reasons why wages are lower in factories than on family farms is another topic that requires more research.

References

- 1D1F. (2020). About Us, Available Online: <https://1d1f.gov.gh/about-us/> [Accessed 24 May 2022].
- ACET. (2021). African Transformation Report 2021: Integrating to Transform, Accra, Washington DC.
- Acheampong, P. P., Danquah, E. O., Agyeman, K., Dankwa, K. O. & Addison, M. (2021). Research and Development for Improved Cassava Varieties in Ghana: Farmers' Adoption and Effects on Livelihoods, in *Cassava - Biology, Production, and Use*, [e-book] IntechOpen, Available Online: <https://www.intechopen.com/books/cassava-biology-production-and-use/research-and-development-for-improved-cassava-varieties-in-ghana-farmers-adoption-and-effects-on-liv>.
- Adelman, I. (1984). Beyond Export-Led Growth, *World Development*, vol. 12, no. 9, pp.937–949.
- AGRA. (2017). Africa Agriculture Status Report 2017: The Business of Smallholder Agriculture in Sub-Saharan Africa, Nairobi, Kenya.
- Alston, J. M. & Pardey, P. G. (2014). Agriculture in the Global Economy, *Journal of Economic Perspectives*, vol. 28, no. 1, pp.121–146.
- Amanor, K. S., Yaro, J. A. & Teye, J. K. (2020). Long-Term Change and Agricultural Commercialisation in Ghanaian Cocoa, 31.
- Andoh, P. K. (2010). Socio-Economic Relevance of Cassava to Rural Peasant Farmers in the Awutu-Effutu-Senya and Atebubu-Amantin Districts of Ghana, *Ghana Journal of Development Studies*, [e-journal] vol. 7, no. 2, Available Online: <https://www.golder.com/insights/block-caving-a-viable-alternative/>.
- Asamoah, A. (2001). Depeasantization of Africa's Rural Economies: The Ghanaian Experience, Accra: Woeli Publishing Services.
- Austin, G. (2005). Labor Land and Capital in Ghana: From Slavery to Free Labour in Asante (1807-1956), Woodbridge: Boydell and Brewer Ltd.
- Bazeley, P. & Jackson, K. (2014). Qualitative Analysis with NVivo, 2nd edn, London: SAGE.
- Beals, R. E. & Menezes, C. F. (1970). Migrant Labour and Agricultural Output in Ghana, *Oxford Economic Papers*, vol. 22, no. 1, pp.109–127.
- Berry, S. S. (1984). The Food Crisis and Agrarian Change in Africa: A Review Essay, *African Studies Review*, vol. 27, no. 2, pp.59–112.
- Boafo-Arthur, K. (1999). Structural Adjustment, Democratization, and the Politics of Continuity, *African Studies Review*, vol. 42, no. 2, pp.41–72.
- Boserup, E. (1965). The Conditions of Agricultural Growth, Chicago: Aldine.

