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Employment Potential of the Food and Beverage Sector in Ghana

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Abstract

In Ghana, the agro-processing subsector plays a fundamental role in the generation of income and employment for a considerable number of households. The employment growth in the sector has been much faster than that of farming. Although the current direct employment effects might be relatively small, the indirect and induced effects on job creation are expected to grow in the future. Therefore, to fully leverage its potential for development, requires a planned investment. This study aimed at understanding the food and beverage sector by exploring the qualitative and quantitative dimensions of the sector. It ascertains how investments and other interventions in the sector influence the quantity, quality and inclusiveness of jobs created. The study identified training as one area that needs emphasis. Some of the strategies for ensuring growth were adequate employee training to ensure the production of quality products, compliance with standards and regulations, and the development and application of innovations to enhance competitiveness. In terms of production structure, manual production was costly as it is time-consuming and inefficient leading to delays in meeting production targets. This implies that introduction of machinery will improve efficiency. This could create more employment due to increased production capacity while demand for high skilled labour could increase as companies grow. Limitations identified include frequent breakdowns, inadequate funds to acquire good quality machines, limited space for machine installation and lack of qualified personnel to operate and maintain the machines. The review shows that the supply chain for most of the firms was largely informal making quality assurance for raw materials and other inputs quite difficult. The strategy for most firms was to work with a few suppliers, trained by the firms, to produce raw materials and other inputs to their specifications. This will help beef up one of the firms' main challenge of limited availability of skilled labor.

Introduction

Agro-processing industry, broadly understood in this paper as post-harvest activities involved in the transformation, preservation and preparation of agricultural production for intermediary or final consumption. It is increasingly becoming more important, relative to agriculture and occupies a dominant position in manufacturing. The agro processing sector has been touted as a sunrise sector with the potential to create employment, especially in agro based economies. While agro processing may be defined by various organizations, this paper refers to agro-processing as the means by which value is added to food produced from the farm sector. This involves the processing of agriculture commodities into a refined product to be sold on the market. Agro-processing vary from simple preservation operations to a more complex and sophisticated method of processing (FAO, 1997). Agro-processing is an essential part of agriculture and it mainly dominated by small and medium scale firms who operate in the informal sector of Ghana. This value-added method can put into two main categories. The domestic processing method and the factory processing method (Quartey and Darkwa, 2015). In Ghana, female workers who are predominantly illiterate dominate the domestic processing activities. They have no formal training and their skills in the method of processing are acquired mostly through apprenticeship

In most cases, the domestic processing produces outputs of variable quality. However, these small-scale units are able to create employment opportunities and make use of local resources. However, the factory processing method are mostly foreign-owned or state-owned with the capacity to process large quantities of raw materials and can contribute significantly to the nation's economy through export activities. According to the international Standard Industrial Classification (ISIC), agro-industry consist of food and beverages, tobacco, products, paper and wood products, textiles, footwear and apparel, leather products and rubber products. Agro processing in developing countries is a relatively under-researched (Reardon 2015), although some recent publications have now shed light on the transformation taking place in countries in Asia and Eastern and Southern Africa (Reardon et al. 2014; Snyder et al. 2015; Tschirley et al. 2015a). Agro processing will become a more pressing topic as developing countries urbanize rapidly and gain more sizeable middle-class populations. In the developing world, the carrying capacity of the agricultural sector is declining as a result of increasing population growth with limited farm sizes (Sisay, 2010). Agribusiness is rudimentary with little growth (FAO, 2004), opportunities exist in the agro-processing industry for value addition, minimizing post-harvest losses, promoting price stability and increasing demand for local agricultural produce (DANIDA, 2012). This paper explores the employment potential of the food and beverage subsector of Ghana, while examining the quantity and quality of employment and its inclusivity nature.

Background

Agro-processing is one of the critical sectors of the economy that contributes to employment creation, reduction in postharvest losses, foreign exchange earnings, and shelf life extension among others. It ensures constant availability of food in various forms and facilitates product distribution and growth of the national economy. According to the Ministry of Food and Agriculture (MOFA), only 5 per cent of food products harvested in Ghana are processed. This explains reasons for the high post-harvest losses in maize, cassava, rice, and yam are significant and amount to about 35 per cent, 34.6 per cent, 6.9

per cent and 24.4 per cent respectively in Ghana (MOFA 2007). From a health and nutrition perspective, agro-processing has the potential to increase nutritional value, and food and nutrition security in the country, through a reduction in food wastage. Processed foods also enjoy greater price stability on the world market and may therefore increase market opportunities for exports, contributing to income securities particularly in rural communities, which are mostly engaged in farming.

Undoubtedly, from the foregoing the agro-processing subsector plays a fundamental role in the generation of income and creation employment opportunities in Ghana. Considering the high rate of post-harvest losses in Ghana, agro-processing companies have a significant role to play by turning primary agricultural raw produce into shelf-stable and value-added consumable products. These companies are located at the centre of the agro-food value chain and serve as a link between both producers and marketers. Agro-processing may vary from simple preservation operations such as drying products in the sun to more complex, capital-intensive processes. The subsector is by far the most important segment in the agro-food industry and covers a broad area of postharvest activities. These activities are categorized into two major types- the primary and secondary activities. While the former involves activities such as drying, shelling/ threshing, cleaning, grading, and packaging, the latter entails value additions to transform the commodities into shelf-stable and convenient products with or without changing nutritional content. Therefore, developing the agro-processing industry in the country will promote employment generation, contribute to enterprise development, diversification of rural economies, and import substitution.

Agro-processing industries are typically comprised of upstream and downstream industries. Upstream industries are those engaged in the initial processing of agricultural commodities, such as rice and flour milling, leather tanning, cotton ginning, and fish canning, among others (Owoo and Lambon-Quayefio, 2017). Downstream industries are involved in more complex processing of intermediate products made from agricultural materials, including the making of bread, biscuits, textiles, paper, clothing, and footwear (FAO 1997). Backward linkages arise when local producers are able to satisfy their demand for raw materials and services from local suppliers. This may refer to the supply of credit, inputs, and other production-generating services. Backward linkages may be established by the procurement of capital goods and equipment from other industries, or by the purchase of agricultural inputs from farmers. Forward linkages, on the other hand, involve the creation of additional opportunities in other parts of the economy, from the activity of agro-processors through to the sale of processed products (Owoo and Lambon-Quayefio, 2017). This includes the marketing of these products and the generation of employment opportunities through value-addition processes. Forward linkages have positive implications for increased export earnings, employment generation, and greater food security (Babu 2000), and may be established through the sale of processed goods to final consumers, or the sale of processed goods to other firms who use them as inputs into their own production processes.

Much of the agro-processing in both the past and the present has taken place at the small-scale rural level, despite various attempts by government and private sector to promote it on an industrial scale. After independence in 1957, agro-processing in Ghana was dominated by state-owned enterprises under the government's import-substitution strategy (Ackah et al., 2014). These included major factories for processing cocoa, sugar, tomatoes, meat, and fruits (Owoo and Lambon-Quayefio, 2017). However, most of these factories were

unproductive and poorly managed and were therefore eventually shut down or sold off to private investors during the structural adjustment era. After liberalization and privatization, foreign companies and a few large Ghanaian firms began to dominate domestic agro-processing (Andam and Silver, 2016). The partial liberalization of Ghana's cocoa sector saw the entry into Ghana's agro-processing sector of major players such as ADM, Cadbury, and Cargill (Kolavalli et al., 2012), all of which process cocoa to semi-finished product mainly for export. Much of the palm oil sector, which was dominated by government-owned firms was acquired by private investors. Other major food processors, such as flourmills, canneries, and beverage manufacturers are mostly private firms with a mix of local and foreign owners (Sutton and Kpentey, 2012).

In Ghana, opportunities exist for value addition to agricultural commodities. For instance, export of processed horticultural products has become increasingly significant in the Ghanaian economy, particularly given the presence of a knowledgeable private sector. Indeed, Horticultural products dominate export of produce from the agro-processing sector in Ghana. In addition to vegetables from the horticultural sector, roots and tubers, and palm oil also form part of the agro processed products exported. Notable horticultural processing firms in Ghana include Blue Skies (which processes pineapples and other fruits into fruit juice for local and international markets) and Pinora (which processes pineapples and oranges into frozen concentrates for export). There is a relatively low degree of value addition to agricultural commodities, and there are few linkages with marketing and financial services, partly due to the small firm sizes and inefficient technologies, which lead to many of these firms operating below capacity (Owoo and Lambon-Quayefio, 2017). An implication of the limited scale of production of agro-processing firms in the country is that they are faced with greater bureaucratic, legal and administrative challenges, compared to larger firms. Typically, policy directives and initiatives are less tailored to the needs of small and medium-sized enterprises (SMEs) within the country, and therefore these firms are more often faced with overbearing regulations, delays, and other barriers (Andam and Silver, 2016).

Agro-processing sector has over the years been confronted with challenges such as inadequate supply of raw materials, low quality raw materials, lack of appropriate processing and packaging technologies, lack of state-of-the-art equipment and lack of knowledge in good manufacturing and handling practices all of which negatively impact quality, value and consumer acceptability (Ampadu-Ameyaw and Omari, 2015). Technology is an important determinant of productivity hence low or inappropriate technology limits the scope for competitive production. There is therefore the need to improve the development, availability and appropriate use of agro-processing technologies to increase competitiveness and market potential of Ghana's products in both local and international markets. Agro-processing has seen some improvements in terms of new processing technologies and equipment, new and improved quality products as well as market opportunities due to interventions from the government, science and technology research institutions, and the private sector (Ampadu-Ameyaw and Omari, 2015). However, due to the low interactions between research institutions and industries as well as policy makers, most of these interventions have not been maximally utilised by the intended users.

Organization of Report

This report is structured into five six sections. Section one presents an overview of the role of agro-processing sector in the local economy including its contribution to employment and income generation. Section two looks at the policies and regulations in the sub sector while section three presents the methodology. Section four presents findings on the qualitative assessment of some food and beverage processing firms and the influence of their investments and interventions on the quantity, quality and inclusiveness of jobs. Section five looks at the quantitative aspect of the employment creation in the sub sector. It looks at the findings from the quantitative assessment to determine the nature and extent of employment situation within the food and beverage sector. Section six focuses on the conclusion of the report.

Role of agro-processing in the Ghanaian economy

The economy of Ghana is categorized into three sectors namely agricultural sector, industry sector and services sector. The contributions of each sector to the Ghanaian economy over the years is shown in table 1. The services sector is currently the largest contributor to Ghana's GDP followed by the industry sector, whose performance has been fluctuating over the years. However, there has been a marginal increase in the contribution of the industry sector to GDP from 21% in 2006 to 26% in 2017.

Table 1 Contribution of the economic sectors in Ghana's GDP

Economic Sector	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Agriculture	30.4	29.1	31.0	31.8	29.8	25.3	22.9	22.4	21.5	20.3	18.9	18.3
Industry	20.8	20.7	20.4	19.0	19.1	25.6	28.0	27.8	26.6	25.1	24.3	25.5
Services	48.8	50.2	48.6	49.2	51.1	49.1	49.1	49.8	51.9	54.6	56.8	56.2

The industry sector is made of five subsectors as classified by the International Standard Industrial Classification (ISIC revision 4). The sectors are (1) manufacturing, (2) mining and quarrying, (3) construction, (4) water and sewerage, and (5) electricity and gas. Most of the activities in the industry sector are largely carried out in the manufacturing sector, which represents 92% followed by Construction (6%), water and sewerage (0.9%), electricity and gas (0.6%) and mining and quarrying (0.5%). The industry sector has a total of 108,242 establishments of which 79.5% are micro enterprises, 18.9% are small, 1.1% medium and 0.5% large. Similarly, 92% of these establishments are owned by Ghanaians, 0.6% owned by foreigners and 0.2% owned by Ghanaians and non-Ghanaians (GSS, 2015).

Agro-processing is the most important subsector of the manufacturing sector, with food and beverages representing the largest component of processed commodities (Quartey and

Darkwah, 2015). A report from the United Nations Industrial Development Organization (UNIDO, 2011) shows that within the manufacturing subsector in Ghana, the agro-industry represents more than half (54.6 per cent) of total manufacturing activities. In Ghana, agro-processing is divided into four subcategories as in the Ghana Living Standard Survey (GLSS) namely textiles, tobacco, beverage and food. The food and beverage subsector constitute the bulk of the agro-processing subsector (ILO, 2019). Specifically, the food and beverages subsectors of the agro-processing industry accounted for about 32.5 per cent of total manufacturing value added in 2003 (World Bank 2009).

The manufacturing sector, of which food processing is a major component, experienced rapid growth for five years after the Economic Recovery Programme was adopted in 1983 (Owoo and Lambon-Quayefio, 2017). Although the agro-processing industry in Ghana is dominated by small and medium-scale players, it continues to play a significant role in the Ghanaian economy. The contribution of the agro-processing industry to total export earnings in Ghana cannot be underestimated. According to the Ghana Export Promotion Authority, the industry grew at an average rate of 14.93 per cent between 2008 and 2013. Export earnings from the agro-processing industry increased from US\$181.1 million in 2004 to about US\$902.5 million in 2011, representing a growth of 398 per cent for that period (Oduro and Offei 2014). In 2004, the industry accounted for about 7.4 per cent of total export earnings, although this dropped significantly to about 4.9 per cent in 2011. In addition, processed and semi-processed agricultural products accounted for about 86.31 per cent of the country's non-traditional exports, contributing US\$2.16 billion in export earnings in 2014 compared to US\$2.11 billion in 2013. With respect to sector productivity, findings from Ampadu-Ameyaw and Omari (2015) and Afful-Koomson et al. (2014) show that the indigenous technology adopted among firms in the industry has resulted in reduced efficiency and productivity, compared to multinational agro-processing firms who are able to rely on modern and more efficient technology in their operations.