- Cattaneo, A. & Robinson, S. (2019). Economic Development and the Evolution of Internal Migration: Moving in Steps, Returnees, and Gender Differences, 19–03, *FAO Agricultural Development Economics Working Paper*, Rome.
- Coverghana.com.gh. (2022). What Is FCUBE: When Was FCUBE Introduced: Who Introduced FCUBE: When Was FCUBE First Implemented: Objectives of FCUBE, *Buzz*, Available Online: <https://coverghana.com.gh/what-is-fcube-when-was-fcube-introduced-who-introduced-fcube-when-was-fcube-first-implemented-objectives-of-fcube/> [Accessed 15 August 2022].
- Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative, and Mixed Methods Approach*, Los Angeles: SAGE.
- de Brauw, A. & Bulte, E. (2021). *African Farmers, Value Chains and Agricultural Development: An Economic and Institutional Perspective*, Palgrave Macmillan.
- Diao, X., Fang, P., Magalhaes, E., Pahl, S. & Silver, J. (2019a). Cities and Rural Transformation: A Spatial Analysis of Rural Youth Livelihoods in Ghana, in V. Mueller & J. Thurlow (eds), *Youth and Jobs in Rural Africa: Beyond Stylized Facts*, Oxford: Oxford University Press, pp.172–206.
- Diao, X. & Hazell, P. (2019). Ghana's Economy-Wide Transformation: Past Patterns and Future Prospects, in X. Diao, P. Hazell, S. Kolavalli, & D. Resnick (eds), *Ghana's Economic and Agricultural Transformation: Past Performance and Future Prospects*, New York: Oxford University Press.
- Diao, X., Hazell, P., Kolavalli, S. & Resnick, D. (2019b). *Ghana's Economic and Agricultural Transformation: Past Performance and Future Prospects*, 1st edn, Oxford: Oxford University Press.
- FAO. (2016). *The State of Food and Agriculture: Climate Change, Agriculture and Food Security*.
- FAO & IFAD. (2000). *The World Cassava Economy: Facts, Trends and Outlook*, Rome: FAO/IFAD.
- FAO, IFAD, IOM & WFP. (2018). *The Linkages between Migration, Agriculture, Food Security and Rural Development*, Rome, Available Online: <http://www.fao.org/3/CA0922EN/CA0922EN.pdf>.
- FAO, ILO & IUF. (2007). *Agricultural Workers and Their Contribution To Sustainable Agriculture and Rural Development*.
- FAOSTAT. (2022). *Crops and Livestock Products*.
- Flick, U. (2009). *An Introduction to Qualitative Research*, 4th edn, Gosport: SAGE.
- Giovanni, F. (2008). *Feeding the World, An Economic History of Agriculture 1800-2000*, PUP.
- Government of Ghana, ICI, ILO & Unicef. (2017). *National Plan of Action Phase II (NPA2): For the Elimination of the Worst Forms of Child Labour in Ghana (2017-2021)*.
- Green, E. (2008). Diversification or De-Agrarianization? Income Diversification, Labor, and Processes of Agrarian Change in Southern and Northern Malawi, Mid-1930s to Mid-1950s, *Agricultural History*, vol. 82, no. 2, pp.164–192.
- Hazell, P., Diao, X. & Magalhaes, E. (2019). *Ghana's Agricultural Transformation: Past*