In Ghana, investment opportunities in agriculture lies in the provision of agricultural inputs such as improved seeds and agrochemicals including fertilizers, pesticides and herbicides; veterinary drugs, vaccines and other chemicals; as well as animal feed and feed ingredients. Opportunities also exist in the processing of agricultural products. Crops such as cereals (maize, rice, millet); tubers (yam, cassava, sweet potato); vegetables (carrots, cabbage, garden eggs, tomato); fruits (pineapple, pawpaw, banana, mango); industrial crops (rubber, sugarcane, cotton, oil palm, coconut, cocoa, coffee) and livestock (cattle, pigs, poultry, sheep); fisheries (tuna, tilapia, catfish); dairy products; rearing of silk worm for the production of raw silk; and production and supply of machinery to for food processing and to establish hatcheries for day-old chicks. There is also the potential in the national, regional and European Union markets.

Despite the fact that agro-processing has been encouraged in Ghana since the time of independence, with the policy of industrialization through import substitution, Ghana's current agro-processing industry may be described as having low value addition, with low technology at the cottage-industry level, and few large-scale industries (Aryeetey and Mensah 2008; Quartey and Darkwah 2015). The labour-intensive and time-consuming features of the indigenous technology often hinder the opportunity to scale up operations, creating a scope for policy in this area (Ampadu-Ameyaw and Omari, 2015). Some efforts have however been made to address the technological gap. For example, development

projects such as the Village Infrastructure Project support the introduction of technologies such as shea processing equipment in the Northern region of Ghana. Development projects have also supported capacity building through knowledge transfer and training of small and medium-scale firms (Owusu-Kwarteng 2014).

In recent years, the manufacturing sector has been declining in its importance to the Ghanaian economy relative to the services sector (Ackah et al., 2014). Between 2006 and 2015, the manufacturing sector's share of GDP declined from 10.2 to 4.7 percent (GSS, 2015). Meanwhile, the real value of processed food imports grew rapidly by 13 percent per annum from 2000 to 2013, which constituted 81 percent of total food imports over that period (FAO 2016). Nevertheless, the state continues to be heavily involved in the Ghanaian agro-processing sector. Major privatized firms in which the government is a significant shareholder include the Cocoa Processing Company (CPC) and Fan Milk. There also have been attempts to revive many of the defunct factories, such as the Pwalugu tomato factory and the Komenda sugar factory.

Policies supporting the development and promotion of agro-processing in Ghana

Expanding agro-processing activities as a way of poverty reduction and livelihoods improvement requires policies that will fast-track rural industrialization. Due to its importance to the growth and development of Ghana, agro-processing features prominently in Ghana's policies such as the Food and Agriculture Sector Development Policy I and II (FASDEP I & II), National Trade Policy, and Growth and Poverty Reduction Strategy (GPRS II). Furthermore, the Millennium Challenge Account (MCA), which was a five-year, approximately \$547 million anti-poverty programme signed between the Millennium Challenge Corporation (MCC) and the Republic of Ghana in August 2006, also provided some policy framework for the development of agro-processing and agriculture as a whole (Ampadu-Ameyaw and Omari, 2015).

One of the key goals of the second phase of Ghana's Shared Growth and Development Agenda (GSGDA II) for 2014-2017 is to develop and promote a vibrant agro-processing sector with strong agriculture-industry linkages (NDPC, 2010). The first phase of the GSGDA (2010-2013) also emphasized the need to accelerate manufacturing by linking agriculture and industry (NDPC 2010). Earlier policies were built upon state-owned enterprises (Ackah et al., 2014), but these failed largely due to the inefficiencies associated with state interventions. Recent policies recognize the need for private sector led transformation, however the state continues to provide support for specific industries such as tomato and cassava processing. Government's '*One District One Factory*' policy also seeks to facilitate partnerships with private sector to establish new factories and revise poorly performing ones in the country.

There have been policies formulated and implemented by the government of Ghana (through the Ministry of Food and Agriculture and the Ministry of Trade and Industry) that have had positive impacts on the agro-processing sector. The fruit and juice processing sub-sector, for instance, has benefited from a number of incentives including zero input duties on inputs; zero value-added tax (VAT) and national health insurance levy (NHIL) on inputs; low-level corporate income tax; zero VAT and NHIL on imported packaging material; and zero import duties on farm machinery (Owoo and Lambon-Quayefio, 2017). The creation of

the Export Development Agriculture and Investment Fund (EDAIF) in 2000 to promote non-traditional exports also plays a positive role in the agro-processing industry, through the provision of financial resources for export activities. The fertilizer subsidy programme, initiated in 2008, involves the absorption of approximately a third of the cost of certain categories of fertilizers (Owoo and Lambon-Quayefio, 2017). This policy leads to a reduction in the costs of production of raw materials for agro-processing firms.

Agro-processing and Employment

According to the FAO (1997), about 56% of the economically active labour force in Ghana was employed in the agricultural sector at the time and about half (48.7%) of the total female population was self-employed in agriculture. Majority of these women were engaged in food production and processing (MOFA, 2007). In recent years, the services sector has remained the dominant employment sector, employing a considerable number of the economically active labour force in the country. As shown in Table 2, in 2014, the services sector employed about 80% of people, the industry sector employed 18% and the agricultural sector employed only 1.8%. Ackah et al. (2014) notes that the industrial sector in Ghana provides jobs and income for the country's labour force, however its contribution to employment since 2000 has been less than a fifth of total employment (15.5% and 14.4% in 2000 and 2006, respectively). Out of a total number of 413,603 new jobs, expected to have been created by Foreign Direct Investments (FDI) between 2001 and 2010, the manufacturing and construction subsectors were considered to have generated about 28%. By 2014, the story has not changed as the manufacturing and construction subsectors still dominated by providing 71% and 14% of the jobs respectively (Table 3). For all the subsectors, there are fewer women than men who were employed. Also, 76% of total number of persons engaged in the industry sector are permanent workers while 24% are temporary workers. This has implications for job quality.

Table 2 Number of persons engaged by status of establishment and sector

Status of Establishment	Number of Persons engaged		
	Industry	Services	Agriculture
Formal	395,205	1,599,249	44,578
Informal	219,312	1,109,547	15,315
Total	614,517	2,708,796	59,893

GSS (2015)

Table 3 Number of persons engaged in industrial sector by subsector and sex

	Male	Female	Total
Manufacturing	262,489	174,227	437,316

Quarrying and Mining	32,310	10,266	42,576
Electricity and Gas	8,415	2,395	10,810
Water and Sewerage	22,561	13,382	35,943
Construction	69,430	18,442	87,872

GSS (2015)

In Ghana, agro-processing is categorized into four broad product categories, i.e. beverages, food, textiles and tobacco manufacturing and the number of persons engaged in each category is indicated in Table 4. A review of the Ghana living standard survey (GLSS) indicate that in the GLSS 1, indicates that only 4% of total jobs created in Ghana at the time was in the agro-processing sector. This increased to 5% in the GLSS 2, then dropped to 4% in GLSS 3, and then rose again to 6% in both GLSS 4 and GLSS 5 (ILO, 2019). The subcategories in Table 4 indicate that food manufacturing is the major sector creating most employment with the largest number of 1040 in 2013. This is followed by beverage industries with a total of 341 jobs in 2013. In 1999, the food processing sector recorded about 84 percent of the total workforce employed in agro-processing, beverage 9%, textiles 6% and tobacco about 0.2%. In 2013, jobs created in food manufacturing sector has dropped to about 69% while beverage and textiles industries increased to about 20% and 8% respectively.

Table 4 Persons engaged in agro-processing by subsector

Subsector	1987	1888	1992	1999	2006	2013
Textiles	25	24	33	48	40	128
Tobacco	4	1	2	1	0	1
Beverage	28	55	34	59	189	341
Food	223	247	338	571	710	1040

Source: ILO (2019)

In terms of gender, Table 5 shows that females dominate the food manufacturing sector with 94% in 1987, 97% in 1992 and 72% in 2013. While percentage of females in food processing has slightly reduced over the years, percentage of males employed in the sector has almost doubled over the period. Conversely, the percentage of females employed in the beverage sector has increased from 4.5% in 1987 to 22% in 2013 while males decreased from 33% to 24% over the same period.

Table 5 Gender distribution of persons above 15 years employed in agro-processing sector in Ghana

	1987		1988		1992		1999		2006		2013	
	Male	Female	male	female	male	female	Male	Female	male	female	Male	female
Food	27.5	93.6	31.9	87.2	15.6	97.1	45.6	91.0	50.5	82.7	56.5	72.0
Beverage	32.5	4.5	38.3	11.8	35.6	2.4	21.2	6.4	31.5	16.0	24.0	22.4
Tobacco	5.0	0.4	2.1	0	2.2	0.2	1.5	0	0	0	0.5	0
Textiles	35.0	1.5	27.7	1.0	46.7	0.2	31.8	2.6	18.0	1.4	19.0	5.7
Total for agro-processing	2.2	7.0	2.7	8.4	1.7	6.8	2.2	9.7	2.4	9.6	2.0	6.4

Source: ILO (2019)

Food processing is important especially at the micro-level where 95% of the actors are women (FAO 2006). In spite of the limited national-level data on employment in the food processing sector, Ampadu-Ameyaw and Omari (2015) demonstrate that in Ghana the agro-processing industry is an important source of employment for rural communities, and especially for women given that the sector is dominated by women. In a survey of 272 small and medium-scale agro-processing enterprises in Ghana. According to Afful-Koomson et al. (2014) the Brong-Ahafo, Western, and Northern regions employ the majority of the labour force in the industry. By firm size, the study also showed that micro agro-processing firms employ about 48 per cent of the total agro-processing labour force. This is therefore reflective of the importance of the industry for employment, income, and inclusive growth for the country.

Indeed, the agro-processing sector may be classified into two groups—domestic processing and factory processing (Quartey and Darkwa, 2015). Female workers, who are predominantly illiterate and have no formal training, dominate domestic processing activities. Skills in food processing are acquired mostly through apprenticeship and a large amount of family labour is employed (Owoo and Lambon-Quayefio, 2017). These small-scale units are able to create employment opportunities and make use of local resources. Factory processing activities, on the other hand, are mostly foreign-owned (e.g. Nestlé and Cadbury) or state-owned (e.g. Fan Milk). These factories can process large quantities of raw materials and can contribute significantly to the nation's economy through export activities (Owoo and Lambon-Quayefio, 2017).

Role of the Association of Ghana Industries (AGI)

The Association of Ghana Industries (AGI) is a voluntary business association with membership is open to all registered companies engaged in manufacturing or the provision of services to the manufacturing sector. Not-for-profit organizations can become associate members. AGI has over 1200 registered members from across the regions of Ghana with

about 25% of members being medium and large-scale industries while the remaining belong to the micro and small-scale category. Sectors that AGI covers include agro-processing (food and beverages), agribusiness, pharmaceuticals, electronics and electrical, telecommunications, information technology, utilities, service industries, transport, construction, textiles, garments and leather, banking and advertising.

Historically, in 1957, a small group of about 7–10 indigenous Ghanaian Industrialists came together to form the Federation of Ghana Industries due to the realization that the sustained growth of industries in Ghana would depend on the development and active participation of local industrialists. In 1961, realizing that all Ghana manufacturing companies faced a common destiny irrespective of ownership, the base of the Federation was broadened to embrace both the state-owned and foreign-owned manufacturing industries. The name of the Association was therefore changed to Ghana Manufacturers' Association. In 1984, the need for all sectors of industry to be under one umbrella was considered desirable. The Association's Constitution was therefore amended to admit to membership companies whose services impinge on manufacturing, namely, financial institutions, insurance companies and specialized associations such as Liquor Manufacturers' Association of Ghana, Ghana Printers and Paper Converters' Association, Furniture & Wood Products' Association of Ghana, Ghana Timber Millers' Organization, Advertising Association of Ghana, etc., as Associate Members. The name of the Association was accordingly changed to the Association of Ghana Industries (AGI).

As the leading voice of manufacturing industries in the country, AGI is dedicated to:

- Advocating policies that advance the growth and development of industries.
- Facilitating international trade through exhibition of member products in countries across the sub-region.
- Strengthening national industry associations through the sharing of knowledge, experience and critical information.
- Providing members with a vast network of contacts, especially in the West African sub-region.
- Hosting the industry and technology exhibition to promote members' goods.

As at the end of 2019, AGI's food and beverage sector has 110 registered firms as members and they are grouped into 7 categories based on turnover. Category 1 firms are those with highest turnover while category 7 firms have the lowest turnover. About 35.5% of firms are in category 7 while category 1 firms are second in terms of numbers at 14.5% (Table 6). The category 1 firms include Accra Brewery Ltd, Blue Skies Products Ghana Ltd, Fan Milk Limited, Guinness Ghana Breweries Limited, Kasapreko Company Limited, Nestle Ghana Limited and the Coca Cola Company Limited. Category 2 firms include Cadbury Ghana Limited and Promasidor Ghana Limited while Category 3 firms include GIHOC Distilleries Company Limited, Kingdom Beverage Limited, and Parlays Ghana Limited. Other examples are Doppio G-Ice Cream Limited (Category 4), Hords Limited (Category 5), Koko King Limited (Category 6) and Philio Delio Smile Foods Limited (Category 7).

Table 6. AGI food and beverage firms by category

Category	1	2	3	4	5	6	7	Total
No. of firms	16	6	15	7	13	14	39	110

The AGI also has the Agribusiness sector, which has some firms engaged in food and beverage processing but have not been captured under the food and beverage sector. AGI is therefore in the process of re-categorizing the firm to ensure that they are grouped under the appropriate sectors. For example, firms such as Kabile Co-operative Farms (cashew processing), Irani Brothers & Others Limited (wheat processing into flour) and Cocoa Processing Company Limited (production of various cocoa products) are obviously food processing companies but are classified under the Agribusiness sector.