- Patterns and Sources of Change, in X. Diao, P. Hazell, S. Kolavalli, & D. Resnick (eds), *Ghana's Economic and Agricultural Transformation*, Oxford: Oxford University Press, pp.97–120.
- Holmén, H. (2005). The State and Agricultural Intensification in Sub-Saharan Africa, in G. Djurfeldt, H. Holmén, M. Jirstrom, & R. Larsson (eds), *The African Food Crisis*, Wallingford: CABI Publishing, pp.87–112.
- IITA. (1996). Biocontrol of Cassava Green Mite Gives African Farmers a Bonanza.
- ILO & Unicef. (2020). Child Labour: Global Estimates 2020, Trends and the Road Forward, *Executive Summary*.
- Jayne, T. S., Chamberlin, J., Traub, L., Sitko, N., Muyanga, M., Yeboah, F. K., Anseeuw, W., Chapoto, A., Wineman, A., Nkonde, C. & Kachule, R. (2016). Africa's Changing Farm Size Distribution Patterns: The Rise of Medium-Scale Farms, *Agricultural Economics*, vol. 47, pp.197–214.
- Jayne, T. S. & Sanchez, P. A. (2021). Crop Yields on Existing Farmland, *Policy Forum*, vol. 372, no. 6546, pp.1045–1048.
- Johnston, B. B. F. & Mellor, J. W. (1961). American Economic Association The Role of Agriculture in Economic Development, *The American Economic Review*, vol. 51, no. 4, pp.566–593.
- Johnston, B. & Kilby, P. (1975). *Agriculture and Structural Transformation: Economic Strategies in Late-Developing Countries*, New York: Oxford University Press.
- Kofi, T. (1977). Peasants and Economic Development : Populist Lessons for Africa, *African Studies Review*, vol. 20, no. 3, pp.91–119.
- Kolavalli, S. (2019). Developing Agricultural Value Chains, in X. Diao, P. Hazell, S. Kolavalli, & D. Resnick (eds), *Ghana's Economic and Agricultural Transformation: Past Performance and Future Prospects*, Oxford: Oxford University Press.
- Kolavalli, S. & Vigneri, M. (2011). Cocoa in Ghana : Shaping the Success of an Economy, in P. Cuhán-Pole & M. Angwafo (eds), *Yes Africa Can: Success Stories from a Dynamic Continent*, [e-book] Washington DC: World Bank, pp.201–217, Available Online: http://books.google.dk/books?id=4LlaYqIyAWAC&pg=PA201&lpg=PA201&dq=chapter+12+cocoa+in+ghana&source=bl&ots=DTCxH1iE9x&sig=fFiYp0zRfJvjDsliB1yXIWx8UfA&hl=no&sa=X&ei=C4_vU7OxE4PuyQPG2YLoDw&ved=0CCwQ6AEwAQ#v=onepage&q=chapter 12 cocoa in ghana&f=false.
- Lenin, V. (1982). The Differentiation of Peasantry, in J. Hariss (ed.), *Rural Development: Theories of Peasant Economy and Agrarian Change*, London: Hutchinson & Co.
- Lewis, A. (1954). Economic Development with Unlimited Supplies of Labour, *The Manchester School*, vol. 22, p.139.
- Lewis, J. & McNaughton Nicholls, C. (2014). Design Issues, in J. Ritchie, J. Lewis, J. McNaughton Nicholls, & R. Ormston (eds), *Qualitative Research Practice*, 2nd edn, Croydon: SAGE, pp.47–76.
- Lewis, J., Ritchie, J., Ormston, R. & Morrell, G. (2014). Generalising from Qualitative Research, in J. Ritchie, J. Lewis, C. McNaughton Nicholls, & R. Ormston (eds), *Qualitative Research Practice*, 2nd edn, Croydon: SAGE.
- Losch, B., Freguin-Gresh, S. & White, E. T. (2012). Structural Transformation and Rural

- Change Revisited: Challenges for Late Developing Countries in a Globalizing World, [e-book] Washington DC: Agence Française de Développement / the World Bank, Available Online:
<https://openknowledge.worldbank.org/bitstream/handle/10986/12482/709850PUB0EPI0070063B09780821395127.pdf?sequence=1&isAllowed=y>.
- Mellor, J. W. (1986). Agriculture on the Road to Industrialization, in J. Lewis & V. Kallab (eds), *Development Strategies Reconsidered*, New Brunswick: Transaction Books.
- Mellor, J. W. (1995). Agriculture on the Road to Industrialization, London: The Johns Hopkins University Press.
- MoFA. (n.d.). Cassava Development in Ghana: A Country Case Study.
- MoFA. (2021a). Volta Region, Available Online:
<https://mofa.gov.gh/site/directorates/regional-directorates/volta-region> [Accessed 13 May 2022].
- MoFA. (2021b). Ashanti Region.
- OECD & FAO. (2021). OECD-FAO Agricultural Outlook 2021–2030, *OECD-FAO Agricultural Outlook 2021–2030*, [e-book] Paris: OECD Publishing, Available Online:
<http://dx.doi.org/10.1787/agr-outl-data-%0Ahttp://www.fao.org/documents/card/en/c/cb5332en>.
- Opoku, E. & Glazebrook, T. (2018). Gender, Agriculture, and Climate Policy in Ghana, *Environmental Ethics*, vol. 40, no. 4, pp.371–387.
- Ormston, R., Spences, L., Barnard, M. & Snape, D. (2014). The Foundations of Qualitative Research, in J. Ritchie, C. McNaughton Nicholls, & R. Ormston (eds), *Qualitative Research Practice*, 2nd edn, Croydon: SAGE, pp.1–23.
- Ouma, K. (2018). Land and Labour: The Micropolitics of Resource Grabbing in Kenya, Turku: Painosalama.
- Perkins, D. H., Radelet, S., Lindauer, D. L. & Block, S. A. (2013). Economics of Development, 7th edn, W. W. Norton & Company.
- Ranis, G. & Fei, J. C. H. (1961). A Theory of Economic Development, *American Economic Review*, vol. 51, no. 4, pp.533–565.
- Rhone Till, E. & Andersson, M. (2017). Between the Engine and the Fifth Wheel: An Analytical Survey of the Shifting Roles of Agriculture in Development Theory, 163, *Lund Papers in Economic History: Development Economics*.
- Rodrik, D. (2018). An African Growth Miracle?, *Journal of African Economies*, vol. 27, no. 1, pp.10–27.
- Rostow, W. . (1956). The Take-Off into Self-Sustaining Growth, *Economic Journal*, vol. 66, no. 3, pp.25–48.
- Shanin, T. (1982). Polarization and Cyclical Mobility: The Russian Debate over the Differentiation of the Peasantry, in J. Harriss (ed.), *Rural Development: Theories of Peasant Economy and Agrarian Change*, London: Hutchinson & Co.
- Suri, T. (2011). Selection and Comparative Advantage in Technology Adoption, *Econometrica*, vol. 79, no. 1, pp.159–209.