Data Collection and Analysis

The International Standard Industrial Classification (ISIC) asserts that agro-industry consists of: i) food and beverages; ii) tobacco products; iii) paper and wood products; iv) textiles, footwear and apparel; v) leather products; and vi) rubber products. This paper focuses on food and beverages sub sectors to examine the quality, quantity and inclusiveness of employment in the country. The study aims at understanding the food and beverage sectors by qualitatively assessing how investments and other interventions in the sector influence the quantity, quality and inclusiveness of jobs. A qualitative and quantitative approach was used to determine the nature and extent of employment situation within the agro processing sector. For the qualitative study, a list of food and beverage processing firms was obtained from the Association of Ghana Industries (AGI) after a formal request was made for the list. The list is made of members in good standing for the year 2019.

Sample selection

The AGI list was made up of members across the 16 regions of the Ghana. However, about 90% of the firms are in the Greater Accra region (specifically in Accra and Tema). Therefore, all the firms were sampled from the Greater Accra region. Using systematic sampling technique, every seventh industry on the list of industries in Accra and Tema was selected. In total 18 firms were selected, and care was taken such that all the seven AGI categories were represented. Based on the addresses of the firms provided in the AGI list, the selected firms were located, and formal letters and consent forms sent to them. Phone calls and emails were sent to the firms to book appointments for interviews. Two of the firms contacted declined to participate while some could not have time to participate due to their busy schedule since the study was being conducted in December when most firms were very busy with production and sales activities.

In total, five firms were interviewed. In each firm, both management and staff were interviewed. All the interviews were recorded with the permission of the Management of the firms and the recordings were later transcribed. The transcriptions were analyzed and the findings are presented in sections 3.

Conceptualizing the elasticity of employment in the Agro-processing subsector

In the quantitative aspect of this study, effort is made to calculate the employment creation elasticity in the sub sector under consideration. As the word suggests, elasticity is used to determine the response of a variable to a change in some other variables (Collins, 2003). It measures the extent of response of a variable such as demand to some other variables such as price and income among others. Elasticity of demand and supply can be useful in a variety of cases. For example, should the demand (or supply) is to be analyzed, when the change in price a particular product is given, then we calculate the price elasticity of demand (or supply). In this paper, we calculate employment elasticity given the changes in employment with respect of the subsector.

In the case of the quantitative aspect of the work, annual time series data sectorial, agriculture, industry and services, employment as a share of total employment from 1991 to 2018 from the World Health Organization, Bank of Ghana and the Ghana Statistical Service. In measuring the responsiveness of output on the economy's employment, we measure the employment elasticities. Theoretically, elasticity of employment is defined as the percentage change in employment as a result of a proportionate percentage change in employment. Mathematically expressed,

$$\varepsilon_i = \frac{(E_{i1} - E_{i0})/E_{i0}}{(Y_{i1} - Y_{i0})/Y_{i0}} \quad (eq.1)$$

Where ε denotes the employment elasticity, E represents employment, Y represents output (GDP), t and t-1 are current and previous periods respectively. However, year on year elasticities (arc elasticities) are associated to exhibit instability and weakness with respect to forecasting and therefore less appropriate for comparative analysis (Aryeetey E. & Baah-Boateng W, 2016). Hence, a point elasticity transformation is ideal in the availability of necessary time series data.

We have,

$$\ln E_i = \beta_0 + \beta_1 Y_i + u_i \quad (eq.2)$$

Where, β_1 represents the change in employment associated with a differential change in output.

In this paper, annual time series data from the agriculture, industry and services, sector on employment as a share of total employment from 1991 to 2018 have been used. This data employed was sourced from the World Health Organization (WHO), Bank of Ghana (BoG) and the Ghana Statistical Service (GSS). In measuring the responsiveness of output on the economy's employment, we measure the employment elasticity.

As a result of the difficulty in getting the data, the arc elasticity was used in calculating the elasticity of employment from the agro processing sector. An arc elasticity is the elasticity of one variable with respect to another between two given points. This is employed here because of the uneasy way to define relational function between the two variables. The arc elasticity is therefore used here to help authors work out the elasticity between two years. To calculate arc elasticity of demand, a midpoint along the arc is taken and then the usual method or formula for elasticity of demand calculation is applied.

i.e. (1) Midpoint Q = $\frac{Q_2+Q_1}{2}$ Midpoint P = $\frac{P_2+P_1}{2}$

(2) Arc Elasticity = $\frac{Q_2-Q_1}{\text{midpoint Q}} / \frac{P_2-P_1}{\text{midpoint P}}$

Qualitative assessment of food and beverage processing

This section explores the beverage and food processing firms identified and the influence of their investments and interventions on the quantity, quality and inclusiveness of jobs. To protect the identity of firms and to ensure confidentiality, pseudonyms rather than the actual names of the firms have been used throughout the report. Section 3.3.1 presents some background information on the firms, which includes (1) description of the business, its ownership, operations in the country, registration status, (2) History of the business including major events and turning points in the organization's history, especially the rationale behind changes in strategic direction and (3) basic facts about the locations, sales, and employees. Section 3.3.2 provides an understanding of the business strategy, where it competes in the market and its opportunities for expansion and upgrading. Section 3.3.3 focuses production structures and discusses capital and labour issues as well as costs, margins, and productivity. Section 3.3.4 provides an understanding of the current skill set of the different businesses in the local value system and discusses the current workforce, quality of jobs, recruitment, skills and training issues including the demographic statuses of the interviewed persons. It focuses on the sources of supply and in particular the current level and nature of purchases in the local supply chain, the main constraints to expanding local sourcing, the attitude and perceptions of employees of the selected food and beverage firms towards the food and beverage sector, as well as agro-processing jobs and job quality.

Demographic information of participants (workers)

Male employees who participated in the study were slightly higher than female participants (Fig.1). About 54% of the workers were between the ages of 24 and 26 years (Fig. 2) while 81% were single and 19% were married and majority had at least one person who depended on them for support (Fig. 3)

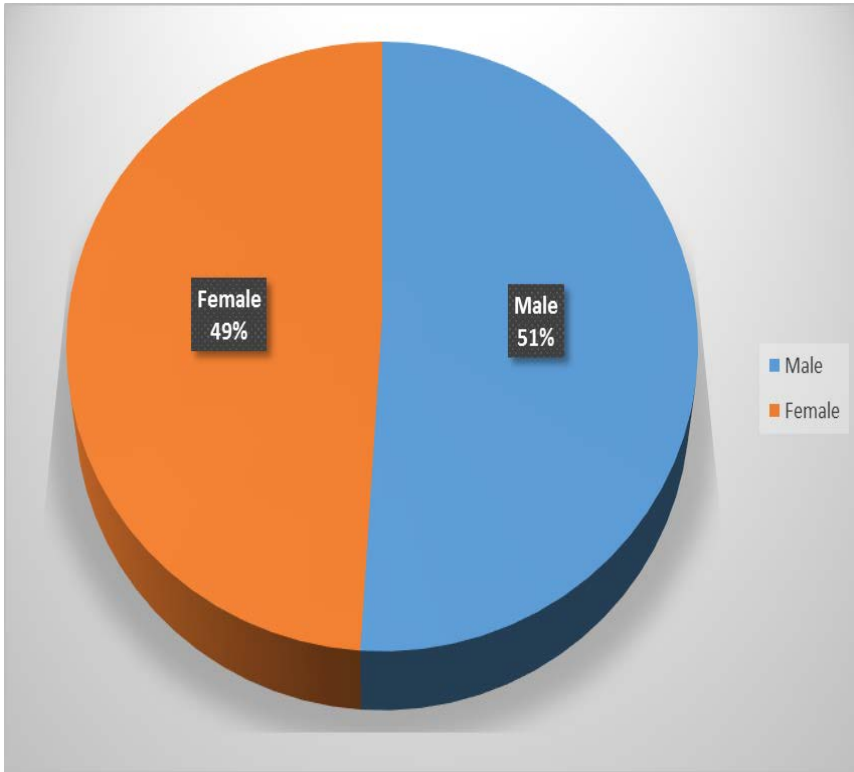


Figure 1: Gender of participants

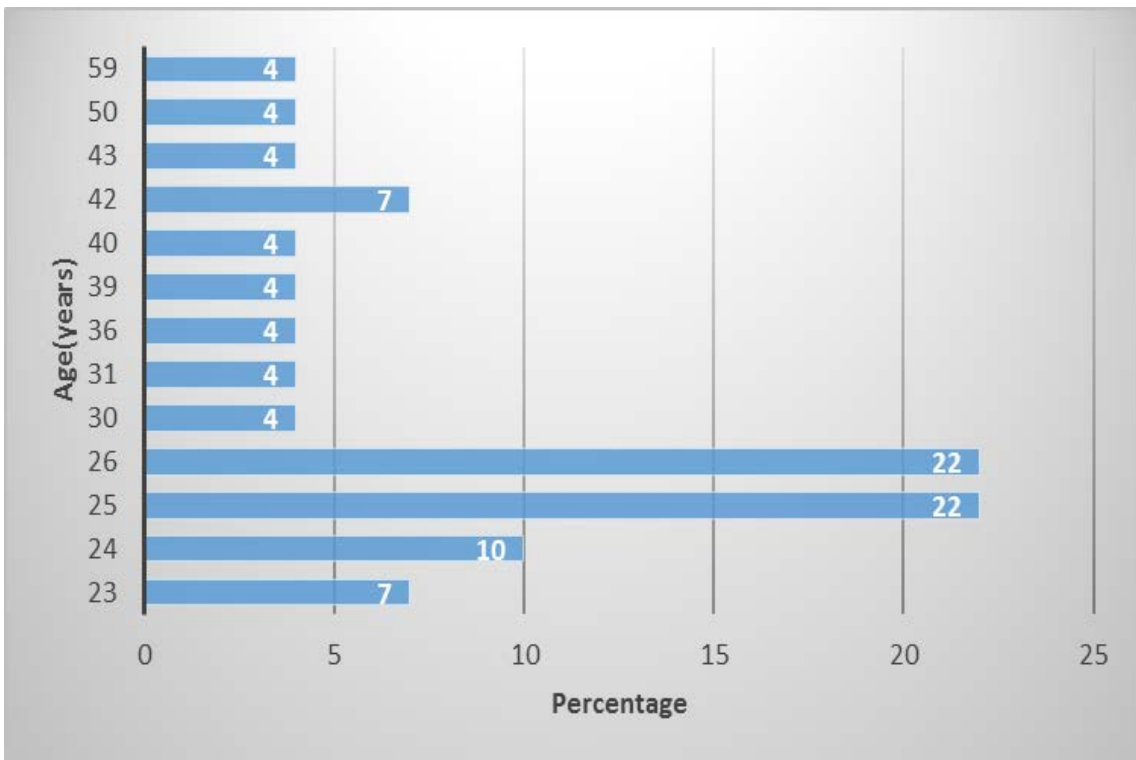


Figure 2: Age of participants

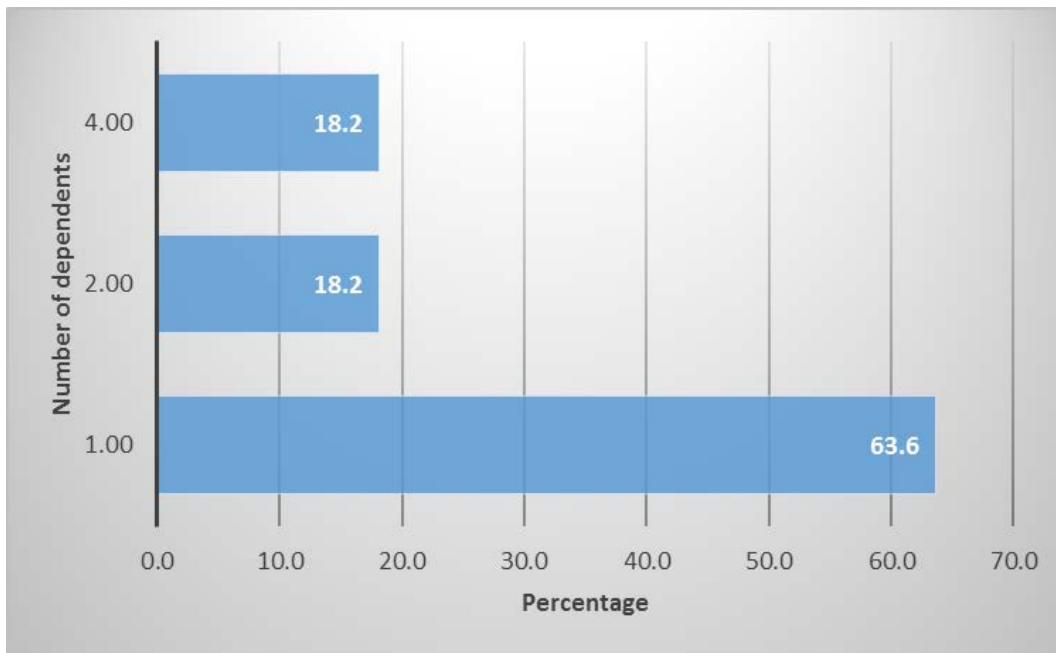


Figure 3: Number of dependents of participants below 18 years

General issues on employment

Majority of the participants stated that their jobs were good and created learning and development opportunities for them.

“Yes, I feel it’s a good work because it is helping us, and we are able to personally practice good health practices at home and to our kids.”

“It also helps us to know how and where to position our stuff at home to avoid the stress in searching for that thing.” Some employees were however indifferent about their jobs as mentioned with the following quotes. *“I can’t say it’s good or bad but all I will say is we are in it, you should be employed based on contract but they will have to make you work for some time before you are upgraded and given the contract, so they may not be able to tell you that you will be given the contract from the beginning of the work, you would have to work closely for about three years before the contract will be issued to you.”* Concerning the job situation in Ghana, some of the participants were of the view that people like complaining about the few job opportunities in the country but fail to work hard when they get one. Others also stated that there are jobs available but the type you get will depend on your level of qualification. This implies that the higher your level of education, the better your chances of getting a good job becomes. They also mentioned that aside the already existing companies, most of the companies being established are privately owned.

One of the participants stated that there had been slight changes with the employment situation in Ghana. Five (5) years ago you got employed based on your qualification and capabilities but currently, employment is based on how well-connected you are to influential people in the society loosely referred to as ‘whom you know’. *“Things have changed slightly because now when you want employment it’s all about who you know. If you don’t know any one you don’t get employment with or without a degree, maybe 5 years ago it wasn’t like that, after your education, you write an application and you go for interview, yes you are suitable for the job for a trial period but now it’s more like who you know.”* Another

participant who had worked at her company for ten (10) years mentioned that no major changes had taken place there. One of the participants had as high as 20 years of working experience in the agro-processing industry. The others had at least 1 year of working experience as in Fig. 8

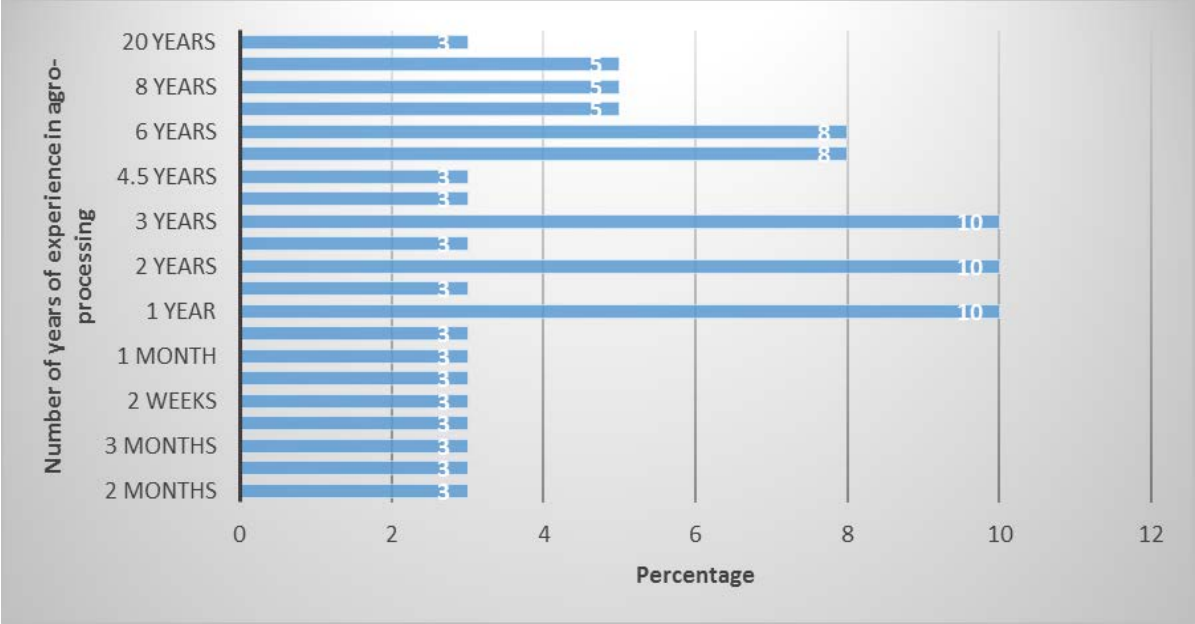


Figure 4: Years of experience in agro-processing

Attitudes and perceptions of employees

This section presents an aggregation of discussions held with employees of the selected firms. It explores the attitudes of firms toward the manufacturing sector, agro-processing and job quality. The sections cover issues related to employment conditions in general, attitudes and perceptions of employees towards the food and beverage sector, agro-processing as well as job quality. Discussions on job quality largely centered on perception about own job, working conditions, core labour standards and perceptions towards better jobs

Attitudes and perceptions towards jobs

Some of the participants could not state the typical types of jobs in Ghana because to them every job is significant and matters. They explained further that someone can be an expert in a field but may choose to venture into a different area depending on the opportunities available at a particular point in time. Some of the typical jobs in Ghana mentioned by the participants include food processing, industrial work, rubber and glass manufacturing and construction work. The participants stated that government owned jobs are better and more flexible than privately owned jobs. *“Sometimes for a government job, you get paid at the end of the month whether you work or not. But for a private job, the days you miss will be deducted from your salary.”* Some of the participants also mentioned that for a job to be good, customers must be readily available to patronize their products and the workers must be paid on time. On the other hand, if a job is bad, there are fewer customers with low

profits made and the workers are not paid consistently. Others stated that a good job should be able to provide their daily bread to feed themselves and their families.

Attitudes and perceptions towards manufacturing sector

The private sector was identified as the sector where a lot of people work. Others thought that the agricultural sector, the food processing and rubber manufacturing industries employed the most people. *In our view its food processing and rubber manufacturers; they are the companies that employ the most, and in our villages, there is no employment opportunity there so most of the people there are into farming.*"

Attitudes and perceptions towards agro-processing sector

There was a consensus that agro-processing is a desirable job because it can generate a lot of profit while it provides learning opportunities for employees. *"I have learnt how to preserve my maize to know that when it's infested, I don't have to eat it, and also how to keep the food, how to maintain it, and also how to sort things out. I have learnt how to do sealing and labelling of containers."* Some of the participants mentioned that they applied to their current place of work because of their low level of education. Figure 5 shows the level of education of the employees interviewed. All the participants had received basic education with majority having studied up to senior high school. *"For me I am not that educated so I won't fit in the government sector that's why I am here, and the owner is very good, she took me to the hospital to know my health status and then went ahead to employ me."*

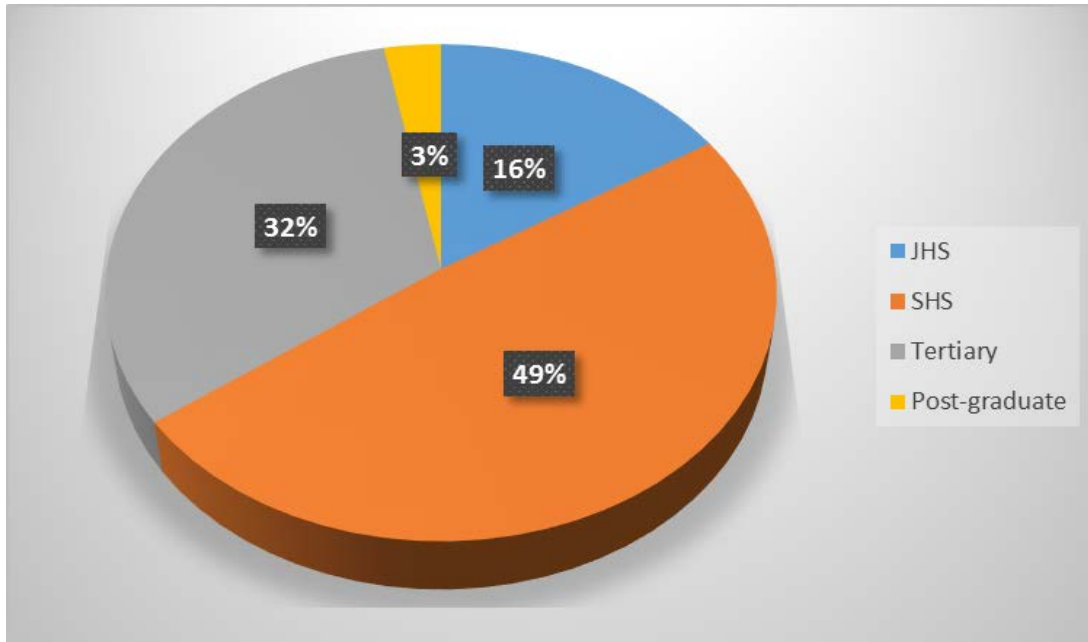


Figure 5: Highest level of education of respondents

Another reason given was proximity of their workplace to their homes. Others also stated that they did not have a choice but needed employment and applied for the job and got it. *"It was a job that I was looking for, so when they called me I had to come and work here and from where I stay to where am working is very close to work so it's good for me to work here, it's about 25 minutes' walk to the workplace and it's a good job."*

“Not really but for me I was in a lot of poverty that’s why when I had this job offer, I took it.”

Perception about success in agro-processing

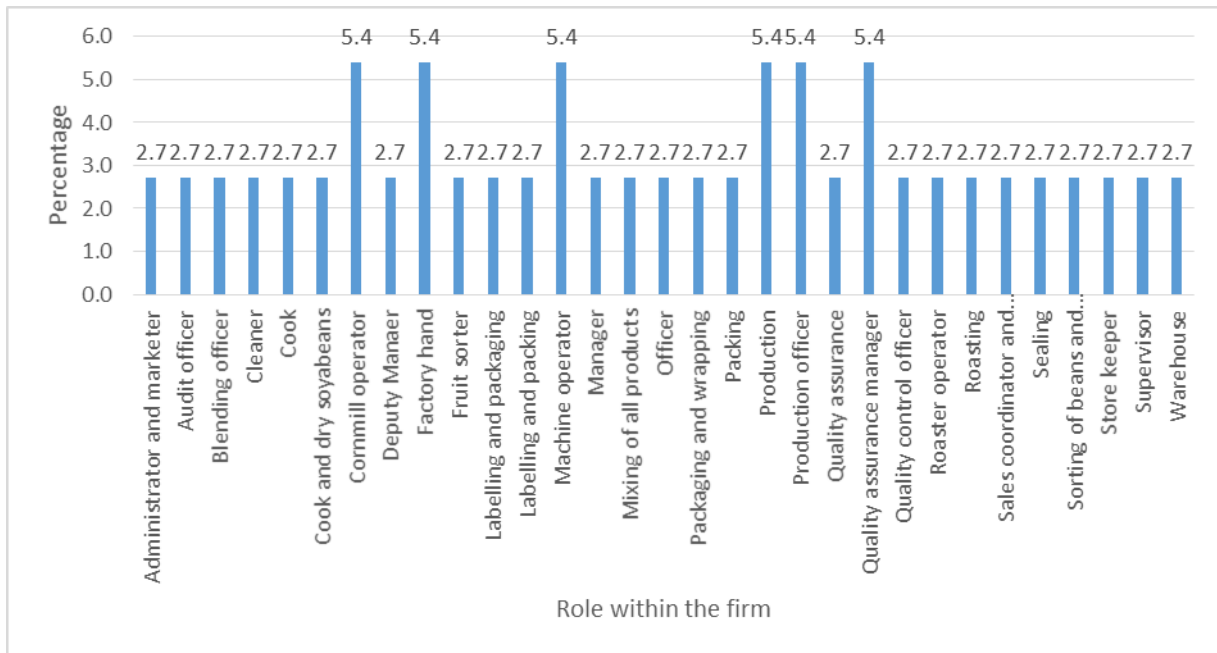


Figure 6: Role within the firm

Perception about own job

Majority of the participants were satisfied working at their current workplaces as illustrated by the following statements. However, a few others were not satisfied with their working conditions. A good proportion of the participants had worked for at least a year in their firms (Fig. 9).

“I am okay here. I have learnt a lot in addition to what I learnt at the catering school such as new recipes, customer service and hygiene.”

“We are okay here. I know of companies that owe workers over three months but for here it doesn’t matter how small the pay is, at the end of every month we are paid and with the learning opportunities too, we are able to learn different things.”

Perceptions towards better jobs

Increment in salary was the most mentioned feature of a better job. Other features were opportunity to go on leave, social benefits, constant availability of raw materials to improve efficiency, opportunity to learn, paying casuals who are absent from work due to ill-health. These perceptions are illustrated in the following statements:

“We need to buy the raw materials in bulk instead of buying in small quantities so that we can serve more customers. The salary needs to be increased and our social security benefits need to be paid. Our products lack variety, so this affects our sales.”

“For me to increase my salary and advise me on what I don’t know and also get more machines to work with in here and when we get leave too, we like it because we don’t

go on leave here. We have to go and rest in the house for some time, because also on Sundays we go to church, so we are not able to rest enough.”

“For me if they are to keep paying us well why not? I will be happy working here because the purpose of me working here is to get money. Fortunately, our boss is good, and always wants us to learn so that when we leave here, we won’t go out there to suffer.

“Also when you are absent from work because of illness you won’t be paid, so if that is stopped it will be good to us working here especially the casual workers and if we should get an access to a canteen service here it will help us because the salary, I will be honest with you, is very bad.