- Timmer, P. (1988). The Agricultural Transformation, in H. Chenery & T. N. Srinivasan (eds), *Handbook of Development Economics*, Vol. 1, Elsevier Science Publishers B.V, pp.276–331.
- Timmer, P. (2009). *A World without Agriculture: The Structural Transformation in Historical Perspective*, Helsinki: UNU-Wider.
- Timmer, P. (2016). The Role of Agriculture in ‘Catching Up’, in M. Andersson & T. Axelsson (eds), *Diverse Development Paths and Structural Transformation in the Escape from Poverty*, New York: Oxford University Press.
- Tonah, S. (2006). The Presidential Special Initiative on Cassava: A Bane or Blessing to Ghana’s Smallholder Farmers, *Ghana Journal of Development Studies*, vol. 3, no. 1.
- Torvikey, G. D. (2021). Reclaiming Our Land and Labour: Women’s Resistance to Extractivist Agriculture in Southeastern Ghana, *Feminist Africa*, vol. 2, no. 1, pp.49–70.
- WageIndicator. (2022). Minimum Wage Updated in Ghana from 01 January 2022 - January 11, 2022, Available Online: <https://wageindicator.org/salary/minimum-wage/minimum-wages-news/2022/minimum-wage-updated-in-ghana-from-01-january-2022-january-11-2022> [Accessed 3 August 2022].
- World Bank. (2007). *World Development Report 2008 : Agriculture for Development*, Washington, D.C.
- World Bank. (2021). *World Development Indicators (WDI)*, Available Online: <https://databank.worldbank.org/source/world-development-indicators>.
- World Bank. (2022). *World Development Indicators (WDI)*.
- Yaro, J. A., Wahab, I., Afful-Mensah, G. & Awenam, M. Ben. (2021). The Drivers of Medium-Scale Farms and The Emerging Synergies and Contradictions Among Socially Differentiated Farmers in Northern Ghana, 71.
- Yeo, A., Legard, R., Keegan, J., Ward, K., McNaughton Nicholls, C. & Lewis, J. (2014). In-Depth Interviews, in J. Ritchie, J. Lewis, C. McNaughton Nicholls, & R. Ormston (eds), *Qualitative Research Practice*, 2nd edn, Croydon: SAGE, pp.177–210.
- Yin, R. (2018). *Case Study Research and Applications*, 6th edn, California: SAGE.