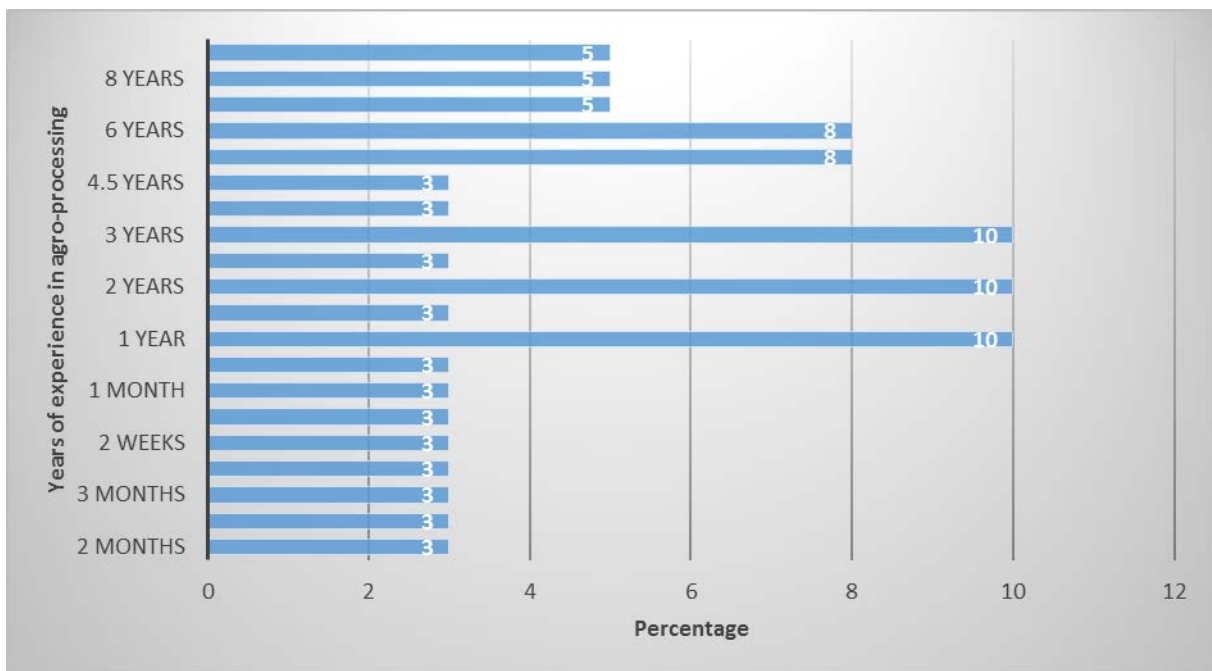


Figure 7: Years of experience in firm

Working conditions: compensation

The workers stated that they received between GH¢150-600 per month, which was not enough for their expenses, but they managed it. They also mentioned that some of them were permanent workers while others were casual, so their earnings differed - the permanent workers earned more. Regardless of their gender or age everyone was treated the same and earned the same based on the kind of job they did.

“No as far as we are all doing the same work we are paid equally regardless of your age, if we are being paid GHc20 daily that’s how it will be done so far as the person comes to work.”

Working conditions: occupational health and safety

There was a consensus that their working conditions affected their health especially causing body pains. The following statements provide the evidence.

“There is too much heat produced from the factory. We are not allowed to put on the fan or the air conditioner because our boss complains that it increases the electricity bills. We also stand for too long; from morning till evening.”

“Bodily pains, allergic reactions to some of the products such as the soya or the maize, the smell of some products, or sitting for too long affect my health.”

“Sometimes I feel bodily pains, but I think that is normal, and for the safety aspect, because we are working with metals, they give us safety boots and clothes.”

“I couldn’t come to work yesterday because of my waist pains, I stand and work for 12 hours daily and it’s not easy, trust me.”

All the participants agreed that they had safety procedures that they followed at their workplaces. They however mentioned that they experienced minor injuries from burns, cuts and hitting of legs against objects although that did not happen often due to the training they are taken through. Some precautionary practices are the following statements:

“We are to disconnect the gas after every working day. We also ensure that the floor is always kept dry and free from oil spills. Our fingernails must be kept short.”

“Wear the nose mask when you are allergic to certain smell and we won’t allow any epileptic person to get close to the machine, even though we don’t have any of such persons here but there are some safety measures.”

Working conditions: social protection

All the participants did not know whether their companies paid their income tax or not.

“I do not know. You need to find out from my boss.”

“Unless you ask our employers.”

“We pay social security contributions but for me I can’t tell whether they do pay income tax or not.”

Most of the workers stated that they did not enjoy social benefits such as medical care and social security. A few of them enjoyed benefits.

Working conditions: contracts and working time

Most of the participants worked full-time but mentioned that some staff were casual workers who only come to work when they firms need them.

“I work on a full-time basis but there are some of the workers that are on contract, but with the casual it only happens when we need more hands at a point in time.”

“I am a permanent worker. The rest are not. Mostly, they leave after a short while.”

The workers worked 5 to 6 days within a week for about 8 to 12 hours. Some of them worked from Monday to Friday and used Saturday to clean up their work premises while others worked from Monday to Saturday. On a few occasions, some worked on Sundays.

“On Saturdays we do cleaning from 7:00am to 3:00pm and sometimes cook for our boss but we do not take orders. Sometimes on Sundays we come to work.”

Most of the participants stated that their jobs were stable while a few others disagreed. All the participants mentioned that they worked overtime when they received a lot of orders. Majority of them stated that they were paid for the extra hours they worked especially those who worked in the manufacturing plants and a few of them complained of not being paid.

“Yes, that happens when there are a lot of orders and we are being paid for that.”

“Yes, occasionally when we get a lot of orders. We work till 8:30 pm. We are not paid.”

Working conditions: trainings and skills

All the participants agreed that they received training from time to time. Some of the trainings were well planned and others were not planned and were mainly centered on food safety and personal hygiene.

“Yes, we are trained by our boss and even with that it is not planned. He corrects us when he sees that we are not doing something right.”

Most of the participants mentioned that that they had acquired new skills but one of them who had worked for 10 years at her workplace admitted that she had not learnt anything new apart from what she learnt in catering school. Also, all the participants agreed that with their experience, they could set up their own businesses provided they had the funds or even get a better job. Most of the participants had received at least one year of additional training (Fig 6)

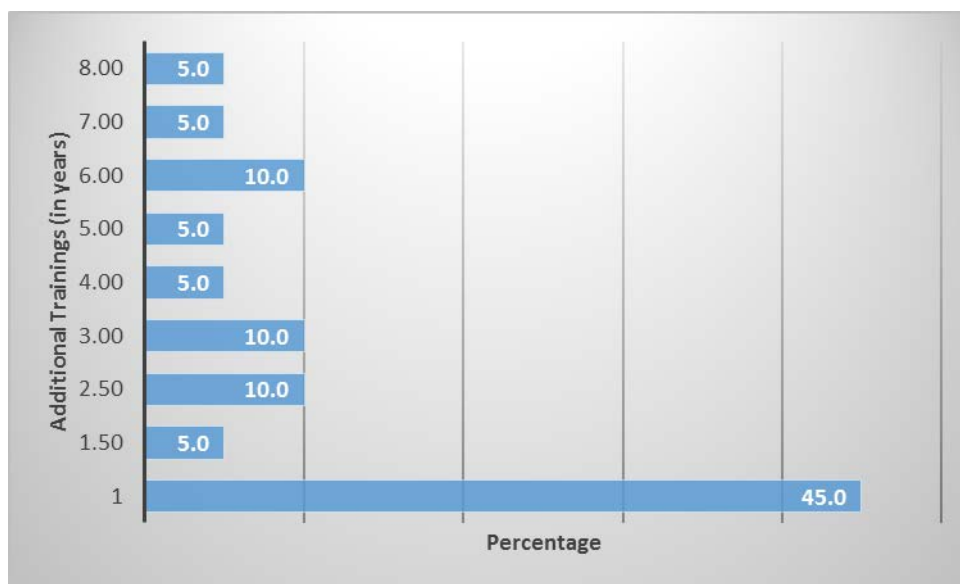


Figure 8: Additional training (in years)

Core labour standards: discrimination, child and forced labour; freedom of association

All the participants stated that there was no discrimination at their workplace and that everyone was free to be themselves. See the statements below

“There is no discrimination, we are all free.”

“For me, I notice they treat all of us the same.”

There was a consensus that no one below 18 years was employed to work, and no one was forced to work against their wish.

“The minimum age to be employed here is 18 years. You must be an SHS leaver.”

Out of the companies visited, only one of them had a workers' union.

“We have a union, and everybody is free to be a member of the union.”

Characteristic background of identified firms

This section provides some basic background on the business. Key issues to cover (1) description of the business, its ownership, operations in the country, registration status, (2) History of the business including major events and turning points in the organization's history, especially the rationale behind changes in strategic direction (if any) and (3) basic facts about the locations, sales, employees.

Table 7. Summary and Background the types of companies interviewed.

Company	Ownership	Domestic market	Export market	Product
A	Sole proprietor	Yes	Yes	Powdered pepper
B	Sole proprietor	Yes	No	11 varieties of cereal and legume-based products
C	limited liability company	Yes	No	Several
D	Limited liability	Yes	No	Varieties of yoghurt
E	Limited liability	Yes	Yes	Gari-mix Crackers
F	Foreign owned/ Limited liability	Yes	Yes	Noodles

Company A had been involved in farming as well as honey and pepper production but had to shelf them because of difficulty in getting the 'right' people to work with. Company A started as a farming business, but it made no profits because the market women offered very low price for the products. It has also tried to produce a complementary food consisting of rice, tiger nuts and beans which was developed by the owner of the Company using his expertise as a chef. Later, it tried to export honey, but the product could not meet European Union (EU) regulations to enable them get approval for export. Company A also tried exporting chocolate but was not successful. The Company now only processes and exports powdered cayenne pepper. The Company discovered that the powdered pepper being sold on the open market is usually adulterated with cola nuts so they decided to buy the dried pepper mostly from Ada (a pepper farming community in the Greater Accra Region of Ghana) and mill it into powder with the *powderizer machine* it purchased. Currently, Company A also produces powdered cayenne pepper for markets in Accra. It has engaged the services of an experienced person to help with the marketing of the product. Company A also runs a restaurant, which they intend to foldup soon due to pilfering of the food items by the workers. Company A's businesses is funded mainly from the owner's own resources. Greater part of funds was obtained from renting out part of the Company's building mainly to support the business and to take care of the owner's children.

The main challenge in the agro-processing sector according to one of the managers is the difficulty Ghanaians have in accepting change. This he expressed as.

“Also, you do well to train your workers and someone comes to poach them. Some competitors of mine send people disguised as workers to come and steal my recipes.”

Company B is a food processing company that started in 2008 with the production of a soybean beverage. The owner who is a woman was previously working in a printing firm with her husband but had the desire to establish and manage her own business. She was inspired by a nutrition education programme organized for women in her Church, which focused on preparation of nutritious foods using soybean and other products. Through a series of experiments and trials she developed the soybean beverage, which she started giving out free-of-charge and selling to clients who visited the printing press. She capitalized on the health benefits of soybeans while introducing and selling the products. She later got packaging (bottles) and used her expertise and facilities in the printing firm to design and print out labels for the products with health benefits of soybeans conspicuously displayed. Soon the market expanded to some shops and supermarkets. The major challenge was the generally poor acceptability of Ghanaian processed food products however this was overcome due to the increased sensitization about the health and nutritional benefits of soy products.

Company B later introduced other cereal and legume-based products using mixtures of rice, soybeans, groundnut, maize, and millet with different flavors mainly to provide nutritious and acceptable foods for infants and children. All these products were developed through research and prayers by the owner. Company B now has 11 varieties. These products were largely developed based on customers' requests. All the products had attractive packages, which contributes to the larger sales. Company is a formal business registered with the Registrar General's Departments and all certified by the Food and Drugs Authority (FDA).

Company C is a limited liability company which was started around 1995/1996 with the concept of trading in only Made-in-Ghana products. It is not involved in food processing but rather involved in marketing and selling food products processed in Ghana. The Company trades in basically anything that is produced in Ghana. Food products sold by the Company include palm oil, coconut oil, shea butter and rice. Some non-food products marketed by the Company are perfumes, liquid soaps and mosquito repellent that have been produced locally small-scale producers.

Company D is a limited liability company established on 1st January 1996 by a couple (husband and wife), but before then there was an experimental stage to assess the viability of the business. The Company produces mainly yoghurt but also sometimes produces cheese and butter. Other products previously produced are 36 varieties of juices including grape, apricot, apple, pear, strawberry, and banana juices. The Company was getting lost of exotic or imported fruits (which were available on the local markets) for use in the yoghurt but had to process the excess into juice to avoid waste. However, the juices are no more being produced because of demand pressure and sometimes lack of labour, which is very critical for this kind of business. To expand the shares of the company, efforts were made to partners but realizing that the potential partners had dubious intention the Company did not proceed to sign any agreements. *“You see sometimes when your company is doing very well,*

people will want to come in to disintegrate it just like that. Because we don't have big money, they try to take everything away or even change the direction of the business. That's why Ghanaian SMEs sometimes say they are afraid to enter partnerships. We have obtained copyrights for our brand names" The Company started on a very small scale and was then using 10 liter aluminum pipe. However, by statutory requirements the Company changed to using big steel tanks, which are still being used up to date.

Company E is a formal business that started initially with buying and selling of good including pharmaceuticals, rice, sugar and cooking oil. The Company which was then owned by a couple (husband and wife) went solely into importation of rice, sugar and oil. After the death of the husband, the woman started managing the company. However, despite the small profit margin on the imported commodities, employees were stealing both money and goods. *"They see you counting large amount of money and think all belongs to you so most of them look at how they can siphon money from you. When my husband died, the people I worked with stole about GH¢400,000.00 of my money."* Although Company E investigated the theft cases and was able to discover those responsible and the deals they were involved in, the Company could not bounce back as major assets were sold to defray debts. After some time, the company was revived by going into food manufacturing. The first product was gari mix, which consists of gari, sugar, milk and groundnuts with the main targets being students and artisans. A second product (cracker) was added. The factory is located in Awutu in the Central Region but some machines have been brought to Accra, so production is also being done in there.

Company F is a foreign owned company that is part of a group of companies in Ghana. It started in 2017 with the importation of noodles from Nigeria but realizing that the market was growing bigger it established a production site in Ghana. The Company was previously producing noodles and pasta but had to stop the pasta production in June 2019 because of low demand and sales. As a result, the company had to reduce its staff strength from 320 to 240.

Product, markets, and strategy

This section focuses on understanding the business strategy, where it competes in the market and its opportunities for expansion and upgrading. In summary, the firms

Company B faces strong competition because there are many cereal- based products on the market (both locally produced and imported and made by small, medium and large companies). However, what makes the company stand out is the emphasis placed on quality and consistency (especially of raw materials). The Company has developed specifications for its raw materials and will only buy products that meet those specifications. For example, aflatoxins are a major food safety problem with grains, so all workers have been trained to ensure that the affected grain are sorted out. Currently however, the Company is unable to submit every batch of products for aflatoxin tests because of high cost. The Company however plans to have a mini laboratory in the future for most mandatory tests. There is also emphasis on hygienic production and submitting all products for all prescribed laboratory tests. The embossed FDA registration number also increases the confidence of customers in the products. Amidst stiff competition, increase prices of raw materials and constant depreciation of the Ghanaian Cedi, Company B has tried over the years to stabilize its prices and probably introducing slight increases at most once a year. This is mainly to

maintain most customers since generally Ghanaians will shift to other cheaper products when prices are increased.

Company B supplies products directly to individuals, shops, supermarkets and to distributors who also supply to other retailers and individuals. A major supermarket that sells Company B's products is Melcom, which stocks the products in all its outlets. The main target consumers are busy parents who may have limited time to prepare baby food from scratch. The products are suitable for time-constrained mothers who cannot, for example roast ingredients and go and mill them into baby foods. Company B supplies over 100 shops in Accra and distribute to shops and other towns including Kumasi, some towns in Brong Ahafo Region, and Takoradi. Melcom, which is the Company's major customer has outlets in major towns in the country where the products are sold. Company B does not do media advertisements but believes it has an established brand name that is known for its quality. The Company also feels that with its limited production capacity, advertisement may result in high demand, which it cannot meet.

Company B has great potential for growth and will strive hard to get mentioned among the best food processing in Ghana and Africa in the next five years. There are great opportunities that can make this projected growth possible. For example, the Company developed a new product called kitchen Queen about two years ago, which is a natural spice containing a blend of 12 carefully selected medicinal spices. From the response obtained so far, this product has the potential to go global. The Company is currently developing a suitable packaging for the product to be exported. Company B also plan to extend its product lines to instant cereals. Already the Company has acquired the machine for making instant cereals and is now developing a suitable and modern package for the products, which it intends to start marketing in Ghana and Nigeria. Major challenges for Company B are inadequate distribution vans to go to other regions outside Accra that have high demand for the products and lack of automated packaging machine, which results in about 80% of products being packaged manually causing delays and inability to meet orders.

Company C is not involved in primary production and processing but it sometimes pre-finances smallholder farmers to produce and mill rice, for example, which is then sold to the Company for sale. The Company's strategy aims at encouraging Ghanaians to take advantage of the investment opportunities in the food processing sector. The Company ensures that all the producers and processors they sell for have the necessary training to be able to produce quality products that meet Ghana standards. Often the Company advises its suppliers to go through relevant trainings at the Food and Drugs Authority (FDA) and Ghana Standards Authority (GSA) to enable them to have appropriate packaging or get their products certified. In some instances, the Company supports the suppliers financially to defray the cost of product testing, which are requirements for certification. The Company insists on product certification because it enables them to sell the products to different types of markets including supermarkets.

The business is largely financed by the entrepreneurs who established it. Currently the Company C markets for 12 different firms with some of them being start-ups. The Company is motivated by the passion and the commitment of the firms and then agrees to help them market especially new products. The new products are usually supplied to the Company on credit and it pays the suppliers after one month. However, the Company pays for old or

known products upon purchase from the suppliers. Company does not advertise its services but firms that know about their services give samples of their products for test marketing after which feedback, whether positive or negative, is given to the supplying firms. Currently, there are some companies that provide services like that of Company C but according to the manager those companies are not registered.

Company D sells only on the local market including shops and supermarkets. Sellers will pay after they have finished selling the products. Depending on the season, this system of payment can result in huge losses as money may be locked with the sellers (retailers). Company D's products are high risk products that require refrigeration hence only retailers with appropriate facilities can sell the products. Unfortunately, some fridges even in larger shops do not work properly resulting in the products going bad prematurely. Unlike bigger Companies, SMEs cannot afford to buy refrigerators for the retailers hence they can only advise or support retailers to maintain functioning fridges. Company has many competitors but one of them is multinational and major manufacturer of dairy product. Initially the Company had difficulties supplying products to some shops that also sell for this large company because the fridge was always full of their products. Company D therefore adopted a strategy to supply only at night, after some products have been sold and some space created. *"This strategy worked to some extent, but the bigger company could still influence shop attendants to conceal our products or pay for the space even when their products are not available."*

There are many small-scale producers of yoghurt mainly because the Animal Production Unit of the Ministry of Food and Agriculture (MOFA) rolled out a training programme where lots of people were trained in yoghurt production. Company D's factory was sometimes used by MOFA as a demonstration factory where they have brought over 1000 people for training. *"People will tell you, I heard there's money in yoghurt then they start production only to realize later that it's not as easy as they had thought."* Company D has experienced a real growth and was supplying many shops including the Ghana Air Force. But due to several challenges including unfavorable policies on taxation, high utility bills and fuel cost, irregular supply of water and electricity, poor water quality, high foreign exchange rate, and lack of affordable loans coupled with dishonest employees led to the gradual sinking of the company. Irregular water and electricity really affected the Companies production because these utilities are vital for high risk products such as dairy products. The quality of water is so bad that the company purifies the water at an extra cost before use in the factory.

Company E believes that

"agro-processing sector is very good but there is this attitude of Ghanaians; 'we are our own enemies'. I have a NAFDAC registration number on the Cracker product but the way the Nigerians have expressed their excitement and feelings about it gave me some form of comfort and encouragement, but Ghanaians will not do same." *"When I started the Gari Mix, the feedback I received from Ghanaians was not encouraging. They felt there was no need to package gari but one thing they failed to recognize was that I have added value to it. When I started, I was the only one doing it and then two others joined but I am the only one among them still in active business."* There was an incidence where a producer in Kumasi started producing gari mix but did not comply with Ghana's food standards and regulations and so had issues with the FDA leading to the withdrawal of the products from the market. The case was published in the newspapers and that indirectly affected Company E's sales. The

Company had to explain to customers that the withdrawn products were not from Company E and had to show them the FDA and NAFDAC registrations numbers embossed on the packaging. Company E is able to salvage the market because it ensures that all standards and regulations are followed to the letter and all their products are registered and certified in both Ghana and Nigeria. Company E believes there are great prospects in the food industry because globally, a lot of people are coming into the sector with new and innovative ideas.

“More people are coming into the sector because there is a lot that we can get out of the agro-processing. It is mainly about preserving food produce during the bumper harvest by processing them and making them available in the lean season. This is being done efficiently in the United States of America. In Ghana for instance we can turn cassava into fufu powder, and this will make it last for a long time. With tomatoes we can parboil and put it in cans just like the Italians are doing.”

For the agro-processing sector to grow, there is a need for more innovative ideas, training and sources of funding, which can be facilitated by the Ministry of Environment Science Technology and Innovation (MESTI). Agro-processing sector can address the perennial problems farmers face with middle-men who pay little for their produce as well as post-harvest losses especially during bumper harvest. A reliable agro-processing sector will continually provide ready markets for farmers and this will motivate to produce more and will reduce post-harvest losses. The greatest motivation of Company E was to add value to gari, a product from cassava, which is eaten in many West African countries including Nigeria, Sierra Leone and Ghana. The Company believes that production of gari, grading it, and adding value to can be a whole business by itself. Company E currently has two main products but would like to go into vegetables processing to come up with various convenience products made from typical Ghanaian vegetables such as okro, melon seed and garden eggs. The Company is currently experimenting with about 22 products some of which can be imported. For vegetable processing, the Company has already drawn up a business plan and written a proposal but still looking for funds to buy additional machines in order to take off. The Company also has a shea butter machine, but the main challenge now is the capital to buy the nuts to start processing.

Company E quite recently has three main competitors who are producing gari mix and are doing well. For the crackers, the Company has many competitors. To be able to remain in the market, the company prioritizes sales and marketing. For example, at the initial stages gari mix was produced a lot of marketing was done on various radio stations in Techiman, Tamale, Nkawkaw, Sekondi-Takoradi and Accra so the market was booming. *‘One thing about it is that the people buy only when you continuously advertise because when you stop someone may bring out another product which will increase the competition. With my products, the profit margin is very small so I cannot afford to always advertise. For instance, if I am competing with someone like Dr. Kwame Despina who has money and television and radio stations all over the country, as a start up my product stands no chance of penetrating the market.’* Company E has different categories of customers - those who buy bigger volumes at a special price and those who buy in smaller quantities. The main target are however students especially those in Boarding institutions and the universities. The Company does not have a contract with any organization but normally sell to the distributors who purchase in bulk. The Company directly supplies to a lot of mini markets in Madina, Okaishie, Kantamanto and Achimota market. Company E has registered with the IDF which

exempts it from paying customs fees when exporting but 'it is a different ball game all together when you reach the boarders.' The major problems with the exports are (1) too many stops/check points on the roads, (2) Sometimes payment of bribes in the form of money or goods, (3) high transport fare and more difficulty sending products to Nigeria by ship. In terms of pricing, Company E sells its crackers at GH¢0.50 per one instead of GH¢1.00 because it is still testing the market. *"The targets are the preparatory schools but one problem with that is that they get fed up with a product after some time. Students in the government schools will not buy because they do not have money."* The current location of

Company F was a food processing Company that was producing pasta. However, due to liquidity issues they stopped operations and sold out the company including the processing plant to Company F. The location of the Company in the light industrial area has been very advantageous for the Company in terms of readily getting to factory hands for employment when needed. Company F has a sister Company as part of the mother Group of Companies, which oversees marketing the products. Currently, the all products are being sold in Ghana. The Company believes it has only a few competitors because its product and the brand name are widespread and people prefer that brand to other noodles on the market. Essentially, they are enjoying the monopoly for now.

The price of the product has been very stable for a very long time until recently when the price was slightly increased due to the increase in prices of fuel and other inputs. The Company has not been able to maintain consistent production volume because some challenges such as breakdown of machines. *'The whole of last month machines were not running, so it affected our production. As a result, we were not able to stock our warehouse and cannot supply products to our marketing Company. Part of our issues has been a lot of absenteeism mainly because some of our staff who lived around the motorway in unauthorized structures had them demolished by city Authorities a few months ago. So, some staff are stranded looking for accommodation and others have relocated far away from the Company'* The Company has plans of adding more products lines and has therefore procured some machines. Which will soon be installed. The company hopes to keep expanding because the prospects look good.

Production structure of firms

The focus of this section is to understand production structures and the use of capital and labour, but this is also the key discussion around costs, margins, and productivity.

Company B has recently invested in the purchase of two milling machines and the construction of a milling house. As a result, three more staff were recruited. However, when Company B acquired a new mixer it just reassigned an old staff to be responsible for its operation. The Company is planning to expand and will employ more staff. To increase efficiency Company B does not always buy new machines but they also refurbish, modify or upgrade the existing one such as the roaster which was upgraded to such that it protects the operator against excessive heat. Using machines makes production faster and Company B has been able to acquire all its equipment locally. Manual production actually is costly mainly because it is time-consuming, and one may not be able to meet demands. will waste time, which will delay the production, but when you have the machine, within a short time you will have your product ready. The major challenge company B faces is finance, which

makes it difficult to the company to acquire some relevant machines and even raw materials. The problem is compounded by the fact that the goods are mostly sold on credit and some distributors and retailers will pay only when they finish selling the products. Company hope to overcome the issue of selling on credit buy expanding its customer base to individuals through aggressive advertisement and direct promotional sales. Company B may consider long-term loans or equity loans but the challenge is the issue of collateral, which may be difficult to get mainly because they facility the Company operates from has not been registered in the Company or owners name due to land administration issues. The Company will also explore other sources such as loans through Associations like the Association of Ghana Industries (AGI) and National Small-Scale Industries, of which it is a member. Such funds through Association do not require collateral but the allocations are usually small.

The suppliers of **Company C** are usually small-scale producers with some having secondary school level of education. Rice suppliers are peasant rice farmers, who often engage farm laborer's as rice production is labor-intensive. The rice milled in a processing facility, which provides jobs for people. Furthermore, the milled rice is usually transported to the Company's warehouse and thus creating jobs for transporters.

In Company D, all the equipment was made locally under the supervision of the CEO of the Company who is a Veterinarian but has the passion for engineering. The CEO had to take that action because it was not easy to get loan for equipment, most of which are very expensive. The Company was in the process of getting technical assistance for equipment from a development agency, but the CEO believed the process was foiled by Ghana acquiring the status of a lower middle-income country. Ghana's new status led to the withdrawal of grants for industries. The major challenge is access to capital. Agricultural Development Bank wanted to provide the Company a loan facility at 28-32% interest rate payable in 2 years, but the Company could not accept the loan because the terms were not favorable. Another challenge is the setting of standards without involving the industry players. This leads to setting of standards that are not practicable. There is limited collaboration among the academia, regulators and industry to come up with what is best for the country and what industries can achieve based on the contexts of the country. Cost of product testing is too high for most SMEs hence this affects their compliance with standards. In terms of jobs creation, if SMEs can have equipment there will be more employment in the country because they can increase their production capacity. But it is true that if equipment is available to do certain aspects of the work, there will be no need to employ people. As a solution, the government can task the Institute of Industrial research of the CSIR, for example, to produce simple machines for the private sector. **Company D** used to have about 20 staff but that has been reduced to 5 because that is the number the Company can comfortably work with.

Company E has capital stock about GH¢5,000,000 for both the building and machinery and total labour cost of about GH¢80,000 per year. Company E believes that the number of jobs created depends on the money available to invest in new ideas. The Company rarely employs new staff because it has been working with almost the same workers for about 6-7 years. From the experience of Company E, it is common for small firms to compete among themselves however they cannot compete with larger and well-established firms. This is because the bigger Companies are mostly multinational and have money to buy bigger and more efficient machines and even build bigger plants and storage facilities structures. The major challenge for Company E its limited space to accommodate certain machines.