Appendix A: List of Participants

Interview Reference	District	Notes	Date
Volta Region			
01SFO	Ho Municipal	Farm / Shop owner	Feb. 21. 2022
02SFO	Ho Municipal	Farm owner	Feb. 21. 2022
03MFO	Ho Municipal	Farm owner	Feb. 22. 2022
04MFO	Ho Municipal	Farm owner	Feb. 22. 2022
05MFO	Ho Municipal	Farm owner	Feb. 22. 2022
06MFW	Ho Municipal	Farmworker	Feb. 22. 2022
07KI & MFO	Ho Municipal	Farm owner / Key informant	Feb. 22. 2022
08SFO	Ho Municipal	Farm owner	Feb. 23. 2022
09MFW	Ho Municipal	Farmworker	Feb. 23. 2022
10LFO	Ho Municipal	Farm owner	Feb. 23. 2022
11IFW	Ho Municipal	Farm worker	Feb. 23. 2022
12OFW	Ho Municipal	HR director	Feb. 23. 2022
39FW	Ho Municipal	Factory security personnel	Mar. 1. 2022
40FW	Ho Municipal	Factory security personnel	Mar. 2. 2022
13LFO	Central Tongu	Farm owner	Feb. 24. 2022
14MFO	Central Tongu	Farm owner	Feb. 24. 2022
15SFO	Central Tongu	Farm owner	Feb. 24. 2022
16LFW	Central Tongu	Farm worker	Feb. 24. 2022
17KI	Central Tongu	Agricultural Extension Officer	Feb. 24. 2022
18MFO, LFW	Central Tongu	Farm worker	Feb. 24. 2022
19KI	Central Tongu	Department of Agriculture	Feb. 25. 2022
20SFO	Central Tongu	Farm owner	Feb. 25. 2022
Ashanti Region			
21SFO	Sekyere Central	Farm owner	Mar. 9. 2022
22SFO	Sekyere Central	Farm owner	Mar. 9. 2022
23LFO	Sekyere Central	Farm owner/ Chairman association	Mar. 9. 2022
24SFO	Sekyere Central	Farm owner	Mar. 9. 2022
25FW	Sekyere Central	Factory worker / farm owner	Mar. 9. 2022
26FW	Sekyere Central	Processor	Mar. 9. 2022
27MFO	Sekyere Central	Farm owner	Mar. 10. 2022
28SFO	Sekyere Central	Farm owner	Mar. 10. 2022
29MFO	Sekyere Central	Farm owner	Mar. 10. 2022
30MFW	Sekyere Central	Farm worker	Mar. 10. 2022
41IFW	Sekyere Central	Factory farm worker	Feb. 24. 2022
31KI	Mampong Municipal	Agricultural Extension Officer	Mar. 11. 2022

32MFO	Mampong Municipal	Farm owner	Mar. 11. 2022
33MFO	Mampong Municipal	Farm owner	Mar. 11. 2022
34LFW & FW	Mampong Municipal	Contractor	Mar. 11. 2022
35FW	Mampong Municipal	Factory worker	Mar. 11. 2022
36OFW	Mampong Municipal	Manager factory	Mar. 11. 2022
37OFW & LFO	Mampong Municipal	Outgrower & factory manager	Mar. 11. 2022
38OFW	Mampong Municipal	Factory supervisor	Mar. 11. 2022
<p><i>Notes: SFO – Small-scale farm owner, MFO – Medium-sized farm owner, LFO – Large-scale farm owner, KI – Key informant, LFW – Local farm worker, MFW – Migrant farm worker, IFW – Industrial farm worker, FW – Factory worker, OFW – Office factory worker.</i></p>			

Appendix B: Example of Contract



22nd December, 2021



PROBATION LETTER

I am glad to inform you on behalf of the Board that you have been appointed as a **Processor** at [REDACTED]

Your monthly Basic salary would be **GH¢700.00** (Seven Hundred Ghana cedis). You will serve six (6) month probation, after which your appointment would be confirmed or otherwise, depending on the quality of services discharged.

Your probation takes effect from **1st November 2021** and you are to resume work at **7 am** every day when on duty and close at **5 pm**.

On resumption, you are to report to the Administration Department for the necessary forms for your medical examination and with your referees' letters. Please further note that the In-charge reserves the right to change your posting and duty schedule.

We will calculate and deduct statutory deductions (**PAYE, SSNIT**) for you at source. Your salary is payable by direct deposit at [REDACTED]. Therefore, we urge you to open an account with the [REDACTED]

Kindly read through and sign the attached pledge sheet to be personally submitted to the Administration Department as an indication of acceptance of the appointment.

May God bless you as you decide to work in this special organization.

Accept our congratulations.

For the Board:



Copy: personal file