However, the Company believes with money available it is possible to acquire bigger space to accommodate more machines. Company is of the view that when it acquires more machines fewer persons will be employed, mainly to operate them, because the machines will be more efficient and fast in doing certain types of tasks such as peeling, washing, cutting, squeezing, and packaging, which will otherwise be done at a slower pace by people. The Company also believes that as the company grows jobs will move to higher skilled. *“because if you remain at the lower skilled, it shows that your business is not growing”. A baby needs to grow so definitely your business needs to grow. For instance, if you have a manual machine, you need to progress to semi-automated and then to a fully automated machine.*

As elaborated by Company E, manual production is time-consuming, creates a lot of waste and makes the environment dirty. *“That is why those in the developed countries are doing better than us, this is because they use more machines in their factories.”* For Company E, a lot of artisanal jobs will be lost due to the use of more machines as a single machine can the job of about 100 people at a time. It is recommended that cottage industries should try to learn new ways of doing things better to save time and energy. We also need is use technology that is safe and environmentally sustainable. Company E started operating with small machines that it considered as good however the new set of bigger machines it acquired to replace the first set easily break down and require an expert from outside the country to repair them at a huge cost usually in foreign currency. This is in addition to the provision of accommodation, transport, meals and other incentives. The machine for making crackers was acquired two years ago but it also has some problems. Company E would want to upgrade it machines and technologies but will no more buy machines from China because they are not durable. Company prefers Italian machines as they are durable and are available in small and medium sizes. German machines are also good, but they come in bigger sizes and may occupy much space. The major challenge to getting the preferred machines is lack of funds.

The major constraint to production growth irregular supply or availability of raw materials. This problem arises due to high post-harvest losses and sometimes low yield all of which affect pricing of the inputs. As a result, farmers tend to lose interest in farming and this further compound the problems for manufacturers. A key recommendation is to continuously make farmers happy so they can continue to produce the raw materials in abundance for manufacturers to use. In order to sustain the consistent input supply, manufacturers need to go into plantations development. Company E will prefer to acquire land and grow what it wants to process but that comes with its challenges especially with land acquisition. There should be a policy for food processors to have their own farms so that they can supplement their produce with what they buy from the market. In terms of quality assurance Company E believes they are doing well. *“I go to a lot of seminars to learn new things because if I want to do anything, ensuring quality is my hallmark. I never downplay the quality tests I need to carry out on my products. Some of the quality tests I carry out on my gari mix include aflatoxins, cyanide, moisture, the quality of the milk powder used and even the health status of my workers. I also train my workers in Good Hygienic Practices (GHPs).* Another constraint for Company E is limited space for expansion as land acquisition is very expensive. The Company also has a challenge in getting competent persons for the packaging and maintenance of the machines. *“For example, the machine I use in producing the Crackers broke down. I went around to look for a repairer and found a*

Chinese man who works with another Company. Most of the repairers are foreigners and they tend to bluff you when you go to them.” Furthermore, it is difficult for Company E to get investors in Ghana. “Some of them tend to scrutinize your ideas after you share it with them and steal them from you.” Another challenge is the long product registration process with the Food and Drug Authority which can sometime take over year.

There is a high demand for both products from Company E and people appreciate them but is the main challenge is that distributors, retailers and even some individuals like to buy on credit and it becomes a problem for them to honor their payment obligation. Another challenge is that *“sometimes, you come up with a business idea and people start to copy you. Ghanaians do not like to venture into a new business but when someone does and appears to be doing well; just like China, they take it and replicate it at a cheaper price.”*

Company F has created many jobs this year mainly because the noodle factory started full production in March 2019. At the same time many jobs have been lost mainly due to the shutting down of the pasta production plant. Investment in capital has also led to the creation of new job because the Company recently got an additional line that required the recruitment of 50 more people. However, if the machine was not automated and had to be operated manually then about 1000 workers would have been required and the production process might be slowed down. The company currently uses brand new machines which are still efficient. As the company grows there will be the need for high skilled labour but that will largely depend on the nature of the production. Quality is paramount to Company F because consumers want good quality products. Hence it has established a quality control department that monitors production and activities at every line to ensure compliance with standards. The products have been registered and certified by the Food and Drug Authority and Ghana Standards Authority.

Workforce, job quality and inclusiveness

This section provides an understanding of the current skill set of the different businesses in the local value system. Key issues covered include current workforce, quality of jobs, recruitment, skills and training. Table 8 gives a summary of the inclusiveness of the job in the companies.

Table 8 Inclusiveness and quality of the jobs in terms of gender, age and wages

Company	Number of employees		Age range (years)	Average monthly salary/wage (US\$)
	Men	Women		
A	2	2	25-42	80- 120
B	10	15	24-50	80- 90
C	8	12	20-25	80- 180
D	4	2	25-45	80 -150
E	5	2	23-40	90-180
F	195	45	20 -52	70 -200

Company A currently has only four employees because the Company has drastically reduced its activities and now focusing mainly on pepper processing. Greater part of the work is done by the owner who is the sole proprietor. The Company can however ideally employ 12-15 people especially when they get large orders. This number could even increase in future because the powdered pepper market is big and extends to Los Angeles and Atlanta in the USA. Generally, agro-processing sector has the potential to employ many youths if only they are properly trained. The current educational system especially at the Senior High level does not provide industry-relevant training or skills. There is however great potential for creating employment because there is big market both locally and internationally. In terms of skills, Company A has acquired *powderizer machine* and a dryer, which do you require any specialized skills to operate. What is most important is to ensure that there is no moisture in the pepper and that it is very dry. This will however require the use of a moisture meter and skills for using it to measure moisture content. Most of the workers engaged by Company A have only Senior High School (SHS) certificates. The Company thus trains the workers mainly in hygiene principles. It also seeks advice from some experts in the universities and research centers.

The average wage of the workers in Company A is GHS 450-500 (US\$80-90) per month. However, workers' turnover is so high that most of them leave after working for about two to three months and leave. Generally, the workers are treated well, as an example, one of the workers has stayed with the owner of Company A for 15 years. Also, because the workers need to be given some incentives, Company A has allowed one of the staff to use his facilities free-of-charge to produce and sell a local drink, which she sells with pastries that are produced from Company A's restaurant. The restaurant is located near a school with about 1,500 children so they are the main buyers of the snacks. Company A works from Monday to Friday and start work at 8:00am to 6:00pm daily.

The main challenges Company **A** experiences with its workers is pilfering of raw materials such as meat used in preparing food in the restaurant. Some workers do not ensure hygienic working conditions and do not also take their job seriously. It is generally more difficult to work with males than the females. In Company A, staff recruitment is usually done through recruitment Agency and through recommendations by some trusted persons

In total, **Company B** has 25 permanent workers (15 females and 10 males) which ages ranging from 24-50 years. The number was about 30 but it was reduced to the current number because the Company was not doing so well. However, more hands are employed on temporary basis when the Company has high demands. Compared to other food processing companies, Company B has employed more people especially because some of the Company known to the owner of the Company employ between 2 and 9 people. All staff in Company B are entitled to health insurance and social security, which the companies pays. In terms of health, safety and hygiene, the Company B trains all staff and provides appropriate uniforms and protection gears for them. There are constant reminders to ensure that staff practice what they have been taught. The Company B has strict rules that all workers must abide with. For example, they have some 30 minutes daily morning devotion before they start work from 8:30 or 9 am to 5 p.m. They are entitled to 45 minutes break in the afternoon and free public holidays but sometimes work overtime or on holidays when the demand is very high. In such cases, the workers are paid. In spite of these rules, the workers work freely in a cordial environment.

Company B recruits' staff through the recruitment agencies, family members and friends. Some persons just bring their applications. A key consideration for the recruitments is educational background, which should be Senior High school level at the least. The Company however currently has some staff who are illiterates. The disadvantage with the latter is that they are more difficult to train than literates hence as a policy, the Company no longer recruit illiterates. Other considerations for recruitment are physical and health status hence potential recruits undergo health check which is a national requirement for all food handlers. When necessary, the Company B assists the applicants/ recruits to pay for the medical examinations and then pay back later when they start taking their salaries. The major skill gap for Company B is a qualified quality assurance officer. The person partly currently playing that role was trained in-house mainly to understand the standards and requirements of the FDA. This training is provided by the owner of Company B who also acquired the training from the FDA on food safety and records keeping. The owner of Company B completed Secondary School education and Diploma Stenography, which enabled her to work in the printing firm but later started food manufacturing business. Except for works related to quality assurance, records keeping and administrative work, most of the staff are trained in-house. Even sometimes when new products are introduced some old staff are trained to handle those products without necessarily recruiting new skilled staff.

Company C has 20 employees (8 men and 12 women) who include sales representatives/agents, shop attendants, and dispatch riders within the age range of 20-25 years. The Company has its own shops where the products are sold. The men are usually those who carry heavy loads and the dispatch riders. The women are mostly the sales representatives. Sales agents are usually recruited following submission of their application and successful interview. The selected applicants are required to complete a form that provides some personal details about themselves and their guarantors before they can start work. The Company places little emphasis on formal educational qualification but rather focuses more on age, ability to read and write, intelligence, maturity, and a pass mark in an aptitude test mostly composed of addition and subtraction. The skills of the recruited staff are enhanced through an initial training they receive from supervisors and learning on the job. The average monthly salary is between GH¢450-1000 (\$80-180). Sometimes incentives (based on percentage of sales) are given to the sales agents. This incentive scheme motivates the sales agents to sell aggressively. The main challenge of Company C is the high turnover of employees mainly because some of them are Senior High School (SHS) graduates who leave for further studies once they get the opportunity. Other challenges are the inconsistent supply of products as most of them do not manage their finances properly and so are not able to sustain their businesses. The cost of testing food products at the GSA and FDA is too high and unaffordable especially by the start-ups.

Company D sometimes recruits through adverts or word of mouth through other SMEs, friends and relatives. The applicants are interviewed, and then suitable ones are selected for the job. The company has documented the dos and don'ts, so each new employee is taken through them. Initially it is tough but those who are willing to stay soon get used to the rules and regulations as well as the work ethics. Company D and many SMEs in Ghana have problem with labour mainly in terms of skilled labour. This stems from the country's inability to train people to acquire skills relevant for industry. The country does not train people who can use skills to work so employers have to do extra work to train employees even in

sweeping, cleaning, washing, and personal hygiene. Some staff, for example, do not understand why they should bath before coming to work, why they should change clothes before entering the factory, why they must wear protective and safety gears, or why they must not touch the walls with their bare hands. They find the food industry to be full of rules that they cannot comply with. This attitude persists mainly because these issues are not part of the formal educational curricula.

In most cases, new employees mostly secondary school graduates and even polytechnic and university graduates, after a day or two, will say the work is too difficult and thus discontinue. This is a major challenge for SMEs but not for large and multi-national companies that have equipment, and everything needed to get people working with little supervision. *“Generally Ghanaian workers like company with a big name because they feel comfortable there. In the small companies, they just coming for money, that’s it. I don’t blame them, because some of the manufacturers won’t be truthful so there’s mistrust along the line.” “So sometimes they will not come at all, or they will not come on time and they will never tell you anything. They will not come when you need them most and when you take action, they say you are a difficult person.”* Training of employees to acquire basic skills increases the overall cost of production for the Company. The cost is further compounded by the high staff turnover – some staff leave to larger companies once they have acquired relevant experience. The strategy of the Company is to rotate the staff so that everyone gets the opportunity to work in each segment of the factory. *“If you are in the washing bay we teach you how to wash the containers, if you are at the production we teach you how the production process goes including monitoring temperatures, if you are at the cleaning department we teach you how to clean the tanks properly including the type of chemicals that you have to use and the quantities. This is to ensure that everyone see each other’s role as equally important because sometimes a staff come and say I am in the washing bay; they don’t respect my work.”*

Also, in Ghana, certain professions overemphasized at the expense of others, such as microbiology that are even more important. There is a need for change of mind-set. The skill gap can be addressed by paying greater attention to technical education by ensuring that bright students are enrolled, and more practical sessions introduced. Despite the challenges Company D has with its employees, the company takes their safety and health issues seriously by educating and training them and providing them with appropriate protective gears. To ensure optimal hygiene in the factory, the Company provides accommodation and food to avoid staff movement in and out in search for food and in the process bring in germs. They are asked to undergo mandatory medical screening for food handlers but some of the workers do not understand the essence of these test, so they run away and never return. On decision making, Company involves and consults the staff on many issues however the challenge is that they don’t want to talk for the fear that they will be penalized if they oppose. This attitude is disturbing, and it stems from the nature of Ghana’s educational system.

Company E has seven employees (two females and five males) with age ranging from 23-40 years. The females are mainly for sales and marketing and the males oversee the processing and packaging. The minimum qualification of the workers is Senior High School (SHS) certificate for those who do the sales and Higher National Diploma (HND) for the factory workers. There is one staff with HND in electrical engineering and another who acquired

engineering skill through apprenticeship. Staff are mostly recruited through recommendation by friends. The nature of workforce will likely change soon and more university graduates will be employed. Company E pays its staff salary ranging from GH¢500-1000 (US\$ 90-180) per month. Company E takes the health status of staff seriously, so they are sent for health screening every 6 months and their health insurance certificates are also renewed at the cost of the Company. The Company does not do overtime and work from Monday to Friday starting from 8:30 am and closing at 4:30 or latest 5:00 pm. Company E has a low workers' turnover so has worked virtually with the same staff for a long time. The major challenge is that the Company sometimes finds it difficult to pay all the staff especially when all payments have not been received for goods sold. The workers are involved in most making most decision and are all treated with fairness however they do not have any union probably because they are few. Getting skilled labour is a challenge so what the Company does to is train them and with time they get better. They also receive training from FDA on the standards, regulations and food safety requirements.

Company F has total staff strength of 240 comprising 45 females and 195 males. The Company is of the view that greater part of the work requires much strength hence males are preferred for such tasks. Most of the females are either janitors or involved in packaging. The staff comprise both local persons and expatriates. The type of skills required depend on the level of the employee, which is categorized into operator level, junior level, helper level. Those at the higher level usually have engineering background from universities, polytechnics or (National Vocation and Technical Institutes (NVTI) and those at the lower levels usually have a minimum of secondary school certificate and mostly are the janitors, packaging hands and loading boys at the warehouse. *"In terms of discipline, some of these workers can torment management because they lack discipline and so engage in acts such as absenteeism. We used to have 10 to 12 persons absent on daily basis, so we sometimes shut the line because people are not there to operate it"*. The Company employs both casual, contract and permanent workers. The casual workers are only called when the Company needs them. The staff, except permanent staff, are paid wages so they don't get paid when they don't go to work. It is also obvious that some of the staff have other jobs and thus work for the Company only when they are free. This also contributes to absenteeism, which has generally reduced now. Newly recruited staff especially those in the production lines are trained in food safety, hygiene, good manufacturing practices all the relevant requirements for quality and safety. The training also includes fire management. The workers don't have an association but most of the time can have meetings within the workplace to we discuss issues of concern to them.

Supply Chain of firms

This section focuses on understanding the sources of supply and the current level and nature of purchases in the local supply chain, and the main constraints to expanding local sourcing.

Company B mostly deals with informal suppliers but has recently started dealing with the Ghana Commodity Exchange. The Company now has about six informal suppliers of raw materials, which do not include farmers because the company buys from 'middlemen'. The formal suppliers are Qualiplast (for packaging materials), Ghana Commodity Exchange (for grains) and Promasidor (for dairy products). The Company only orders when there is the need for raw materials because of lack of storage facilities. One of the future for the

Company is to have its own storage facilities so it can buy in bulk especially during peak seasons when prices are lower. Most of the raw materials are produced locally except sugar, rice and glass jars, which are purchased from importers who can be regarded as formal suppliers.

As **Company B** buys large quantities of raw materials, farmers will benefit indirectly. But it is also possible to acquire lands and engage farmers as out-growers who will be producing specified and quality grains for the Company. This will generate more employment and ready market for the farmers.

The major barrier to sourcing raw materials is the difficulty in differentiating between grains contaminated with agrochemicals and those that are not. This is because of lack of testing facilities. The Company now largely relies on physical observation e.g. by examining the texture, size and shape of grains. Preference is for those with more fiber, powder and round shaped. It is believed that the round-shaped grains have smoother texture and better taste when milled. The suppliers of **Company C** are usually small-scale producers with some having secondary school level of education. Rice suppliers are peasant rice farmers, who often engage farm laborer's as rice production is labor-intensive. Furthermore, the milled rice is usually transported to the Company's warehouse and thus creating jobs for transporters.

Company D is careful about its choice of suppliers and will not accept milk from some suppliers if they do not comply with certain prescribed conditions. The Company deals directly with dairy farmers because one cannot be sure how intermediaries handle the milk. The CEO himself goes to the farms to inspect the milking process and where there are challenges, he helps the farmers to improve on the process to ensure the collection of safe and good quality milk. The company's main supplier produced milk with quality comparable to European milk. The problem is that the farmer is over 60 years so younger farmers need to be trained to replace him. Agro-processing has the potential to generate many indirect jobs. Company D obtains its raw materials and packaging materials from other companies thus helping them to employ staff and sustain their businesses. *"agro-processing is the backbone of our economy especially transforming raw materials into added value materials. It's the best, it has great future and the major issue elements involved are technical know-how (skilled labour), equipment to work with, and government incentives (which is virtually non-existent)."*

Company E sources raw materials and other inputs mainly from informal suppliers. Some of the suppliers are now in the process of forming associations. Currently inputs especially gari is obtained mainly from one farmer who the Company has trained to produce process cassava into gari with certain specifications. Apart from gari, all other ingredients such as sugar and milk are imported. The Company has difficulty calculating the total input cost because the prices of inputs especially that for gari has not been stable. The increase in price is mainly due to increase in transport fares and the high demand as Nigerians come to Ghana to buy gari.

One main challenge about buying inputs from the market is that the women never like to disclose the source of their products. With digitalization, some companies are now providing data on where to get each commodity as well as the price. Furthermore, the quality of the products is not consistent while some have sand and even weevils. Farmers and traders need to be trained in food safety and quality management to improve the standards of their

products. **Company F** previously imported the raw materials from Nigeria but now it has companies in Ghana that are supplying the materials.

Empirical Analysis of Elasticity in the agro-processing subsector of Ghana

The National Accounts of Ghana indicates that in the third quarter of 2019, the Agricultural, Industry and Services sectors recorded 18.5%, 35.7% and 45.8% respectively as the sectors share of GDP at factor prices (GSS, 2019). This corresponded to a gross value added of GH¢54,924 million for the Agriculture sector, GH¢28,489.7 million for the industry sector and GH¢36,573.2 million for the Services sector. The analysis in this paper combines the earnings of the food and beverages subsectors as one component in explaining the food (processing) sector of Ghana. The manufacturing subsector is further divided into twenty subsectors according to the Integrated Business Establishment Survey II (2018). According to the IBES II, the value added of activities for a period is calculated as the sum of the total value of output less the total value of raw materials and other indirect costs. Thus, the sum of all value-added activities in the agriculture, industry and services sector form the GDP at factor cost (value added).

Computations using available data from the IBES II (2018) revealed that the food subsector therefore contributed GH¢9,865,313,588 value added to the manufacturing sector representing 11.5% of total industry value added. The food sector also contributed more than a third, 37.1% of value added in trade to the manufacturing subsector. While the manufacturing sector contributed a share of 12.4% to GDP value added and accounted 33.7% of the industry sector in 2018 (GSS, 2019). Nti K. O (2015) also showed that the food products and manufacturing value added accounted to US\$812.07 million in 2013, forming 30% in the total value added in the manufacturing subsector. While the manufacturing subsector contributed 5.81% to national GDP value added. Of the 417,528 people reported to be employed in the Industry sector, the manufacturing subsector employed the highest number of employed. The subsector employed 65.1% of the total industry sector employments, paying wages and salaries totaling GH¢1,188,588,784 in cash and kind. The food and beverages manufacturing subsector also employed 77,698 individuals accounting for 28.6% of total employment and the largest employer in the manufacturing subsector and 18.6% of total industry employment (IBES II, 2018).

The GLSS (2017) data figures show the Agriculture, fishery and fishing industry employs the largest percentage of individuals aged 15.35 years. 55.1% of employed males aged 15-24 years, worked in the Agriculture, fishery and fishing industry. The industry also employed 37.7% of all employed females aged 15-24 years and 26% of all employed females aged 25-35 years. While a total of 34.5% of employed youth between 15-35 years worked in the Agriculture, fishery and fishing industry, 12.6% worked in manufacturing.

According to Allen T. et al (2018), the share of food (processing) sector in the manufacturing sector for the period of 2012-2015 was 40% employed. The study also estimated for rural Ghana, the food processing sector employed 4% of the total number of persons employed in the food economy. With food and agriculture employing an estimated 86% of total persons employed in the food economy. Where the food economy represents food production, food processing, food marketing and food away from home. The food sector also paid the largest

compensation in wages and salaries and social security of GH¢357,682,042 and GH¢16,216,102 respectively in the manufacturing subsector. (IBES II, 2018).

Table 9: Estimating Employment elasticity using the arc method

Sectorial Elasticities	Elasticities	Female Elasticities
Agriculture	-0.070***	-0.084***
Industry	0.033***	0.010
Services	0.074***	0.074***

Significant levels at 1% (***) , 5%(**) and 10%(*) Source: Computation from the WDI, BoG

As indicated in the table, total employment elasticity using the arc elasticity method for the periods 2013 and 2017 extracted from the GLFS (2015) and GLSS (2017), show that the Ghanaian economy was fairly employment elastic at 0.49. This means for the period between 2013 and 2017, a percentage increase in output led to an increase in total employment by 0.49%. The result of the annual time series in shows that sectorial employment elasticity of output and female employment elasticities for agriculture was negative. In other words, a percentage increase in output leads to a 0.07% fall in agricultural employment and a 0.08% in female employment in agriculture. Ali et al (2018) assert that negative employment elasticities of agriculture as popular with developing countries. According to the authors, agriculture in this region employs a majority of the active labour force and as the agriculture sector modernizes, demand of labour falls relative to the demand of capital.

In the Industry sector, total sectorial elasticity of employment was significant at 0.033. That is, a percentage increase in output will lead to a 0.033% increase in industrial employment. However, female employment in the industry sector is not significantly influence statistically by output growth. That is, a percent increase in output will not result in any statistically significant influence of female employment in the industry sector.

The services sector however recorded a positive employment elasticity of 0.074 female and total sectorial employment. This means that a percentage increase in the growth of output resulted in a 0.074% increase in employment in the service sector and 0.074% increase in employment of female in the services sector. Thus, employment of females in the increases by the same proportion as total employment in the services sector as a result of a percentage in economic growth or output.

Post estimation diagnostic tests revealed that the elasticity regressions do not suffer heteroscedasticity using the Breusch-Pagan/Cook-Weisberg test for heteroscedasticity. The statically significant autocorrelation and omitted values recorded using the Breusch-Godfrey and RESET. This can be explained by the exclusion of many significant variables that influence employment in the two variable simple regression (Aryeetey E. & Baah-Boateng, 2016). According to Kapsos S. (2006), interpreting elasticities should be borne with considerations of omitted variable bias, some degree of volatility as a result of statistical

“noise” and the small sample size of estimation used. Thus, the employment elasticities should be interpreted as evidence of correlation and not causation.

Conclusion

Agro-processing has contributed tremendously to economic growth and employment creation in Ghana. The sector still has great potentials to maximize its economic impacts because investment opportunities exist for agro-processing. The empirical study shows that agro-processing has great potentials for growth provided firms strive hard to take advantage of various opportunities such as an expanded market both locally and internationally and overcome the challenges in the sector. Some of the strategies for ensuring growth are adequate employee training to ensure the production of quality products, compliance with standards and regulations, and the development and application of innovations to enhance competitiveness.

The industry sector receives 0.4 more than a third of value-added receipts from manufacturing subsector. The subsector is also made of 37.1% value added in trade shares of the food processing sector. The manufacturing subsector, nonetheless, contributes 11.5% of value-added shares to the Ghanaian economy (GDP). The food sector also contributes more than a quarter of total employment in the manufacturing subsector. Thus, the food processing sector is significant to employment and value-added share of the manufacturing subsector and the industry sector of the Ghanaian economy. However, less than 5% of the employed in the food processing sector reside in the rural areas. Whereas agriculture remains the largest employer in food economy - food production, food processing, food marketing and food away from home, and the Ghana economy. In measuring the responsiveness of GDP growth on employment in the sectors for the time period under study, the Ghanaian economy showed a positive elasticity of 0.49%. This implies that the country's total employment increase or decreases by 0.49% as a result of a 1% increase or decrease in GDP. Female employment particularly for the service sector reacted positively to a change in output and insignificantly in the industry sector to GDP changes.

The employment elasticity of agriculture sector was negative over the time period of study. The implication therefore is that a positive change in output do not translate positively in employment. The negative elasticity of agriculture according to Ali A. A. et al (2018), can be explained by the rural-urban migration of the active population to the cities where the service and industry sectors are dominant. Thus, the activities of these sectors implies increasing output (GDP) leads to significant increase in employment. In terms of production structure, findings reveal that use of manual production is costly as it is time-consuming and inefficient leading to delays in production. Production with machine on the other hand, brings efficiency however, there could be challenges such as frequent breakdowns, lack of funds to acquire good quality machines, limited space for installation of some machines and lack of qualified personnel to operate and maintain the machines. In terms of trade-offs, the availability of equipment will create more employment in the country because it can increase production capacity. Also, as companies grow there will be the need for high skilled labour but that will largely depend on the nature of the production. However, availability and use of machines can also reduce employment since manual labour may not be relevant for certain tasks performed by machines.

Food and beverage firms in Ghana provide a source of good employment to many people. The main challenge however is the limited availability of skilled labour, which makes it necessary for the firms to provide training for their employees at a cost. The major source of challenge for most firms is the bad attitudes and behaviors of their employees, which does not help the firms. Notable among these are failure to adhere to occupational safety, hygienic and quality standards; absenteeism; and pilfering. The supply chain for most of the firms is largely informal making it difficult for quality assurance of raw materials and other inputs. The strategy for most firms is to work with a few suppliers that the firms have trained to produce raw materials and other inputs to their specifications. In terms of job quality, there is a general satisfaction of employees about their jobs especially because of the income and learning opportunity they provide, which can, for example, enable them to establish their own businesses or gain employment in other firms in future. There is generally no discrimination in terms of gender, and neither is there any oppression or forced labour. Although issues of occupational health and safety are paramount in the firms, most employees complain of frequent ill-health such as bodily pains due to long periods of standing as well as burns and cuts. The main features of a better job are periodic increment in salary, opportunity to go on leave, provision of social benefits, constant availability of raw materials to improve efficiency, opportunity to learn, and paying casuals who are absent from work due to ill-health.

The major challenge for most firms is the bad attitudes and behaviors of employees, notably, failure to adhere to occupational safety, hygienic and quality standards; absenteeism; and pilfering. In terms of job quality, there is general satisfaction among employees about their jobs especially because of income and learning opportunities, which can, for example, enable them to establish their own businesses or gain employment in other firms in future. There is generally no discrimination in terms of gender, neither is there any oppression nor forced labour. The main features of a better job were found to be the periodic increment in salary, opportunity to go on leave, provision of social benefits, constant availability of raw materials to improve efficiency, opportunity to learn, and paying casual employees who are absent from work due to ill-health.

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